

## ■ FEATURES

- SHIELDED POWER INDUCTOR
- HIGH CURRENT (UP TO 13.8 AMPS)
- SURFACE MOUNTABLE CONSTRUCTION
- HIGH INDUCTANCE (UP TO 15000μH)
- TAPED AND REELED FOR AUTOMATIC INSERTION



## ■ CHARACTERISTICS

|                                     |                                                          |                |                |              |               |              |
|-------------------------------------|----------------------------------------------------------|----------------|----------------|--------------|---------------|--------------|
| Case Size                           | ESRN20S                                                  | ESRN22S        | ESRN31S        | ESRN32S      | ESRN35S       | ESRN40S      |
| Inductance Range                    | 0.47 ~ 10μH                                              | 0.47 ~ 22μH    | 0.47 ~ 56μH    | 0.22 ~ 100μH | 0.5 ~ 150μH   | 1.0 ~ 68μH   |
| Case Size                           | ESRN41S                                                  | ESRN48S        | ESRN42S        | ESRN46S      | ESRN43S       | ESRN51S      |
| Inductance Range                    | 0.82 ~ 100μH                                             | 0.47 ~ 220μH   | 0.24 ~ 100μH   | 1.0 ~ 47μH   | 0.68 ~ 680μH  | 0.22 ~ 22μH  |
| Case Size                           | ESRN52S                                                  | ESRN54S        | ESRN55S        | ESRN62S      | ESRN68S       | ESRN64S      |
| Inductance Range                    | 0.22 ~ 200μH                                             | 0.22 ~ 10000μH | 2.2 ~ 22μH     | 0.50 ~ 330μH | 0.82 ~ 1000μH | 0.82 ~ 470μH |
| Case Size                           | ESRN65S                                                  | ESRN84S        | ESRN85S        | ESRN86S      |               |              |
| Inductance Range                    | 0.47~ 15000μH                                            | 0.5 ~ 1500μH   | 1000 ~ 10000μH | 1.0~ 10000μH |               |              |
| Ambient Operating Temperature Range | -40°C ~ +125°C (including self-heating)*                 |                |                |              |               |              |
| Temperature Rise at I rms           | Maximum +40°C Temperature Rise                           |                |                |              |               |              |
| Inductance Change at I sat          | Maximum -30% Inductance Drop From Initial Measured Value |                |                |              |               |              |
| Inductance Tolerance                | ±20% (M), ±30% (Y)                                       |                |                |              |               |              |
| Resistance to Solder Heat           | +260°C for 10 seconds                                    |                |                |              |               |              |

## ■ SHAPE AND DIMENSIONS

| Series  | Shape | A       | B       | C        | D       | E        | F        | a Typ. | b Typ. | c Typ. |
|---------|-------|---------|---------|----------|---------|----------|----------|--------|--------|--------|
| ESRN20S | Fig.1 | 2.5±0.1 | 2.0±0.1 | 1.0 Max. | 1.5±0.2 | 0.80±0.2 | 0.80±0.2 | 0.80   | 0.85   | 2.0    |
| ESRN22S | Fig.1 | 2.5±0.1 | 2.0±0.1 | 1.2 Max. | 1.5±0.2 | 0.80±0.2 | 0.80±0.2 | 0.80   | 0.85   | 2.0    |
| ESRN31S | Fig.2 | 3.0±0.2 | 3.0±0.2 | 1.0 Max. | 2.5±0.2 | 0.75±0.2 | 1.5±0.2  | 1.5    | 0.8    | 2.7    |
| ESRN32S | Fig.2 | 3.0±0.2 | 3.0±0.2 | 1.2 Max. | 2.5±0.2 | 0.75±0.2 | 1.5±0.2  | 1.5    | 0.8    | 2.7    |
| ESRN35S | Fig.2 | 3.0±0.2 | 3.0±0.2 | 1.5 Max. | 2.5±0.2 | 0.75±0.2 | 1.5±0.2  | 1.5    | 0.8    | 2.7    |
| ESRN40S | Fig.2 | 4.0±0.2 | 4.0±0.2 | 1.0 Max. | 3.3±0.2 | 0.95±0.2 | 2.1±0.2  | 1.9    | 1.1    | 3.7    |
| ESRN41S | Fig.2 | 4.0±0.2 | 4.0±0.2 | 1.2 Max. | 3.3±0.2 | 0.95±0.2 | 2.1±0.2  | 1.9    | 1.1    | 3.7    |
| ESRN48S | Fig.2 | 4.0±0.2 | 4.0±0.2 | 1.8 Max. | 3.3±0.2 | 0.95±0.2 | 2.1±0.2  | 1.9    | 1.1    | 3.7    |
| ESRN42S | Fig.2 | 4.0±0.2 | 4.0±0.2 | 2.0 Max. | 3.3±0.2 | 0.95±0.2 | 2.1±0.2  | 1.9    | 1.1    | 3.7    |
| ESRN46S | Fig.2 | 4.0±0.2 | 4.0±0.2 | 2.6 Max. | 3.3±0.2 | 0.95±0.2 | 2.1±0.2  | 1.9    | 1.1    | 3.7    |
| ESRN43S | Fig.2 | 4.0±0.2 | 4.0±0.2 | 3.0 Max. | 3.3±0.2 | 0.95±0.2 | 2.1±0.2  | 1.9    | 1.1    | 3.7    |
| ESRN51S | Fig.3 | 5.0±0.2 | 5.0±0.2 | 1.2 Max. | 4.0±0.2 | 1.25±0.2 | 2.5±0.2  | 2.3    | 1.4    | 4.2    |
| ESRN52S | Fig.3 | 5.0±0.2 | 5.0±0.2 | 2.0 Max. | 4.0±0.2 | 1.25±0.2 | 2.5±0.2  | 2.3    | 1.4    | 4.2    |
| ESRN54S | Fig.3 | 5.0±0.2 | 5.0±0.2 | 4.0 Max. | 4.0±0.2 | 1.25±0.2 | 2.5±0.2  | 2.3    | 1.4    | 4.2    |
| ESRN55S | Fig.3 | 5.0±0.2 | 5.0±0.2 | 4.5 Max. | 4.0±0.2 | 1.25±0.2 | 2.5±0.2  | 2.3    | 1.4    | 4.2    |
| ESRN62S | Fig.2 | 6.0±0.3 | 6.0±0.3 | 2.0 Max. | 4.9±0.3 | 1.55±0.3 | 2.9±0.3  | 2.8    | 1.7    | 5.7    |
| ESRN68S | Fig.2 | 6.0±0.3 | 6.0±0.3 | 2.8 Max. | 4.9±0.3 | 1.55±0.3 | 2.9±0.3  | 2.8    | 1.7    | 5.7    |
| ESRN64S | Fig.2 | 6.0±0.3 | 6.0±0.3 | 4.0 Max. | 4.9±0.3 | 1.55±0.3 | 2.9±0.3  | 2.8    | 1.7    | 5.7    |
| ESRN65S | Fig.2 | 6.0±0.3 | 6.0±0.3 | 4.5 Max. | 4.9±0.3 | 1.55±0.3 | 2.9±0.3  | 2.8    | 1.7    | 5.7    |
| ESRN84S | Fig.2 | 8.0±0.3 | 8.0±0.3 | 4.2 Max. | 6.3±0.3 | 2.00±0.3 | 4.0±0.3  | 3.8    | 2.2    | 7.5    |
| ESRN85S | Fig.3 | 8.0±0.3 | 8.0±0.3 | 5.0 Max. | 6.3±0.3 | 2.00±0.3 | 4.0±0.3  | 3.8    | 2.2    | 7.5    |
| ESRN86S | Fig.3 | 8.0±0.3 | 8.0±0.3 | 6.5 Max. | 6.3±0.3 | 2.00±0.3 | 4.0±0.3  | 3.8    | 2.2    | 7.5    |

※\*1: All products are printed with Marking except the 20S, 22S, 31S, 32S and 35S series

Fig.1

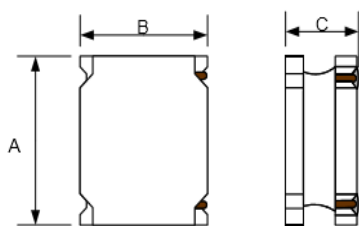


Fig.2

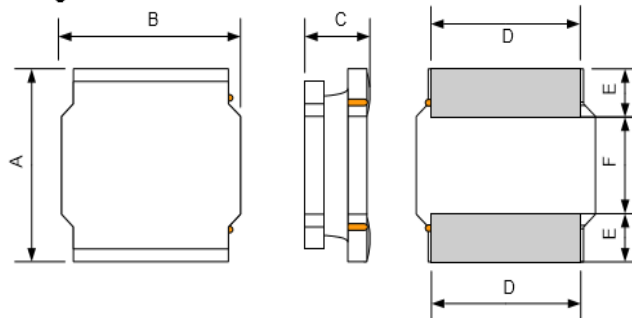
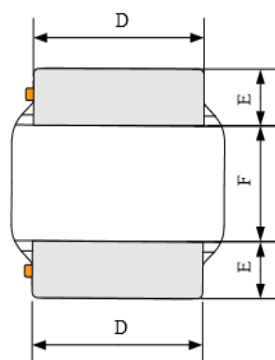
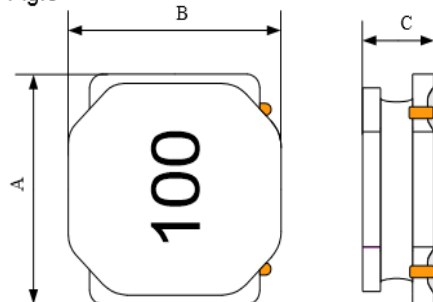
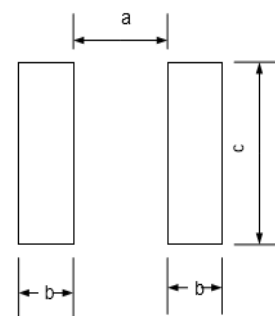


Fig.3



Recommended Land Pattern



## Lead Free Part numbering

| ESRN        | 31                                                                                                                             | S            | 470                                                                                              | M                          | T               | T                       |
|-------------|--------------------------------------------------------------------------------------------------------------------------------|--------------|--------------------------------------------------------------------------------------------------|----------------------------|-----------------|-------------------------|
| Series Type | Size                                                                                                                           | Feature Type | Inductance Value                                                                                 | Inductance Tolerance       | Package         | Remarks                 |
| ESRN        | 20=2510<br>22=2512<br>31=3010<br>32=3012<br>35=3015<br>40=4010<br>41=4012<br>48=4018<br>42=4020<br>-----<br>85=8050<br>86=8065 | S            | R47=0.47μH<br>1R0=1μH<br>100=10μH<br>470=47μH<br>-----<br>101=100μH<br>102=1000μH<br>103=10000μH | M=±20%<br>K=±10%<br>N=±30% | T=Reel<br>B=Bag | T=Standard<br>S=Special |

①:Product Type.

②:Size Code (see table for details)

③:Feature Type : S

④:Inductance Code (μH): 1st two digits are significant, 3rd digit is multiplier

⑤:Inductance Tolerance Code: M=±20% K=±10% N=±30%

⑥:Packaging: T= Tape & Reel; B=Bag

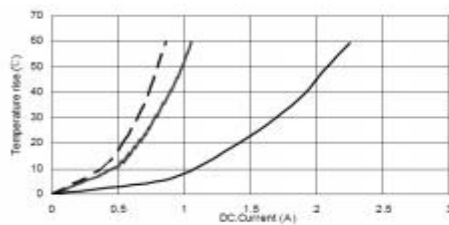
⑦:Remarks

## ■ ESRN20S(2510) Size

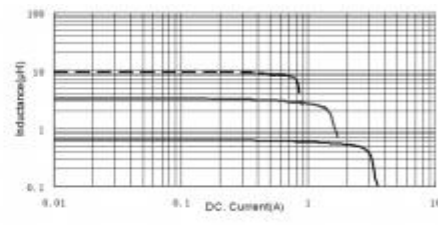
| Series       | Standard Values - Case Size 20 (2.0 x 2.5 x 1.0mm) |           |                 |                   |                   |                                   |           |
|--------------|----------------------------------------------------|-----------|-----------------|-------------------|-------------------|-----------------------------------|-----------|
|              | Inductance (μH)                                    | Tolerance | Test Conditions | Max. DCR (Ω) ±30% | Max. I sat (Amps) | Typ. Max. I <sub>rms</sub> (Amps) | SRF (MHz) |
| ESRN20SR47NT | 0.47                                               | ±30%      | 100KHz, 1V      | 0.061             | 2.5               | 2.35                              | 206       |
| ESRN20SR56NT | 0.56                                               | ±30%      | 100KHz, 1V      | 0.072             | 2.9               | 2.18                              | 160       |
| ESRN20SR68NT | 0.68                                               | ±30%      | 100KHz, 1V      | 0.074             | 2.2               | 2.18                              | 129       |
| ESRN20S1R0NT | 1.0                                                | ±30%      | 100KHz, 1V      | 0.108             | 1.85              | 1.80                              | 100       |
| ESRN20S1R5NT | 1.5                                                | ±30%      | 100KHz, 1V      | 0.182             | 1.8               | 1.42                              | 81        |
| ESRN20S2R2NT | 2.2                                                | ±30%      | 100KHz, 1V      | 0.209             | 1.2               | 1.31                              | 61        |
| ESRN20S3R3MT | 3.3                                                | ±20%      | 100KHz, 1V      | 0.328             | 1.05              | 0.98                              | 47        |
| ESRN20S4R7MT | 4.7                                                | ±20%      | 100KHz, 1V      | 0.563             | 0.95              | 0.76                              | 42        |
| ESRN20S5R6MT | 5.6                                                | ±20%      | 100KHz, 1V      | 0.563             | 0.8               | 0.80                              | 35        |
| ESRN20S6R8MT | 6.8                                                | ±20%      | 100KHz, 1V      | 0.896             | 0.92              | 0.64                              | 32        |
| ESRN20S100MT | 10                                                 | ±20%      | 100KHz, 1V      | 1.092             | 0.78              | 0.55                              | 27        |

Maximum +40°C temperature rise at I<sub>rms</sub>. Maximum -30% inductance drop from initial measured value at I<sub>sat</sub>.

Temperature vs. DC Current Characteristics



Inductance vs. DC Current Characteristics

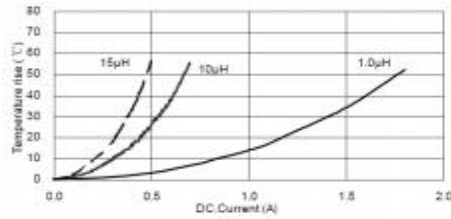


## ■ ESRN22S(2512) Size

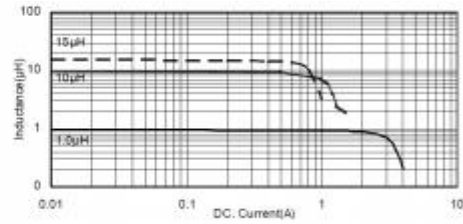
| Series       | Standard Values - Case Size 21 (2.0 x 2.5 x 1.2mm) |           |                 |                   |                              |                                   |           |
|--------------|----------------------------------------------------|-----------|-----------------|-------------------|------------------------------|-----------------------------------|-----------|
|              | Inductance (μH)                                    | Tolerance | Test Conditions | Max. DCR (Ω) ±30% | Max. I <sub>sat</sub> (Amps) | Typ. Max. I <sub>rms</sub> (Amps) | SRF (MHz) |
| ESRN22SR47NT | 0.47                                               | ±30%      | 100KHz, 1V      | 0.05              | 3.82                         | 2.34                              | 160       |
| ESRN22SR68NT | 0.68                                               | ±30%      | 100KHz, 1V      | 0.088             | 3.28                         | 2.13                              | 140       |
| ESRN22S1R0NT | 1.0                                                | ±30%      | 100KHz, 1V      | 0.102             | 2.59                         | 2.10                              | 110       |
| ESRN22S1R2NT | 1.2                                                | ±30%      | 100KHz, 1V      | 0.119             | 2.38                         | 1.46                              | 100       |
| ESRN22S1R5MT | 1.5                                                | ±20%      | 100KHz, 1V      | 0.136             | 2.24                         | 1.53                              | 97        |
| ESRN22S2R2MT | 2.2                                                | ±20%      | 100KHz, 1V      | 0.166             | 1.85                         | 1.42                              | 69        |
| ESRN22S2R7MT | 2.7                                                | ±20%      | 100KHz, 1V      | 0.239             | 1.72                         | 1.19                              | 63        |
| ESRN22S3R3MT | 3.3                                                | ±20%      | 100KHz, 1V      | 0.264             | 1.61                         | 1.13                              | 62        |
| ESRN22S3R6MT | 3.6                                                | ±20%      | 100KHz, 1V      | 0.378             | 1.46                         | 0.98                              | 53        |
| ESRN22S4R3MT | 4.3                                                | ±20%      | 100KHz, 1V      | 0.378             | 1.12                         | 0.95                              | 51        |
| ESRN22S4R7MT | 4.7                                                | ±20%      | 100KHz, 1V      | 0.401             | 1.13                         | 0.92                              | 47        |
| ESRN22S5R1MT | 5.1                                                | ±20%      | 100KHz, 1V      | 0.500             | 1.23                         | 0.82                              | 44        |
| ESRN22S5R6MT | 5.6                                                | ±20%      | 100KHz, 1V      | 0.536             | 1.11                         | 0.80                              | 38        |
| ESRN22S6R2MT | 6.2                                                | ±20%      | 100KHz, 1V      | 0.564             | 1.03                         | 0.80                              | 38        |
| ESRN22S6R8MT | 6.8                                                | ±20%      | 100KHz, 1V      | 0.607             | 0.98                         | 0.75                              | 38        |
| ESRN22S7R5MT | 7.5                                                | ±20%      | 100KHz, 1V      | 0.667             | 0.95                         | 0.74                              | 35        |
| ESRN22S8R2MT | 8.2                                                | ±20%      | 100KHz, 1V      | 0.658             | 0.98                         | 0.71                              | 36        |
| ESRN22S9R1MT | 9.1                                                | ±20%      | 100KHz, 1V      | 0.690             | 0.91                         | 0.68                              | 34        |
| ESRN22S100MT | 10                                                 | ±20%      | 100KHz, 1V      | 0.690             | 0.79                         | 0.68                              | 34        |
| ESRN22S120MT | 12                                                 | ±20%      | 100KHz, 1V      | 1.075             | 0.78                         | 0.56                              | 28        |
| ESRN22S150MT | 15                                                 | ±20%      | 100KHz, 1V      | 1.591             | 0.68                         | 0.46                              | 25        |
| ESRN22S220MT | 22                                                 | ±20%      | 100KHz, 1V      | 1.076             | 0.53                         | 0.41                              | 20        |

Maximum +40°C temperature rise at Irms. Maximum -30% inductance drop from initial measured value at Isat.

Temperature vs. DC Current Characteristics



Inductance vs. DC Current Characteristics

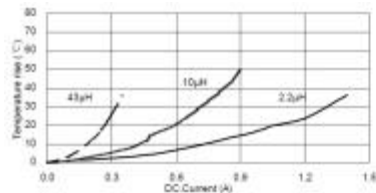


## ■ ESRN31S(3010) Size

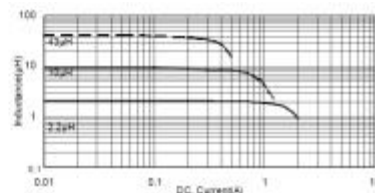
| Series       | Standard Values - Case Size 31 (3.0 x 3.0 x 1.0mm) |           |                 |              |                  |                       |           |
|--------------|----------------------------------------------------|-----------|-----------------|--------------|------------------|-----------------------|-----------|
|              | Inductance (µH)                                    | Tolerance | Test Conditions | DCR (Ω) ±30% | Max. Isat (Amps) | Typ. Max. Irms (Amps) | SRF (MHz) |
| ESRN31S1R0NT | 1.0                                                | ±30%      | 100KHz, 1V      | 0.065        | 1.4              | 1.45                  | 180       |
| ESRN31S1R2NT | 1.2                                                | ±30%      | 100KHz, 1V      | 0.065        | 1.25             | 1.45                  | 137       |
| ESRN31S1R5NT | 1.5                                                | ±30%      | 100KHz, 1V      | 0.080        | 1.27             | 1.30                  | 120       |
| ESRN31S2R2NT | 2.2                                                | ±30%      | 100KHz, 1V      | 0.110        | 1.15             | 1.09                  | 100       |
| ESRN31S2R7NT | 2.7                                                | ±30%      | 100KHz, 1V      | 0.135        | 1.00             | 1.02                  | 90        |
| ESRN31S3R3NT | 3.3                                                | ±30%      | 100KHz, 1V      | 0.145        | 0.97             | 0.96                  | 74        |
| ESRN31S3R6MT | 3.6                                                | ±20%      | 100KHz, 1V      | 0.165        | 0.95             | 0.90                  | 67        |
| ESRN31S4R7MT | 4.7                                                | ±20%      | 100KHz, 1V      | 0.225        | 0.75             | 0.77                  | 59        |
| ESRN31S5R6MT | 5.6                                                | ±20%      | 100KHz, 1V      | 0.248        | 0.58             | 0.70                  | 40        |
| ESRN31S6R8MT | 6.8                                                | ±20%      | 100KHz, 1V      | 0.305        | 0.55             | 0.66                  | 42        |
| ESRN31S8R2MT | 8.2                                                | ±20%      | 100KHz, 1V      | 0.400        | 0.55             | 0.58                  | 23        |
| ESRN31S100MT | 10                                                 | ±20%      | 100KHz, 1V      | 0.400        | 0.55             | 0.58                  | 39        |
| ESRN31S120MT | 12                                                 | ±20%      | 100KHz, 1V      | 0.500        | 0.43             | 0.52                  | 36        |
| ESRN31S150MT | 15                                                 | ±20%      | 100KHz, 1V      | 0.610        | 0.42             | 0.47                  | 30        |
| ESRN31S220MT | 22                                                 | ±20%      | 100KHz, 1V      | 0.930        | 0.35             | 0.38                  | 28        |
| ESRN31S270MT | 27                                                 | ±20%      | 100KHz, 1V      | 1.080        | 0.30             | 0.35                  | 25        |
| ESRN31S330MT | 33                                                 | ±20%      | 100KHz, 1V      | 1.550        | 0.29             | 0.30                  | 18        |
| ESRN31S390MT | 39                                                 | ±20%      | 100KHz, 1V      | 1.755        | 0.28             | 0.28                  | 18        |
| ESRN31S430MT | 43                                                 | ±20%      | 100KHz, 1V      | 1.800        | 0.23             | 0.27                  | 18        |
| ESRN31S470MT | 47                                                 | ±20%      | 100KHz, 1V      | 1.950        | 0.22             | 0.26                  | 18        |
| ESRN31S510MT | 51                                                 | ±20%      | 100KHz, 1V      | 2.200        | 0.21             | 0.25                  | 16        |
| ESRN31S560MT | 56                                                 | ±20%      | 100KHz, 1V      | 2.320        | 0.21             | 0.24                  | 16        |

Maximum +40°C temperature rise at Irms. Maximum -30% inductance drop from initial measured value at Isat.

Temperature vs. DC Current Characteristics



Inductance vs. DC Current Characteristics

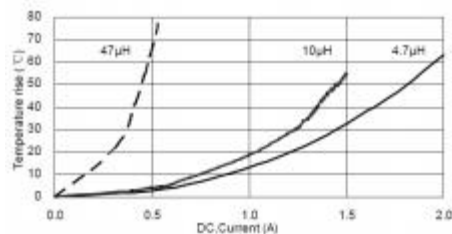


## ■ ESRN32S(3012) Size

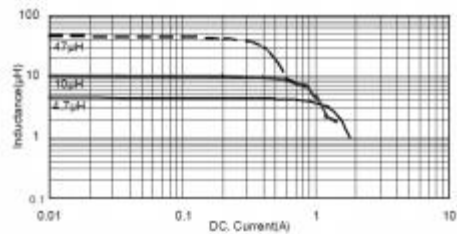
| Series       | Standard Values - Case Size 32 (3.0 x 3.0 x 1.2mm) |           |                 |              |                  |                  |           |
|--------------|----------------------------------------------------|-----------|-----------------|--------------|------------------|------------------|-----------|
|              | Inductance (μH)                                    | Tolerance | Test Conditions | DCR (Ω) ±30% | Max. Isat (Amps) | Max. Irms (Amps) | SRF (MHz) |
| ESRN32SR22NT | 0.22                                               | ±30%      | 100KHz, 1V      | 0.017        | 5.30             | 3.00             | 321       |
| ESRN32SR82NT | 0.82                                               | ±30%      | 100KHz, 1V      | 0.030        | 2.05             | 2.47             | 180       |
| ESRN32S1R0NT | 1.0                                                | ±30%      | 100KHz, 1V      | 0.040        | 1.87             | 2.20             | 120       |
| ESRN32S1R2NT | 1.2                                                | ±30%      | 100KHz, 1V      | 0.045        | 2.22             | 2.01             | 120       |
| ESRN32S1R5NT | 1.5                                                | ±30%      | 100KHz, 1V      | 0.045        | 1.62             | 2.01             | 110       |
| ESRN32S1R8NT | 1.8                                                | ±30%      | 100KHz, 1V      | 0.063        | 1.30             | 1.65             | 90        |
| ESRN32S2R2NT | 2.2                                                | ±30%      | 100KHz, 1V      | 0.075        | 1.20             | 1.55             | 84        |
| ESRN32S2R4NT | 2.4                                                | ±30%      | 100KHz, 1V      | 0.068        | 1.15             | 1.60             | 100       |
| ESRN32S2R7NT | 2.7                                                | ±30%      | 100KHz, 1V      | 0.085        | 1.14             | 1.48             | 65        |
| ESRN32S3R3MT | 3.3                                                | ±20%      | 100KHz, 1V      | 0.100        | 1.05             | 1.36             | 64        |
| ESRN32S3R6MT | 3.6                                                | ±20%      | 100KHz, 1V      | 0.100        | 1.05             | 1.36             | 36        |
| ESRN32S3R9MT | 3.9                                                | ±20%      | 100KHz, 1V      | 0.145        | 1.00             | 1.24             | 61        |
| ESRN32S4R7MT | 4.7                                                | ±20%      | 100KHz, 1V      | 0.120        | 0.90             | 1.24             | 61        |
| ESRN32S5R6MT | 5.6                                                | ±20%      | 100KHz, 1V      | 0.174        | 0.80             | 1.13             | 61        |
| ESRN32S6R8MT | 6.8                                                | ±20%      | 100KHz, 1V      | 0.190        | 0.75             | 0.98             | 61        |
| ESRN32S100MT | 10                                                 | ±20%      | 100KHz, 1V      | 0.265        | 0.60             | 0.83             | 42        |
| ESRN32S120MT | 12                                                 | ±20%      | 100KHz, 1V      | 0.345        | 0.48             | 0.73             | 32        |
| ESRN32S150MT | 15                                                 | ±20%      | 100KHz, 1V      | 0.360        | 0.45             | 0.71             | 27        |
| ESRN32S180MT | 18                                                 | ±20%      | 100KHz, 1V      | 0.545        | 0.43             | 0.58             | 25        |
| ESRN32S220MT | 22                                                 | ±20%      | 100KHz, 1V      | 0.645        | 0.42             | 0.53             | 23        |
| ESRN32S270MT | 27                                                 | ±20%      | 100KHz, 1V      | 0.870        | 0.35             | 0.47             | 21        |
| ESRN32S330MT | 33                                                 | ±20%      | 100KHz, 1V      | 0.875        | 0.36             | 0.46             | 18        |
| ESRN32S360MT | 36                                                 | ±20%      | 100KHz, 1V      | 0.950        | 0.34             | 0.44             | 18        |
| ESRN32S390MT | 39                                                 | ±20%      | 100KHz, 1V      | 1.330        | 0.30             | 0.37             | 18        |
| ESRN32S470MT | 47                                                 | ±20%      | 100KHz, 1V      | 1.450        | 0.27             | 0.35             | 14        |
| ESRN32S560MT | 56                                                 | ±20%      | 100KHz, 1V      | 1.380        | 0.26             | 0.28             | 9         |
| ESRN32S680MT | 68                                                 | ±20%      | 100KHz, 1V      | 1.670        | 0.24             | 0.33             | 7         |
| ESRN32S820MT | 82                                                 | ±20%      | 100KHz, 1V      | 2.540        | 0.17             | 0.27             | 7         |
| ESRN32S101MT | 100                                                | ±20%      | 100KHz, 1V      | 2.860        | 0.21             | 0.25             | 5         |

Maximum +40°C temperature rise at Irms. Maximum -30% inductance drop from initial measured value at Isat.

Temperature vs. DC Current Characteristics



Inductance vs. DC Current Characteristics

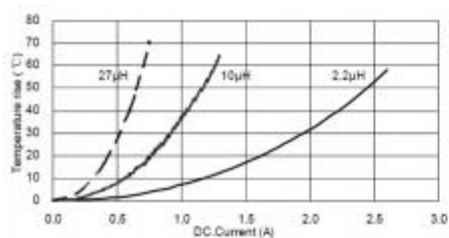


## ■ ESRN35S(3015) Size

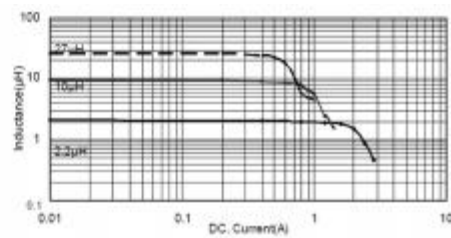
| Series       | Standard Values - Case Size 35 (3.0 x 3.0 x 1.5mm) |           |                 |              |                  |                  |           |
|--------------|----------------------------------------------------|-----------|-----------------|--------------|------------------|------------------|-----------|
|              | Inductance (μH)                                    | Tolerance | Test Conditions | DCR (Ω) ±30% | Max. Isat (Amps) | Max. Irms (Amps) | SRF (MHz) |
| ESRN35SR50NT | 0.5                                                | ±30%      | 100KHz, 1V      | 0.030        | 3.90             | 2.60             | 162       |
| ESRN35S1R0NT | 1.0                                                | ±30%      | 100KHz, 1V      | 0.030        | 2.32             | 2.35             | 150       |
| ESRN35S1R2NT | 1.2                                                | ±30%      | 100KHz, 1V      | 0.040        | 2.21             | 1.95             | 110       |
| ESRN35S1R5NT | 1.5                                                | ±30%      | 100KHz, 1V      | 0.050        | 2.30             | 1.70             | 100       |
| ESRN35S1R8NT | 1.8                                                | ±30%      | 100KHz, 1V      | 0.050        | 1.75             | 1.70             | 92        |
| ESRN35S2R2NT | 2.2                                                | ±30%      | 100KHz, 1V      | 0.060        | 1.60             | 1.60             | 86        |
| ESRN35S2R7NT | 2.7                                                | ±20%      | 100KHz, 1V      | 0.075        | 1.52             | 1.43             | 64        |
| ESRN35S3R3MT | 3.3                                                | ±20%      | 100KHz, 1V      | 0.080        | 1.32             | 1.36             | 68        |
| ESRN35S3R6MT | 3.6                                                | ±20%      | 100KHz, 1V      | 0.105        | 1.28             | 1.20             | 59        |
| ESRN35S3R9MT | 3.9                                                | ±20%      | 100KHz, 1V      | 0.105        | 1.20             | 1.20             | 47        |
| ESRN35S4R3MT | 4.3                                                | ±20%      | 100KHz, 1V      | 0.115        | 1.20             | 1.14             | 53        |
| ESRN35S4R7MT | 4.7                                                | ±20%      | 100KHz, 1V      | 0.125        | 1.10             | 1.09             | 46        |
| ESRN35S5R1MT | 5.1                                                | ±20%      | 100KHz, 1V      | 0.133        | 1.00             | 1.05             | 49        |
| ESRN35S6R2MT | 6.2                                                | ±20%      | 100KHz, 1V      | 0.195        | 1.00             | 0.86             | 46        |
| ESRN35S6R8MT | 6.8                                                | ±20%      | 100KHz, 1V      | 0.200        | 0.85             | 0.85             | 39        |
| ESRN35S100MT | 10                                                 | ±20%      | 100KHz, 1V      | 0.250        | 0.72             | 0.77             | 41        |
| ESRN35S120MT | 12                                                 | ±20%      | 100KHz, 1V      | 0.320        | 0.70             | 0.68             | 32        |
| ESRN35S150MT | 15                                                 | ±20%      | 100KHz, 1V      | 0.350        | 0.66             | 0.65             | 30        |
| ESRN35S180MT | 18                                                 | ±20%      | 100KHz, 1V      | 0.430        | 0.56             | 0.59             | 23        |
| ESRN35S220MT | 22                                                 | ±20%      | 100KHz, 1V      | 0.460        | 0.52             | 0.57             | 23        |
| ESRN35S270MT | 27                                                 | ±20%      | 100KHz, 1V      | 0.730        | 0.48             | 0.45             | 22        |
| ESRN35S330MT | 33                                                 | ±20%      | 100KHz, 1V      | 0.820        | 0.44             | 0.43             | 20        |
| ESRN35S390MT | 39                                                 | ±20%      | 100KHz, 1V      | 0.995        | 0.41             | 0.39             | 14        |
| ESRN35S430MT | 43                                                 | ±20%      | 100KHz, 1V      | 1.060        | 0.37             | 0.37             | 16        |
| ESRN35S470MT | 47                                                 | ±20%      | 100KHz, 1V      | 1.250        | 0.35             | 0.35             | 14        |
| ESRN35S560MT | 56                                                 | ±20%      | 100KHz, 1V      | 1.280        | 0.33             | 0.34             | 13        |
| ESRN35S620MT | 62                                                 | ±20%      | 100KHz, 1V      | 1.610        | 0.30             | 0.30             | 13        |
| ESRN35S680MT | 68                                                 | ±20%      | 100KHz, 1V      | 2.700        | 0.28             | 0.23             | 11        |
| ESRN35S101MT | 100                                                | ±20%      | 100KHz, 1V      | 3.110        | 0.23             | 0.21             | 6.3       |
| ESRN35S151MT | 150                                                | ±20%      | 100KHz, 1V      | 3.800        | 0.18             | 0.19             | 4.7       |

Maximum +40°C temperature rise at Irms. Maximum -30% inductance drop from initial measured value at Isat.

Temperature vs. DC Current Characteristics



Inductance vs. DC Current Characteristics

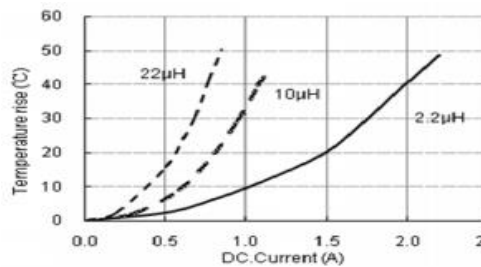


## ■ ESRN40S(4010) Size

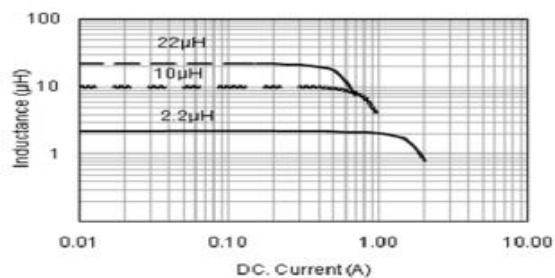
| Series       | Standard Values - Case Size 40 (4.0 x 4.0 x 1.0mm) |           |                 |              |                  |                  |           |
|--------------|----------------------------------------------------|-----------|-----------------|--------------|------------------|------------------|-----------|
|              | Inductance (μH)                                    | Tolerance | Test Conditions | DCR (Ω) ±30% | Max. Isat (Amps) | Max. Irms (Amps) | SRF (MHz) |
| ESRN40S1R0NT | 1.0                                                | ±30%      | 100KHz, 1V      | 0.056        | 2.00             | 1.90             | 116       |
| ESRN40S1R5NT | 1.5                                                | ±30%      | 100KHz, 1V      | 0.070        | 1.68             | 1.70             | 94        |
| ESRN40S2R2MT | 2.2                                                | ±20%      | 100KHz, 1V      | 0.085        | 1.20             | 1.50             | 73        |
| ESRN40S3R3MT | 3.3                                                | ±20%      | 100KHz, 1V      | 0.100        | 1.10             | 1.40             | 58        |
| ESRN40S4R7MT | 4.7                                                | ±20%      | 100KHz, 1V      | 0.140        | 0.95             | 1.20             | 47        |
| ESRN40S6R8MT | 6.8                                                | ±20%      | 100KHz, 1V      | 0.200        | 0.80             | 1.00             | 38        |
| ESRN40S100MT | 10                                                 | ±20%      | 100KHz, 1V      | 0.300        | 0.62             | 0.75             | 31        |
| ESRN40S150MT | 15                                                 | ±20%      | 100KHz, 1V      | 0.430        | 0.54             | 0.60             | 24        |
| ESRN40S220MT | 22                                                 | ±20%      | 100KHz, 1V      | 0.570        | 0.45             | 0.50             | 19        |

Maximum +40°C temperature rise at Irms. Maximum -30% inductance drop from initial measured value at Isat.

Temperature vs. DC Current Characteristics



Inductance vs. DC Current Characteristics



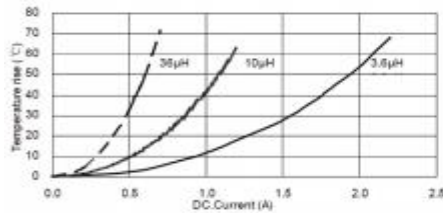
## ■ ESRN41S(4012) Size

| Series       | Standard Values - Case Size 41 (4.0 x 4.0 x 1.2mm) |           |                 |              |                  |                  |           |
|--------------|----------------------------------------------------|-----------|-----------------|--------------|------------------|------------------|-----------|
|              | Inductance (μH)                                    | Tolerance | Test Conditions | DCR (Ω) ±30% | Max. Isat (Amps) | Max. Irms (Amps) | SRF (MHz) |
| ESRN41SR82NT | 0.82                                               | ±30%      | 100KHz, 1V      | 0.05         | 3.53             | 1.65             | 150       |
| ESRN41S1R0NT | 1.0                                                | ±30%      | 100KHz, 1V      | 0.05         | 2.61             | 1.65             | 120       |
| ESRN41S1R2NT | 1.2                                                | ±30%      | 100KHz, 1V      | 0.065        | 2.83             | 1.46             | 100       |
| ESRN41S1R5NT | 1.5                                                | ±30%      | 100KHz, 1V      | 0.065        | 2.1              | 1.46             | 90        |
| ESRN41S1R8NT | 1.8                                                | ±30%      | 100KHz, 1V      | 0.08         | 2.47             | 1.32             | 88        |
| ESRN41S2R2NT | 2.2                                                | ±30%      | 100KHz, 1V      | 0.08         | 1.76             | 1.32             | 74        |
| ESRN41S2R7NT | 2.7                                                | ±30%      | 100KHz, 1V      | 0.09         | 1.9              | 1.25             | 71        |
| ESRN41S3R3NT | 3.3                                                | ±30%      | 100KHz, 1V      | 0.113        | 1.25             | 1.12             | 60        |
| ESRN41S3R6NT | 3.6                                                | ±30%      | 100KHz, 1V      | 0.11         | 1.2              | 1.12             | 57        |
| ESRN41S4R3NT | 4.3                                                | ±30%      | 100KHz, 1V      | 0.14         | 1.75             | 1                | 54        |
| ESRN41S4R7NT | 4.7                                                | ±30%      | 100KHz, 1V      | 0.125        | 1.15             | 1.05             | 50        |
| ESRN41S5R1NT | 5.1                                                | ±30%      | 100KHz, 1V      | 0.155        | 1.21             | 0.95             | 50        |
| ESRN41S5R6MT | 5.6                                                | ±30%      | 100KHz, 1V      | 0.14         | 1.0              | 1.0              | 42        |
| ESRN41S6R8MT | 6.8                                                | ±20%      | 100KHz, 1V      | 0.198        | 0.95             | 0.84             | 40        |
| ESRN41S100MT | 10                                                 | ±20%      | 100KHz, 1V      | 0.265        | 0.8              | 0.77             | 33        |
| ESRN41S120MT | 12                                                 | ±20%      | 100KHz, 1V      | 0.29         | 0.66             | 0.7              | 32        |
| ESRN41S150MT | 15                                                 | ±20%      | 100KHz, 1V      | 0.34         | 0.56             | 0.64             | 25        |
| ESRN41S180MT | 18                                                 | ±20%      | 100KHz, 1V      | 0.47         | 0.55             | 0.55             | 23        |
| ESRN41S220MT | 22                                                 | ±20%      | 100KHz, 1V      | 0.47         | 0.54             | 0.55             | 20        |
| ESRN41S270MT | 27                                                 | ±20%      | 100KHz, 1V      | 0.72         | 0.5              | 0.45             | 18        |
| ESRN41S330MT | 33                                                 | ±20%      | 100KHz, 1V      | 0.81         | 0.42             | 0.42             | 17        |

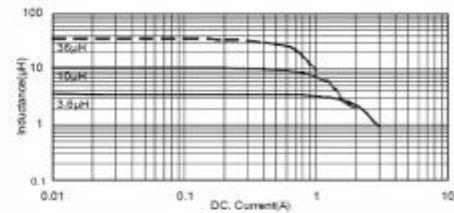
|              |     |      |            |      |      |      |     |
|--------------|-----|------|------------|------|------|------|-----|
| ESRN41S360MT | 36  | ±20% | 100KHz, 1V | 0.9  | 0.4  | 0.4  | 14  |
| ESRN41S390MT | 39  | ±20% | 100KHz, 1V | 1.1  | 0.55 | 0.37 | 16  |
| ESRN41S470MT | 47  | ±20% | 100KHz, 1V | 1.1  | 0.35 | 0.37 | 12  |
| ESRN41S560MT | 56  | ±20% | 100KHz, 1V | 1.25 | 0.33 | 0.33 | 11  |
| ESRN41S680MT | 68  | ±20% | 100KHz, 1V | 1.46 | 0.3  | 0.31 | 11  |
| ESRN41S820MT | 82  | ±20% | 100KHz, 1V | 2.14 | 0.28 | 0.26 | 11  |
| ESRN41S101MT | 100 | ±20% | 100KHz, 1V | 2.21 | 0.25 | 0.25 | 9.4 |

Maximum +40°C temperature rise at Irms. Maximum -30% inductance drop from initial measured value at Isat.

Temperature vs. DC Current Characteristics



Inductance vs. DC Current Characteristics

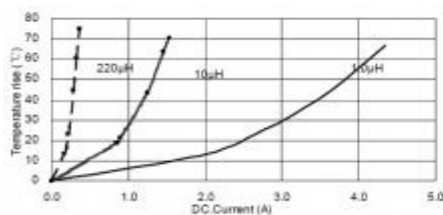


## ■ ESRN48S(4018) Size

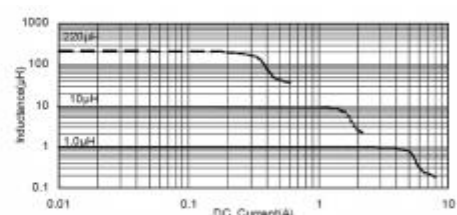
| Series       | Standard Values - Case Size 48 (4.0 x 4.0 x 1.8mm) |           |                 |              |                  |                  |           |
|--------------|----------------------------------------------------|-----------|-----------------|--------------|------------------|------------------|-----------|
|              | Inductance (µH)                                    | Tolerance | Test Conditions | DCR (Ω) ±30% | Max. Isat (Amps) | Max. Irms (Amps) | SRF (MHz) |
| ESRN48SR47NT | 0.47                                               | ±30%      | 100KHz, 1V      | 0.014        | 4.30             | 4.00             | 155       |
| ESRN48SR68NT | 0.68                                               | ±30%      | 100KHz, 1V      | 0.020        | 4.90             | 3.30             | 128       |
| ESRN48S1R0NT | 1.0                                                | ±30%      | 100KHz, 1V      | 0.025        | 4.80             | 2.00             | 80        |
| ESRN48S1R5NT | 1.5                                                | ±30%      | 100KHz, 1V      | 0.030        | 3.35             | 1.80             | 65        |
| ESRN48S1R8NT | 1.8                                                | ±30%      | 100KHz, 1V      | 0.034        | 3.00             | 2.00             | 54        |
| ESRN48S2R2MT | 2.2                                                | ±20%      | 100KHz, 1V      | 0.045        | 2.70             | 1.65             | 52        |
| ESRN48S3R3MT | 3.3                                                | ±20%      | 100KHz, 1V      | 0.070        | 2.45             | 1.23             | 44        |
| ESRN48S4R7MT | 4.7                                                | ±20%      | 100KHz, 1V      | 0.090        | 1.70             | 1.20             | 34        |
| ESRN48S6R8MT | 6.8                                                | ±20%      | 100KHz, 1V      | 0.110        | 1.45             | 1.06             | 29        |
| ESRN48S100MT | 10                                                 | ±20%      | 100KHz, 1V      | 0.180        | 1.30             | 0.84             | 24        |
| ESRN48S150MT | 15                                                 | ±20%      | 100KHz, 1V      | 0.250        | 0.94             | 0.65             | 19        |
| ESRN48S220MT | 22                                                 | ±20%      | 100KHz, 1V      | 0.360        | 0.80             | 0.59             | 16        |
| ESRN48S270MT | 27                                                 | ±20%      | 100KHz, 1V      | 0.470        | 0.47             | 0.52             | 27        |
| ESRN48S330MT | 33                                                 | ±20%      | 100KHz, 1V      | 0.530        | 0.56             | 0.49             | 12        |
| ESRN48S470MT | 47                                                 | ±20%      | 100KHz, 1V      | 0.650        | 0.57             | 0.42             | 10        |
| ESRN48S680MT | 68                                                 | ±20%      | 100KHz, 1V      | 1.000        | 0.47             | 0.32             | 8.3       |
| ESRN48S101MT | 100                                                | ±20%      | 100KHz, 1V      | 1.750        | 0.40             | 0.25             | 6.5       |
| ESRN48S151MT | 150                                                | ±20%      | 100KHz, 1V      | 2.500        | 0.31             | 0.22             | 5.5       |
| ESRN48S221MT | 220                                                | ±20%      | 100KHz, 1V      | 4.000        | 0.27             | 0.17             | 4         |

Maximum +40°C temperature rise at Irms. Maximum -30% inductance drop from initial measured value at Isat.

Temperature vs. DC Current Characteristics



Inductance vs. DC Current Characteristics

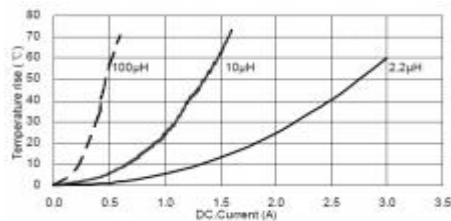


## ■ ESRN42S(4020) Size

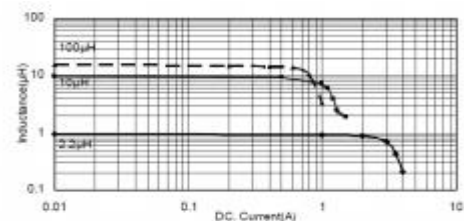
| Series       | Standard Values - Case Size 42 (4.0 x 4.0 x 2.0mm) |           |                 |              |                  |                  |           |
|--------------|----------------------------------------------------|-----------|-----------------|--------------|------------------|------------------|-----------|
|              | Inductance (μH)                                    | Tolerance | Test Conditions | DCR (Ω) ±30% | Max. Isat (Amps) | Max. Irms (Amps) | SRF (MHz) |
| ESRN42SR24MT | 0.24                                               | ±30%      | 100KHz, 1V      | 0.011        | 10.5             | 4.50             | 283       |
| ESRN42SR33NT | 0.33                                               | ±30%      | 100KHz, 1V      | 0.013        | 7.50             | 3.30             | 223       |
| ESRN42SR47NT | 0.47                                               | ±30%      | 100KHz, 1V      | 0.022        | 7.00             | 3.30             | 160       |
| ESRN42SR68NT | 0.68                                               | ±30%      | 100KHz, 1V      | 0.028        | 6.40             | 2.80             | 120       |
| ESRN42S1R0NT | 1.0                                                | ±30%      | 100KHz, 1V      | 0.029        | 4.78             | 2.15             | 75        |
| ESRN42S1R2NT | 1.2                                                | ±30%      | 100KHz, 1V      | 0.029        | 5.10             | 2.15             | 72        |
| ESRN42S1R5NT | 1.5                                                | ±30%      | 100KHz, 1V      | 0.035        | 4.45             | 1.98             | 71        |
| ESRN42S2R2NT | 2.2                                                | ±30%      | 100KHz, 1V      | 0.040        | 3.40             | 1.85             | 49        |
| ESRN42S3R3MT | 3.3                                                | ±20%      | 100KHz, 1V      | 0.050        | 3.20             | 1.40             | 44        |
| ESRN42S3R6MT | 3.6                                                | ±20%      | 100KHz, 1V      | 0.055        | 2.80             | 1.54             | 49        |
| ESRN42S4R7MT | 4.7                                                | ±20%      | 100KHz, 1V      | 0.075        | 2.35             | 1.34             | 42        |
| ESRN42S5R1MT | 5.1                                                | ±20%      | 100KHz, 1V      | 0.085        | 2.30             | 1.27             | 42        |
| ESRN42S5R6MT | 5.6                                                | ±20%      | 100KHz, 1V      | 0.090        | 2.20             | 1.22             | 30        |
| ESRN42S6R2MT | 6.2                                                | ±20%      | 100KHz, 1V      | 0.115        | 2.15             | 1.08             | 36        |
| ESRN42S6R8MT | 6.8                                                | ±20%      | 100KHz, 1V      | 0.125        | 2.20             | 1.04             | 33        |
| ESRN42S7R5MT | 7.5                                                | ±20%      | 100KHz, 1V      | 0.115        | 1.85             | 1.08             | 30        |
| ESRN42S8R2MT | 8.2                                                | ±20%      | 100KHz, 1V      | 0.125        | 1.75             | 1.04             | 27        |
| ESRN42S100MT | 10                                                 | ±20%      | 100KHz, 1V      | 0.165        | 1.60             | 0.90             | 26        |
| ESRN42S120MT | 12                                                 | ±20%      | 100KHz, 1V      | 0.175        | 1.50             | 0.88             | 26        |
| ESRN42S150MT | 15                                                 | ±20%      | 100KHz, 1V      | 0.230        | 1.35             | 0.77             | 24        |
| ESRN42S220MT | 22                                                 | ±20%      | 100KHz, 1V      | 0.350        | 1.05             | 0.62             | 15        |
| ESRN42S270MT | 27                                                 | ±20%      | 100KHz, 1V      | 0.545        | 1.02             | 0.50             | 14        |
| ESRN42S330MT | 33                                                 | ±20%      | 100KHz, 1V      | 0.550        | 0.85             | 0.49             | 11        |
| ESRN42S390MT | 39                                                 | ±20%      | 100KHz, 1V      | 0.650        | 0.82             | 0.46             | 11        |
| ESRN42S430MT | 43                                                 | ±20%      | 100KHz, 1V      | 0.660        | 0.77             | 0.45             | 10        |
| ESRN42S470MT | 47                                                 | ±20%      | 100KHz, 1V      | 0.710        | 0.74             | 0.44             | 10        |
| ESRN42S510MT | 51                                                 | ±20%      | 100KHz, 1V      | 0.750        | 0.70             | 0.42             | 10        |
| ESRN42S560MT | 56                                                 | ±20%      | 100KHz, 1V      | 0.800        | 0.66             | 0.41             | 10        |
| ESRN42S620MT | 62                                                 | ±20%      | 100KHz, 1V      | 0.900        | 0.65             | 0.39             | 9.6       |
| ESRN42S680MT | 68                                                 | ±20%      | 100KHz, 1V      | 1.060        | 0.61             | 0.36             | 7.7       |
| ESRN42S750MT | 75                                                 | ±20%      | 100KHz, 1V      | 1.160        | 0.70             | 0.35             | 7.7       |
| ESRN42S820MT | 82                                                 | ±20%      | 100KHz, 1V      | 1.170        | 0.50             | 0.34             | 7.2       |
| ESRN42S101MT | 100                                                | ±20%      | 100KHz, 1V      | 1.550        | 0.48             | 0.31             | 6.3       |

Maximum +40°C temperature rise at Irms. Maximum -30% inductance drop from initial measured value at Isat.

Temperature vs. DC Current Characteristics



Inductance vs. DC Current Characteristics

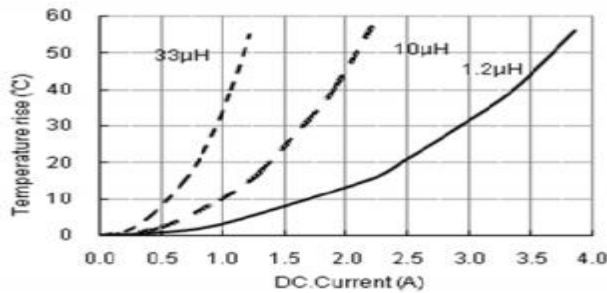


## ■ ESRN46S(4026) Size

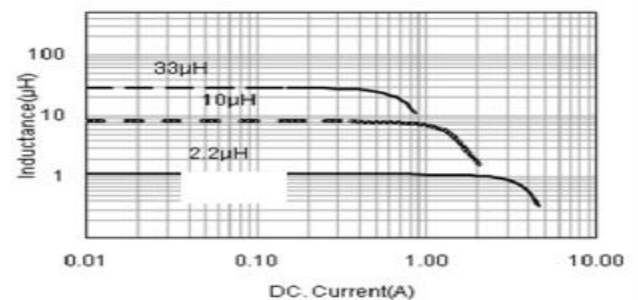
| Series       | Standard Values - Case Size 48 (4.0 x 4.0 x 2.6mm) |           |                 |              |                  |                  |           |
|--------------|----------------------------------------------------|-----------|-----------------|--------------|------------------|------------------|-----------|
|              | Inductance (μH)                                    | Tolerance | Test Conditions | DCR (Ω) ±30% | Max. Isat (Amps) | Max. Irms (Amps) | SRF (MHz) |
| ESRN46S1R0NT | 1.0                                                | ±30%      | 100KHz, 1V      | 0.025        | 3.30             | 3.00             | 151       |
| ESRN46S1R2NT | 1.2                                                | ±30%      | 100KHz, 1V      | 0.030        | 3.10             | 2.30             | 120       |
| ESRN46S1R5NT | 1.5                                                | ±30%      | 100KHz, 1V      | 0.030        | 2.40             | 2.30             | 100       |
| ESRN46S2R2MT | 2.2                                                | ±20%      | 100KHz, 1V      | 0.040        | 2.10             | 2.00             | 96        |
| ESRN46S3R3MT | 3.3                                                | ±20%      | 100KHz, 1V      | 0.050        | 1.80             | 1.70             | 58        |
| ESRN46S4R7MT | 4.7                                                | ±20%      | 100KHz, 1V      | 0.055        | 1.45             | 1.60             | 46        |
| ESRN46S6R8MT | 6.8                                                | ±20%      | 100KHz, 1V      | 0.065        | 1.30             | 1.50             | 33        |
| ESRN46S100MT | 10                                                 | ±20%      | 100KHz, 1V      | 0.085        | 1.00             | 1.30             | 26        |
| ESRN46S150MT | 15                                                 | ±20%      | 100KHz, 1V      | 0.110        | 0.90             | 1.10             | 19        |
| ESRN46S220MT | 22                                                 | ±20%      | 100KHz, 1V      | 0.165        | 0.60             | 0.90             | 13        |
| ESRN46S330MT | 33                                                 | ±20%      | 100KHz, 1V      | 0.270        | 0.55             | 0.70             | 9         |
| ESRN46S470MT | 47                                                 | ±20%      | 100KHz, 1V      | 0.300        | 0.40             | 0.65             | 6         |

Maximum +40°C temperature rise at Irms. Maximum -30% inductance drop from initial measured value at Isat.

Temperature vs. DC Current Characteristics



Inductance vs. DC Current Characteristics



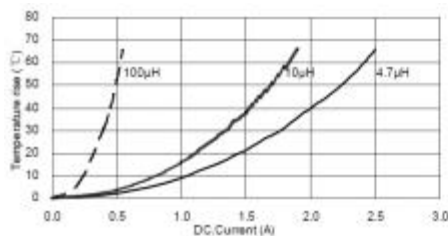
## ■ ESRN43S(4030) Size

| Series       | Standard Values - Case Size 43 (4.0 x 4.0 x 3.0mm) |           |                 |              |                  |                  |           |
|--------------|----------------------------------------------------|-----------|-----------------|--------------|------------------|------------------|-----------|
|              | Inductance (μH)                                    | Tolerance | Test Conditions | DCR (Ω) ±30% | Max. Isat (Amps) | Max. Irms (Amps) | SRF (MHz) |
| ESRN43SR68NT | 0.68                                               | ±30%      | 100KHz, 1V      | 0.010        | 6.80             | 4.56             | 130       |
| ESRN43SR91NT | 0.91                                               | ±30%      | 100KHz, 1V      | 0.013        | 6.25             | 4.15             | 100       |
| ESRN43S1R0NT | 1.0                                                | ±30%      | 100KHz, 1V      | 0.014        | 5.26             | 4.15             | 70        |
| ESRN43S1R2NT | 1.2                                                | ±30%      | 100KHz, 1V      | 0.015        | 5.80             | 3.82             | 80        |
| ESRN43S1R5NT | 1.5                                                | ±30%      | 100KHz, 1V      | 0.020        | 4.84             | 3.34             | 62        |
| ESRN43S1R8NT | 1.8                                                | ±30%      | 100KHz, 1V      | 0.025        | 5.40             | 3.20             | 60        |
| ESRN43S2R2NT | 2.2                                                | ±30%      | 100KHz, 1V      | 0.030        | 4.90             | 2.95             | 52        |
| ESRN43S3R3MT | 3.3                                                | ±20%      | 100KHz, 1V      | 0.040        | 3.30             | 2.40             | 38        |
| ESRN43S3R6MT | 3.6                                                | ±20%      | 100KHz, 1V      | 0.040        | 3.00             | 2.40             | 37        |
| ESRN43S3R9MT | 3.9                                                | ±20%      | 100KHz, 1V      | 0.057        | 3.00             | 2.10             | 32        |
| ESRN43S4R3MT | 4.3                                                | ±20%      | 100KHz, 1V      | 0.055        | 2.95             | 2.10             | 37        |
| ESRN43S4R7MT | 4.7                                                | ±20%      | 100KHz, 1V      | 0.060        | 2.90             | 2.00             | 31        |
| ESRN43S5R6MT | 5.6                                                | ±20%      | 100KHz, 1V      | 0.065        | 2.60             | 1.95             | 30        |
| ESRN43S6R8MT | 6.8                                                | ±20%      | 100KHz, 1V      | 0.090        | 2.75             | 1.60             | 24        |
| ESRN43S7R5MT | 7.5                                                | ±20%      | 100KHz, 1V      | 0.1          | 2.20             | 1.65             | 26        |
| ESRN43S8R2MT | 8.2                                                | ±20%      | 100KHz, 1V      | 0.090        | 2.10             | 1.60             | 26        |
| ESRN43S100MT | 10                                                 | ±20%      | 100KHz, 1V      | 0.100        | 1.95             | 1.50             | 21        |
| ESRN43S120MT | 12                                                 | ±20%      | 100KHz, 1V      | 0.135        | 1.70             | 1.30             | 18        |
| ESRN43S150MT | 15                                                 | ±20%      | 100KHz, 1V      | 0.190        | 1.65             | 1.11             | 16        |

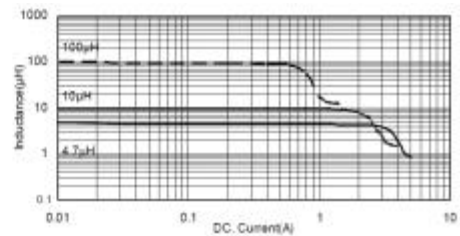
|              |     |      |            |       |      |      |     |
|--------------|-----|------|------------|-------|------|------|-----|
| ESRN43S180MT | 18  | ±20% | 100KHz, 1V | 0.200 | 1.40 | 1.10 | 10  |
| ESRN43S220MT | 22  | ±20% | 100KHz, 1V | 0.225 | 1.30 | 1.00 | 10  |
| ESRN43S270MT | 27  | ±20% | 100KHz, 1V | 0.260 | 1.15 | 0.90 | 10  |
| ESRN43S330MT | 33  | ±20% | 100KHz, 1V | 0.330 | 1.10 | 0.84 | 10  |
| ESRN43S360MT | 36  | ±20% | 100KHz, 1V | 0.335 | 1.05 | 0.83 | 9.8 |
| ESRN43S390MT | 39  | ±20% | 100KHz, 1V | 0.435 | 1.03 | 0.73 | 10  |
| ESRN43S470MT | 47  | ±20% | 100KHz, 1V | 0.445 | 0.95 | 0.72 | 8.4 |
| ESRN43S510MT | 51  | ±20% | 100KHz, 1V | 0.470 | 0.90 | 0.70 | 8.4 |
| ESRN43S560MT | 56  | ±20% | 100KHz, 1V | 0.555 | 0.85 | 0.65 | 8.4 |
| ESRN43S620MT | 62  | ±20% | 100KHz, 1V | 0.585 | 0.80 | 0.63 | 7   |
| ESRN43S680MT | 68  | ±20% | 100KHz, 1V | 0.868 | 0.72 | 0.52 | 7   |
| ESRN43S750MT | 75  | ±20% | 100KHz, 1V | 1.020 | 0.70 | 0.48 | 6.3 |
| ESRN43S820MT | 82  | ±20% | 100KHz, 1V | 1.060 | 0.66 | 0.47 | 5.6 |
| ESRN43S910MT | 91  | ±20% | 100KHz, 1V | 1.100 | 0.65 | 0.46 | 5.6 |
| ESRN43S101MT | 100 | ±20% | 100KHz, 1V | 1.150 | 0.60 | 0.45 | 5.6 |
| ESRN43S121MT | 120 | ±20% | 100KHz, 1V | 1.350 | 0.55 | 0.42 | 5.4 |
| ESRN43S151MT | 150 | ±20% | 100KHz, 1V | 1.800 | 0.50 | 0.30 | 4   |
| ESRN43S221MT | 220 | ±20% | 100KHz, 1V | 2.500 | 0.40 | 0.35 | 4.2 |
| ESRN43S331MT | 330 | ±20% | 100KHz, 1V | 4.000 | 0.30 | 0.25 | 6.8 |
| ESRN43S471KT | 470 | ±20% | 100KHz, 1V | 7.200 | 0.30 | 0.20 | 2   |
| ESRN43S501MT | 500 | ±20% | 100KHz, 1V | 6.944 | 0.28 | 0.15 | 2   |
| ESRN43S681MT | 680 | ±20% | 100KHz, 1V | 7.580 | 0.19 | 0.14 | 1.2 |

Maximum +40°C temperature rise at Irms. Maximum -30% inductance drop from initial measured value at Isat.

Temperature vs. DC Current Characteristics



Inductance vs. DC Current Characteristics

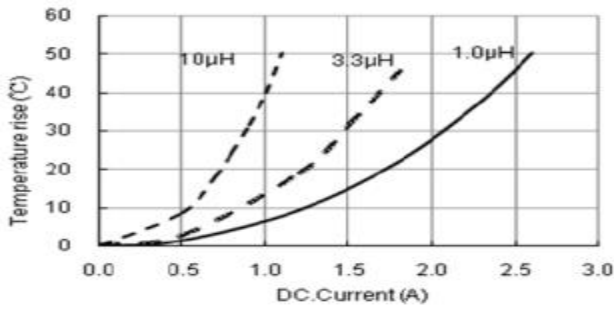


## ■ ESRN51S(5012) Size

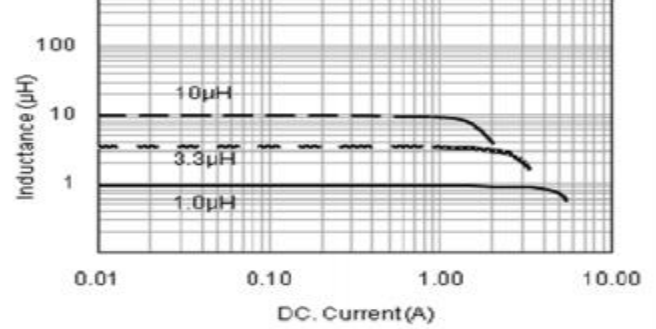
| Series       | Standard Values - Case Size 54 (5.0 x 5.0 x 1.2mm) |           |                 |              |                  |                  |           |
|--------------|----------------------------------------------------|-----------|-----------------|--------------|------------------|------------------|-----------|
|              | Inductance (µH)                                    | Tolerance | Test Conditions | DCR (Ω) ±30% | Max. Isat (Amps) | Max. Irms (Amps) | SRF (MHz) |
| ESRN51SR22NT | 0.22                                               | ±30%      | 100KHz, 1V      | 0.028        | 8.10             | 3.00             | 315       |
| ESRN51S1R0NT | 1.0                                                | ±30%      | 100KHz, 1V      | 0.057        | 4.40             | 2.00             | 103       |
| ESRN51S1R5NT | 1.5                                                | ±30%      | 100KHz, 1V      | 0.07         | 3.70             | 1.90             | 68        |
| ESRN51S2R2NT | 2.2                                                | ±30%      | 100KHz, 1V      | 0.022        | 3.10             | 1.70             | 50        |
| ESRN51S3R3NT | 3.3                                                | ±30%      | 100KHz, 1V      | 0.024        | 2.40             | 1.40             | 34        |
| ESRN51S4R7NT | 4.7                                                | ±30%      | 100KHz, 1V      | 0.027        | 2.20             | 1.30             | 31        |
| ESRN51S6R8MT | 6.8                                                | ±20%      | 100KHz, 1V      | 0.03         | 1.70             | 1.00             | 22        |
| ESRN51S100MT | 10                                                 | ±20%      | 100KHz, 1V      | 0.043        | 1.40             | 0.85             | 17        |
| ESRN51S150MT | 15                                                 | ±20%      | 100KHz, 1V      | 0.064        | 1.20             | 0.80             | 13        |
| ESRN51S220MT | 22                                                 | ±20%      | 100KHz, 1V      | 0.780        | 0.88             | 0.60             | 15        |

Maximum +40°C temperature rise at Irms. Maximum -30% inductance drop from initial measured value at Isat.

Temperature vs. DC Current Characteristics



Inductance vs. DC Current Characteristics



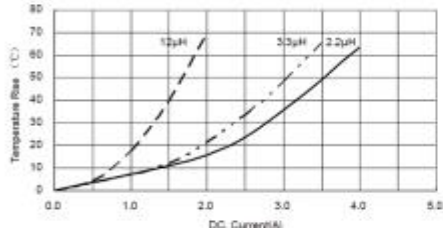
## ■ ESRN52S(5020) Size

| Series       | Standard Values - Case Size 52 (5.0 x 5.0 x 2.0mm) |           |                 |              |                  |                  |           |
|--------------|----------------------------------------------------|-----------|-----------------|--------------|------------------|------------------|-----------|
|              | Inductance (µH)                                    | Tolerance | Test Conditions | DCR (Ω) ±30% | Max. Isat (Amps) | Max. Irms (Amps) | SRF (MHz) |
| ESRN52SR47YT | 0.47                                               | ±30%      | 100KHz, 1V      | 0.013        | 6.15             | 4.6              | 160       |
| ESRN52SR75YT | 0.75                                               | ±30%      | 100KHz, 1V      | 0.017        | 5.5              | 4                | 117       |
| ESRN52S1R0YT | 1.0                                                | ±30%      | 100KHz, 1V      | 0.02         | 4.1              | 3.8              | 114       |
| ESRN52S1R2YT | 1.2                                                | ±30%      | 100KHz, 1V      | 0.022        | 4.5              | 3.55             | 83        |
| ESRN52S1R5YT | 1.5                                                | ±30%      | 100KHz, 1V      | 0.026        | 4.1              | 3.2              | 68        |
| ESRN52S2R2YT | 2.2                                                | ±30%      | 100KHz, 1V      | 0.032        | 3.2              | 2.9              | 57        |
| ESRN52S2R7YT | 2.7                                                | ±30%      | 100KHz, 1V      | 0.038        | 2.9              | 2.7              | 52        |
| ESRN52S3R0YT | 3.0                                                | ±30%      | 100KHz, 1V      | 0.038        | 2.55             | 2.7              | 49        |
| ESRN52S3R3YT | 3.3                                                | ±30%      | 100KHz, 1V      | 0.043        | 2.55             | 2.5              | 46        |
| ESRN52S3R6YT | 3.6                                                | ±30%      | 100KHz, 1V      | 0.043        | 2.8              | 2.5              | 43        |
| ESRN52S3R9YT | 3.9                                                | ±30%      | 100KHz, 1V      | 0.043        | 2.3              | 2.5              | 40        |
| ESRN52S4R3MT | 4.3                                                | ±20%      | 100KHz, 1V      | 0.057        | 2.5              | 2.2              | 37        |
| ESRN52S4R7MT | 4.7                                                | ±20%      | 100KHz, 1V      | 0.057        | 2.5              | 2.2              | 37        |
| ESRN52S5R1MT | 5.1                                                | ±20%      | 100KHz, 1V      | 0.064        | 2.25             | 2.05             | 32        |
| ESRN52S5R6MT | 5.6                                                | ±20%      | 100KHz, 1V      | 0.064        | 2.3              | 2.05             | 32        |
| ESRN52S6R8MT | 6.8                                                | ±20%      | 100KHz, 1V      | 0.083        | 2.05             | 1.8              | 30        |
| ESRN52S7R5MT | 7.5                                                | ±20%      | 100KHz, 1V      | 0.09         | 1.85             | 1.75             | 26        |
| ESRN52S8R2MT | 8.2                                                | ±20%      | 100KHz, 1V      | 0.098        | 1.85             | 1.65             | 26        |
| ESRN52S9R1MT | 9.1                                                | ±20%      | 100KHz, 1V      | 0.11         | 1.7              | 1.55             | 24        |
| ESRN52S100MT | 10                                                 | ±20%      | 100KHz, 1V      | 0.11         | 1.7              | 1.55             | 24        |
| ESRN52S120MT | 12                                                 | ±20%      | 100KHz, 1V      | 0.14         | 1.5              | 1.4              | 22        |
| ESRN52S150MT | 15                                                 | ±20%      | 100KHz, 1V      | 0.165        | 1.35             | 1.25             | 20        |
| ESRN52S180MT | 18                                                 | ±20%      | 100KHz, 1V      | 0.2          | 1.25             | 1.15             | 16        |
| ESRN52S220MT | 22                                                 | ±20%      | 100KHz, 1V      | 0.226        | 1.15             | 1.1              | 14        |
| ESRN52S270MT | 27                                                 | ±20%      | 100KHz, 1V      | 0.285        | 1.09             | 0.95             | 14        |
| ESRN52S330MT | 33                                                 | ±20%      | 100KHz, 1V      | 0.37         | 0.97             | 0.83             | 13        |
| ESRN52S360MT | 36                                                 | ±20%      | 100KHz, 1V      | 0.38         | 0.93             | 0.8              | 12        |
| ESRN52S390MT | 39                                                 | ±20%      | 100KHz, 1V      | 0.415        | 0.93             | 0.78             | 12        |
| ESRN52S430MT | 43                                                 | ±20%      | 100KHz, 1V      | 0.45         | 0.88             | 0.75             | 11        |
| ESRN52S470MT | 47                                                 | ±20%      | 100KHz, 1V      | 0.525        | 0.81             | 0.7              | 11        |
| ESRN52S510MT | 51                                                 | ±20%      | 100KHz, 1V      | 0.545        | 0.76             | 0.68             | 10        |
| ESRN52S560MT | 56                                                 | ±20%      | 100KHz, 1V      | 0.56         | 0.76             | 0.67             | 9.7       |
| ESRN52S620MT | 62                                                 | ±20%      | 100KHz, 1V      | 0.625        | 0.72             | 0.63             | 9.2       |
| ESRN52S680MT | 68                                                 | ±20%      | 100KHz, 1V      | 0.885        | 0.7              | 0.53             | 8.8       |
| ESRN52S750MT | 75                                                 | ±20%      | 100KHz, 1V      | 0.89         | 0.63             | 0.53             | 8.3       |

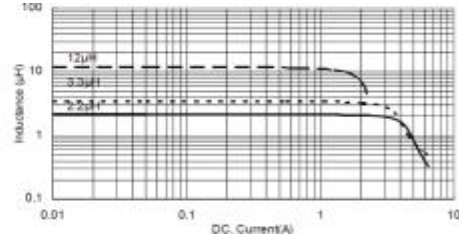
|              |     |      |            |       |      |      |     |
|--------------|-----|------|------------|-------|------|------|-----|
| ESRN52S820MT | 82  | ±20% | 100KHz, 1V | 0.945 | 0.62 | 0.52 | 8.3 |
| ESRN52S910MT | 91  | ±20% | 100KHz, 1V | 1     | 0.61 | 0.5  | 7.9 |
| ESRN52S101MT | 100 | ±20% | 100KHz, 1V | 1.06  | 0.57 | 0.49 | 7.6 |
| ESRN52S121MT | 120 | ±20% | 100KHz, 1V | 1.350 | 0.42 | 0.40 | 6   |
| ESRN52S201MT | 200 | ±20% | 100KHz, 1V | 2.000 | 0.30 | 0.40 | 4.5 |

Maximum +40°C temperature rise at Irms. Maximum -30% inductance drop from initial measured value at Isat.

Temperature vs. DC Current Characteristics



Inductance vs. DC Current Characteristics



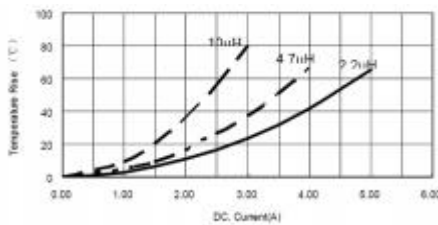
## ■ ESRN54S(5040) Size

| Series       | Standard Values - Case Size 54 (5.0 x 5.0 x 4.0mm) |           |                 |              |                  |                  |           |
|--------------|----------------------------------------------------|-----------|-----------------|--------------|------------------|------------------|-----------|
|              | Inductance (µH)                                    | Tolerance | Test Conditions | DCR (Ω) ±30% | Max. Isat (Amps) | Max. Irms (Amps) | SRF (MHz) |
| ESRN54SR22MT | 0.22                                               | ±30%      | 100KHz, 1V      | 0.006        | 18.00            | 6.50             | 289       |
| ESRN54SR24NT | 0.24                                               | ±30%      | 100KHz, 1V      | 0.006        | 15.70            | 6.40             | 251       |
| ESRN54SR47MT | 0.47                                               | ±30%      | 100KHz, 1V      | 0.007        | 10.00            | 6.60             | 171       |
| ESRN54S1R0NT | 1.0                                                | ±30%      | 100KHz, 1V      | 0.012        | 7.35             | 4.90             | 117       |
| ESRN54S1R2NT | 1.2                                                | ±30%      | 100KHz, 1V      | 0.016        | 6.50             | 4.15             | 110       |
| ESRN54S1R5NT | 1.5                                                | ±30%      | 100KHz, 1V      | 0.015        | 6.30             | 4.30             | 86        |
| ESRN54S1R8MT | 1.8                                                | ±30%      | 100KHz, 1V      | 0.016        | 5.50             | 4.15             | 55        |
| ESRN54S2R2NT | 2.2                                                | ±20%      | 100KHz, 1V      | 0.019        | 4.90             | 3.80             | 50        |
| ESRN54S2R7NT | 2.7                                                | ±20%      | 100KHz, 1V      | 0.022        | 4.30             | 3.60             | 37        |
| ESRN54S3R0NT | 3.0                                                | ±20%      | 100KHz, 1V      | 0.022        | 4.15             | 3.60             | 37        |
| ESRN54S3R3NT | 3.3                                                | ±20%      | 100KHz, 1V      | 0.024        | 3.95             | 3.40             | 32        |
| ESRN54S3R6MT | 3.6                                                | ±20%      | 100KHz, 1V      | 0.026        | 3.80             | 3.30             | 30        |
| ESRN54S3R9NT | 3.9                                                | ±20%      | 100KHz, 1V      | 0.027        | 3.55             | 3.20             | 29        |
| ESRN54S4R7NT | 4.7                                                | ±20%      | 100KHz, 1V      | 0.030        | 3.50             | 3.00             | 28        |
| ESRN54S5R6MT | 5.6                                                | ±20%      | 100KHz, 1V      | 0.035        | 3.00             | 2.80             | 27        |
| ESRN54S6R8MT | 6.8                                                | ±20%      | 100KHz, 1V      | 0.043        | 2.90             | 2.50             | 21        |
| ESRN54S8R2MT | 8.2                                                | ±20%      | 100KHz, 1V      | 0.048        | 2.70             | 2.30             | 20        |
| ESRN54S100MT | 10.0                                               | ±20%      | 100KHz, 1V      | 0.064        | 2.35             | 2.10             | 18        |
| ESRN54S120MT | 12.0                                               | ±20%      | 100KHz, 1V      | 0.077        | 2.2              | 2.0              | 14        |
| ESRN54S150MT | 15.0                                               | ±20%      | 100KHz, 1V      | 0.086        | 2.00             | 2.00             | 13        |
| ESRN54S180MT | 18.0                                               | ±20%      | 100KHz, 1V      | 0.119        | 1.70             | 1.45             | 12        |
| ESRN54S220MT | 22.0                                               | ±20%      | 100KHz, 1V      | 0.129        | 1.60             | 1.50             | 11        |
| ESRN54S270MT | 27.0                                               | ±20%      | 100KHz, 1V      | 0.188        | 1.52             | 1.10             | 9.8       |
| ESRN54S330MT | 33.0                                               | ±20%      | 100KHz, 1V      | 0.188        | 1.30             | 1.20             | 9         |
| ESRN54S470MT | 47.0                                               | ±20%      | 100KHz, 1V      | 0.272        | 1.10             | 1.00             | 7         |
| ESRN54S510MT | 51.0                                               | ±20%      | 100KHz, 1V      | 0.380        | 1.00             | 1.00             | 6         |
| ESRN54S560MT | 56.0                                               | ±20%      | 100KHz, 1V      | 0.380        | 1.05             | 0.80             | 6         |
| ESRN54S680MT | 68.0                                               | ±20%      | 100KHz, 1V      | 0.400        | 0.90             | 0.80             | 6         |
| ESRN54S750MT | 75.0                                               | ±20%      | 100KHz, 1V      | 0.450        | 0.85             | 0.72             | 6         |
| ESRN54S101MT | 100.0                                              | ±20%      | 100KHz, 1V      | 0.560        | 0.75             | 0.70             | 5         |
| ESRN54S151MT | 150.0                                              | ±20%      | 100KHz, 1V      | 0.750        | 0.65             | 0.60             | 3.7       |
| ESRN54S221MT | 220.0                                              | ±20%      | 100KHz, 1V      | 1.40         | 0.48             | 0.40             | 3.0       |

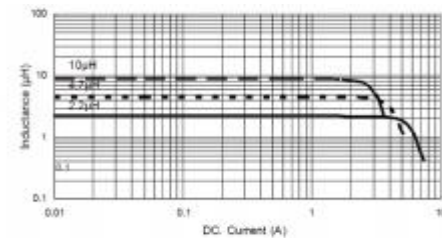
|              |         |      |            |       |       |       |      |
|--------------|---------|------|------------|-------|-------|-------|------|
| ESRN54S301MT | 300.0   | ±20% | 100KHz, 1V | 2.00  | 0.50  | 0.35  | 2.7  |
| ESRN54S331MT | 330.0   | ±20% | 100KHz, 1V | 2.10  | 0.42  | 0.40  | 2.7  |
| ESRN54S471MT | 470.0   | ±20% | 100KHz, 1V | 3.00  | 0.37  | 0.35  | 2.7  |
| ESRN54S561MT | 560.0   | ±20% | 100KHz, 1V | 3.78  | 0.31  | 0.31  | 1.3  |
| ESRN54S681MT | 680.0   | ±20% | 100KHz, 1V | 3.90  | 0.30  | 0.25  | 1.3  |
| ESRN54S102MT | 1000.0  | ±20% | 100KHz, 1V | 6.000 | 0.21  | 0.20  | 1.3  |
| ESRN54S332MT | 3300.0  | ±20% | 100KHz, 1V | 21.00 | 0.140 | 0.100 | 0.9  |
| ESRN54S392MT | 3900.0  | ±20% | 100KHz, 1V | 23.50 | 0.125 | 0.100 | 0.8  |
| ESRN54S472MT | 4700.0  | ±20% | 100KHz, 1V | 35.00 | 0.110 | 0.080 | 0.6  |
| ESRN54S502MT | 5000.0  | ±20% | 100KHz, 1V | 35.97 | 0.110 | 0.085 | 0.49 |
| ESRN54S562MT | 5600.0  | ±20% | 100KHz, 1V | 39.00 | 0.105 | 0.080 | 0.49 |
| ESRN54S682MT | 6800.0  | ±20% | 100KHz, 1V | 43.00 | 0.090 | 0.075 | 0.38 |
| ESRN54S822MT | 8200.0  | ±20% | 100KHz, 1V | 43.00 | 0.070 | 0.075 | 0.38 |
| ESRN54S103MT | 10000.0 | ±20% | 100KHz, 1V | 45.00 | 0.065 | 0.075 | 0.32 |

Maximum +40°C temperature rise at Irms. Maximum -30% inductance drop from initial measured value at Isat.

Temperature vs. DC Current Characteristics



Inductance vs. DC Current Characteristics

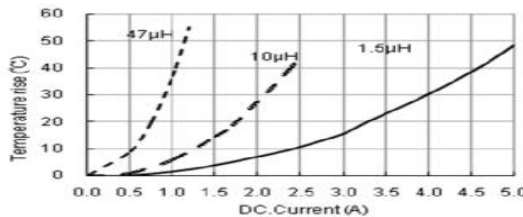


## ■ ESRN55S(5045) Size

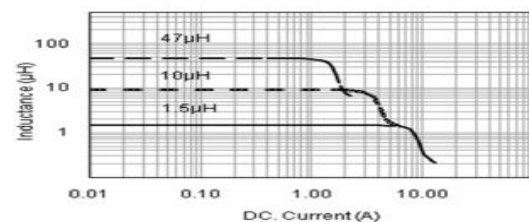
| Series         | Standard Values - Case Size 54 (5.0 x 5.0 x 4.5mm) |           |                 |              |                  |                  |           |
|----------------|----------------------------------------------------|-----------|-----------------|--------------|------------------|------------------|-----------|
|                | Inductance (µH)                                    | Tolerance | Test Conditions | DCR (Ω) ±30% | Max. Isat (Amps) | Max. Irms (Amps) | SRF (MHz) |
| ESRN5045S2R2MT | 2.2                                                | ±20%      | 100KHz, 1V      | 0.022        | 6.40             | 4.70             | 50        |
| ESRN5045S100MT | 10                                                 | ±20%      | 100KHz, 1V      | 0.061        | 3.20             | 2.50             | 17        |
| ESRN5045S100MT | 15                                                 | ±20%      | 100KHz, 1V      | 0.125        | 2.00             | 1.55             | 10        |

Maximum +40°C temperature rise at Irms. Maximum -30% inductance drop from initial measured value at Isat.

Temperature vs. DC Current Characteristics



Inductance vs. DC Current Characteristics



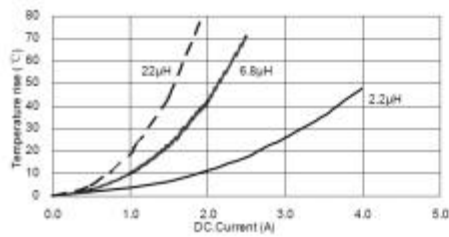
## ■ ESRN62S(6020) Size

| Series        | Standard Values - Case Size 62 (6.0 x 6.0 x 2.0mm) |           |                 |              |                  |                  |           |
|---------------|----------------------------------------------------|-----------|-----------------|--------------|------------------|------------------|-----------|
|               | Inductance (µH)                                    | Tolerance | Test Conditions | DCR (Ω) ±30% | Max. Isat (Amps) | Max. Irms (Amps) | SRF (MHz) |
| ESRN62SR50NT  | 0.5                                                | ±30%      | 100KHz, 1V      | 0.013        | 4.9              | 4.05             | 130       |
| ESRN62SR68NT  | 0.68                                               | ±30%      | 100KHz, 1V      | 0.017        | 7.5              | 3.8              | 120       |
| ESRN 62SR82NT | 0.82                                               | ±30%      | 100KHz, 1V      | 0.017        | 6.6              | 3.8              | 110       |
| ESRN62S1R0NT  | 1.0                                                | ±30%      | 100KHz, 1V      | 0.02         | 4.15             | 3.25             | 94        |
| ESRN62S1R2NT  | 1.2                                                | ±30%      | 100KHz, 1V      | 0.022        | 5.9              | 3.2              | 88        |
| ESRN62S1R5NT  | 1.5                                                | ±30%      | 100KHz, 1V      | 0.022        | 4.25             | 3.2              | 79        |

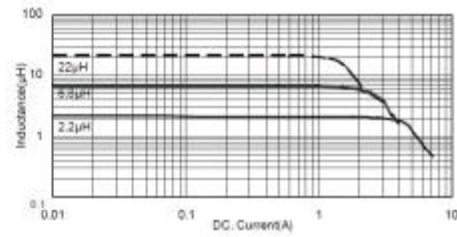
|              |     |      |            |       |      |      |    |
|--------------|-----|------|------------|-------|------|------|----|
| ESRN62S1R8NT | 1.8 | ±30% | 100KHz, 1V | 0.028 | 4.85 | 2.75 | 68 |
| ESRN62S2R0NT | 2   | ±30% | 100KHz, 1V | 0.035 | 4.3  | 2.45 | 64 |
| ESRN62S2R2NT | 2.2 | ±30% | 100KHz, 1V | 0.028 | 3.75 | 2.75 | 61 |
| ESRN62S2R7NT | 2.7 | ±30% | 100KHz, 1V | 0.035 | 3.9  | 2.6  | 56 |
| ESRN62S3R3NT | 3.3 | ±30% | 100KHz, 1V | 0.035 | 3.15 | 2.6  | 51 |
| ESRN62S3R9NT | 3.9 | ±30% | 100KHz, 1V | 0.049 | 3.25 | 2.1  | 46 |
| ESRN62S4R3NT | 4.3 | ±30% | 100KHz, 1V | 0.049 | 2.7  | 2.1  | 44 |
| ESRN62S4R7NT | 4.7 | ±30% | 100KHz, 1V | 0.058 | 3    | 2    | 41 |
| ESRN62S5R6NT | 5.6 | ±30% | 100KHz, 1V | 0.058 | 2.4  | 1.9  | 36 |
| ESRN62S6R2NT | 6.2 | ±30% | 100KHz, 1V | 0.079 | 2.3  | 1.8  | 35 |
| ESRN62S6R8NT | 6.8 | ±30% | 100KHz, 1V | 0.079 | 2.2  | 1.8  | 31 |
| ESRN62S8R2NT | 8.2 | ±20% | 100KHz, 1V | 0.105 | 2.1  | 1.4  | 28 |
| ESRN62S100MT | 10  | ±20% | 100KHz, 1V | 0.105 | 1.75 | 1.4  | 27 |
| ESRN62S120MT | 12  | ±20% | 100KHz, 1V | 0.12  | 1.7  | 1.35 | 23 |
| ESRN62S150MT | 15  | ±20% | 100KHz, 1V | 0.145 | 1.5  | 1.2  | 21 |
| ESRN62S180MT | 18  | ±20% | 100KHz, 1V | 0.175 | 1.23 | 1.1  | 19 |
| ESRN62S220MT | 22  | ±20% | 100KHz, 1V | 0.204 | 1.25 | 1    | 16 |
| ESRN62S330MT | 33  | ±20% | 100KHz, 1V | 0.300 | 1.10 | 1.05 | 11 |
| ESRN62S470MT | 47  | ±20% | 100KHz, 1V | 0.430 | 0.90 | 0.90 | 10 |
| ESRN62S331MT | 330 | ±20% | 100KHz, 1V | 2.630 | 0.33 | 0.39 | 3  |

Maximum +40°C temperature rise at Irms. Maximum -30% inductance drop from initial measured value at Isat.

Temperature vs. DC Current Characteristics



Inductance vs. DC Current Characteristics



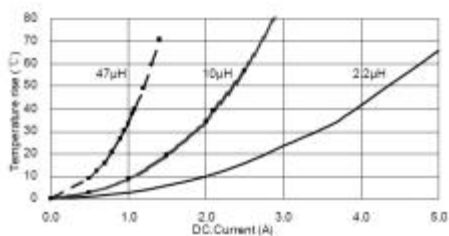
## ■ ESRN68S(6028) Size

| Series        | Standard Values - Case Size 63 (6.0 x 6.0 x 2.8mm) |           |                 |              |                  |                  |           |
|---------------|----------------------------------------------------|-----------|-----------------|--------------|------------------|------------------|-----------|
|               | Inductance (µH)                                    | Tolerance | Test Conditions | DCR (Ω) ±30% | Max. Isat (Amps) | Max. Irms (Amps) | SRF (MHz) |
| ESRN68S1R5NT  | 1.5                                                | ±30%      | 100KHz, 1V      | 0.013        | 6                | 4.58             | 65        |
| ESRN68S2R2NT  | 2.2                                                | ±30%      | 100KHz, 1V      | 0.015        | 5.1              | 4.09             | 56        |
| ESRN68S2R7NT  | 2.7                                                | ±30%      | 100KHz, 1V      | 0.02         | 3.8              | 3.75             | 48        |
| ESRN68S3R3NT  | 3.3                                                | ±30%      | 100KHz, 1V      | 0.025        | 3.63             | 3.48             | 41        |
| ESRN68S4R7NT  | 4.7                                                | ±30%      | 100KHz, 1V      | 0.03         | 3                | 3.08             | 35        |
| ESRN68S5R1NT  | 5.1                                                | ±30%      | 100KHz, 1V      | 0.035        | 3.55             | 2.89             | 33        |
| ESRN68S6R2MT  | 6.2                                                | ±20%      | 100KHz, 1V      | 0.04         | 3.05             | 2.58             | 30        |
| ESRN68S6R8MT  | 6.8                                                | ±20%      | 100KHz, 1V      | 0.047        | 2.85             | 2.4              | 27        |
| ESRN68S8R2MT  | 8.2                                                | ±20%      | 100KHz, 1V      | 0.055        | 2.6              | 2.25             | 24        |
| ESRN68S9R1MT  | 9.1                                                | ±20%      | 100KHz, 1V      | 0.06         | 2.55             | 2.15             | 24        |
| ESRN68S100MTF | 10                                                 | ±20%      | 100KHz, 1V      | 0.072        | 2.04             | 1.95             | 23        |
| ESRN68S120MT  | 12                                                 | ±20%      | 100KHz, 1V      | 0.08         | 1.8              | 1.85             | 18        |
| ESRN68S150MT  | 15                                                 | ±20%      | 100KHz, 1V      | 0.125        | 1.75             | 1.45             | 18        |
| ESRN68S180MT  | 18                                                 | ±20%      | 100KHz, 1V      | 0.12         | 1.52             | 1.45             | 15        |
| ESRN68S220MT  | 22                                                 | ±20%      | 100KHz, 1V      | 0.14         | 1.6              | 1.4              | 14        |
| ESRN68S270MT  | 27                                                 | ±20%      | 100KHz, 1V      | 0.155        | 1.5              | 1.32             | 13        |
| ESRN68S330MT  | 33                                                 | ±20%      | 100KHz, 1V      | 0.185        | 1.35             | 1.22             | 12        |

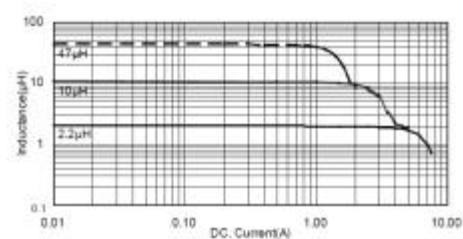
|              |      |      |            |       |      |      |     |
|--------------|------|------|------------|-------|------|------|-----|
| ESRN68S360MT | 36   | ±20% | 100KHz, 1V | 0.215 | 1.25 | 1.13 | 11  |
| ESRN68S390MT | 39   | ±20% | 100KHz, 1V | 0.225 | 1.25 | 1.1  | 11  |
| ESRN68S430MT | 43   | ±20% | 100KHz, 1V | 0.235 | 1.2  | 1.07 | 11  |
| ESRN68S470MT | 47   | ±20% | 100KHz, 1V | 0.245 | 1.15 | 1.06 | 9.5 |
| ESRN68S510MT | 51   | ±20% | 100KHz, 1V | 0.265 | 1.05 | 1.01 | 9.5 |
| ESRN68S620MT | 62   | ±20% | 100KHz, 1V | 0.345 | 0.95 | 0.89 | 7.7 |
| ESRN68S680MT | 68   | ±20% | 100KHz, 1V | 0.36  | 0.95 | 0.86 | 7.7 |
| ESRN68S750MT | 75   | ±20% | 100KHz, 1V | 0.41  | 0.9  | 0.81 | 7.7 |
| ESRN68S820MT | 82   | ±20% | 100KHz, 1V | 0.445 | 0.9  | 0.78 | 7.7 |
| ESRN68S910MT | 91   | ±20% | 100KHz, 1V | 0.505 | 0.8  | 0.73 | 7.7 |
| ESRN68S101MT | 100  | ±20% | 100KHz, 1V | 0.545 | 0.75 | 0.7  | 7.1 |
| ESRN68S121MT | 120  | ±20% | 100KHz, 1V | 0.516 | 0.48 | 0.65 | 3.5 |
| ESRN68S401MT | 400  | ±20% | 100KHz, 1V | 2.160 | 0.33 | 0.45 | 2.8 |
| ESRN68S102MT | 1000 | ±20% | 100KHz, 1V | 5.800 | 0.22 | 0.26 | 1.5 |

Maximum +40°C temperature rise at Irms. Maximum -30% inductance drop from initial measured value at Isat.

Temperature vs. DC Current Characteristics



Inductance vs. DC Current Characteristics

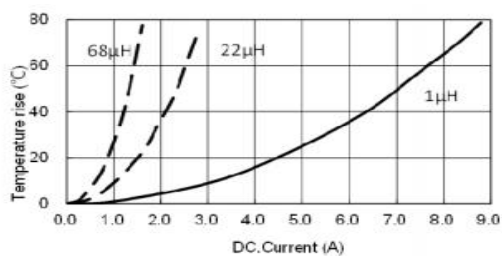


## ■ ESRN64S(6040) Size

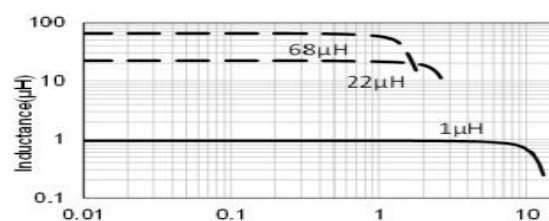
| Series       | Standard Values - Case Size 54 (6.0 x 6.0 x 4.0mm) |           |                 |              |                  |                  |           |
|--------------|----------------------------------------------------|-----------|-----------------|--------------|------------------|------------------|-----------|
|              | Inductance (µH)                                    | Tolerance | Test Conditions | DCR (Ω) ±30% | Max. Isat (Amps) | Max. Irms (Amps) | SRF (MHz) |
| ESRN64S1R0MT | 1.0                                                | ±20%      | 100KHz, 1V      | 0.008        | 9.05             | 7.20             | 97        |
| ESRN64S100MT | 10                                                 | ±20%      | 100KHz, 1V      | 0.048        | 3.50             | 2.80             | 16        |
| ESRN64S120MT | 12                                                 | ±20%      | 100KHz, 1V      | 0.058        | 3.25             | 2.55             | 14        |
| ESRN64S150MT | 15                                                 | ±20%      | 100KHz, 1V      | 0.068        | 3.00             | 2.35             | 13        |
| ESRN64S220MT | 22                                                 | ±20%      | 100KHz, 1V      | 0.089        | 2.50             | 2.05             | 10        |
| ESRN64S330MT | 33                                                 | ±20%      | 100KHz, 1V      | 0.137        | 2.00             | 1.65             | 9.9       |
| ESRN64S680MT | 68                                                 | ±20%      | 100KHz, 1V      | 0.285        | 1.40             | 1.10             | 5.6       |
| ESRN64S121MT | 120                                                | ±20%      | 100KHz, 1V      | 0.224        | 1.10             | 0.92             | 3.8       |
| ESRN64S471MT | 470                                                | ±20%      | 100KHz, 1V      | 1.790        | 0.50             | 0.55             | 2.0       |

Maximum +40°C temperature rise at Irms. Maximum -30% inductance drop from initial measured value at Isat.

Temperature vs. DC Current Characteristics



Inductance vs. DC Current Characteristics



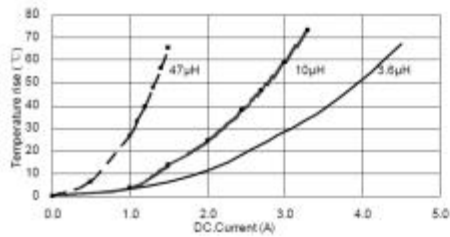
## ■ ESRN65S(6045) Size

| Series       | Standard Values - Case Size 65 (6.0 x 6.0 x 4.5mm) |           |                 |              |                  |                  |           |
|--------------|----------------------------------------------------|-----------|-----------------|--------------|------------------|------------------|-----------|
|              | Inductance (μH)                                    | Tolerance | Test Conditions | DCR (Ω) ±30% | Max. Isat (Amps) | Max. Irms (Amps) | SRF (MHz) |
| ESRN65SR82NT | 0.82                                               | ±30%      | 100KHz, 1V      | 0.008        | 10.4             | 5.9              | 140       |
| ESRN65S1R0NT | 1                                                  | ±30%      | 100KHz, 1V      | 0.011        | 9.85             | 5.14             | 100       |
| ESRN65S1R2NT | 1.2                                                | ±30%      | 100KHz, 1V      | 0.01         | 8.35             | 5.4              | 100       |
| ESRN65S1R5NT | 1.5                                                | ±30%      | 100KHz, 1V      | 0.012        | 8.8              | 4.95             | 65        |
| ESRN65S1R8NT | 1.8                                                | ±30%      | 100KHz, 1V      | 0.012        | 7.6              | 4.95             | 74        |
| ESRN65S2R2NT | 2.2                                                | ±30%      | 100KHz, 1V      | 0.014        | 6.75             | 4.6              | 52        |
| ESRN65S2R3NT | 2.3                                                | ±30%      | 100KHz, 1V      | 0.021        | 6                | 3.5              | 60        |
| ESRN65S2R7NT | 2.7                                                | ±30%      | 100KHz, 1V      | 0.015        | 5.75             | 4.3              | 38        |
| ESRN65S3R0NT | 3                                                  | ±30%      | 100KHz, 1V      | 0.02         | 5.6              | 3.8              | 35        |
| ESRN65S3R3NT | 3.3                                                | ±30%      | 100KHz, 1V      | 0.021        | 5.9              | 3.7              | 32        |
| ESRN65S3R6NT | 3.6                                                | ±30%      | 100KHz, 1V      | 0.021        | 5.25             | 3.7              | 28        |
| ESRN65S4R3MT | 4.3                                                | ±20%      | 100KHz, 1V      | 0.023        | 4.45             | 3.5              | 23        |
| ESRN65S4R7MT | 4.7                                                | ±20%      | 100KHz, 1V      | 0.026        | 4.97             | 3.3              | 24        |
| ESRN65S5R1MT | 5.1                                                | ±20%      | 100KHz, 1V      | 0.026        | 4.4              | 3.3              | 23        |
| ESRN65S5R6MT | 5.6                                                | ±20%      | 100KHz, 1V      | 0.029        | 4.15             | 3.15             | 23        |
| ESRN65S6R2MT | 6.2                                                | ±20%      | 100KHz, 1V      | 0.031        | 4.43             | 3                | 26        |
| ESRN65S6R8MT | 6.8                                                | ±20%      | 100KHz, 1V      | 0.031        | 3.9              | 3                | 20        |
| ESRN65S7R5MT | 7.5                                                | ±20%      | 100KHz, 1V      | 0.034        | 3.5              | 2.9              | 18        |
| ESRN65S8R2MT | 8.2                                                | ±20%      | 100KHz, 1V      | 0.043        | 3.9              | 2.6              | 21        |
| ESRN65S9R1MT | 9.1                                                | ±20%      | 100KHz, 1V      | 0.043        | 3.35             | 2.6              | 17        |
| ESRN65S100MT | 10                                                 | ±20%      | 100KHz, 1V      | 0.048        | 3.2              | 2.45             | 15        |
| ESRN65S120MT | 12                                                 | ±20%      | 100KHz, 1V      | 0.058        | 2.8              | 2.2              | 13        |
| ESRN65S150MT | 15                                                 | ±20%      | 100KHz, 1V      | 0.068        | 2.5              | 2.05             | 12        |
| ESRN65S180MT | 18                                                 | ±20%      | 100KHz, 1V      | 0.081        | 2.2              | 1.85             | 10        |
| ESRN65S220MT | 22                                                 | ±20%      | 100KHz, 1V      | 0.089        | 2.05             | 1.8              | 10        |
| ESRN65S270MT | 27                                                 | ±20%      | 100KHz, 1V      | 0.102        | 1.9              | 1.65             | 9.2       |
| ESRN65S300MT | 30                                                 | ±20%      | 100KHz, 1V      | 0.132        | 1.7              | 1.5              | 7.8       |
| ESRN65S330MT | 33                                                 | ±20%      | 100KHz, 1V      | 0.137        | 1.65             | 1.45             | 7.8       |
| ESRN65S360MT | 36                                                 | ±20%      | 100KHz, 1V      | 0.173        | 1.62             | 1.4              | 7.8       |
| ESRN65S390MT | 39                                                 | ±20%      | 100KHz, 1V      | 0.18         | 1.5              | 1.25             | 7.8       |
| ESRN65S430MT | 43                                                 | ±20%      | 100KHz, 1V      | 0.2          | 1.63             | 1.2              | 7.7       |
| ESRN65S470MT | 47                                                 | ±20%      | 100KHz, 1V      | 0.2          | 1.4              | 1.2              | 6.4       |
| ESRN65S510MT | 51                                                 | ±20%      | 100KHz, 1V      | 0.207        | 1.35             | 1.15             | 6.4       |
| ESRN65S560MT | 56                                                 | ±20%      | 100KHz, 1V      | 0.221        | 1.3              | 1.1              | 6.4       |
| ESRN65S620MT | 62                                                 | ±20%      | 100KHz, 1V      | 0.235        | 1.25             | 1.1              | 6.4       |
| ESRN65S680MT | 68                                                 | ±20%      | 100KHz, 1V      | 0.289        | 1.2              | 1                | 6.4       |
| ESRN65S750MT | 75                                                 | ±20%      | 100KHz, 1V      | 0.305        | 1.15             | 0.95             | 5         |
| ESRN65S820MT | 82                                                 | ±20%      | 100KHz, 1V      | 0.341        | 1.05             | 0.9              | 4.9       |
| ESRN65S910MT | 91                                                 | ±20%      | 100KHz, 1V      | 0.359        | 1                | 0.85             | 4.9       |
| ESRN65S101MT | 100                                                | ±20%      | 100KHz, 1V      | 0.433        | 0.95             | 0.8              | 4.2       |
| ESRN65S121MT | 120                                                | ±20%      | 100KHz, 1V      | 0.484        | 0.85             | 0.77             | 4.2       |
| ESRN65S151MT | 150                                                | ±20%      | 100KHz, 1V      | 0.58         | 0.8              | 0.7              | 4.2       |
| ESRN65S221MT | 220                                                | ±20%      | 100KHz, 1V      | 0.834        | 0.7              | 0.59             | 3.5       |
| ESRN65S331MT | 330                                                | ±20%      | 100KHz, 1V      | 1.27         | 0.57             | 0.57             | 2.8       |
| ESRN65S471MT | 470                                                | ±20%      | 100KHz, 1V      | 1.800        | 0.56             | 0.48             | 2.0       |
| ESRN65S681MT | 680                                                | ±20%      | 100KHz, 1V      | 2.500        | 0.46             | 0.38             | 1.7       |
| ESRN65S102MT | 1000                                               | ±20%      | 100KHz, 1V      | 4.500        | 0.35             | 0.35             | 0.5       |

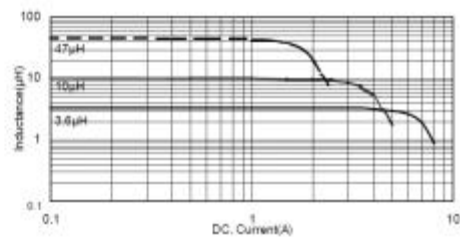
|              |       |      |            |       |      |      |     |
|--------------|-------|------|------------|-------|------|------|-----|
| ESRN65S152MT | 1500  | ±20% | 100KHz, 1V | 6.500 | 0.27 | 0.24 | 0.8 |
| ESRN65S222KT | 2200  | ±20% | 100KHz, 1V | 10.40 | 0.23 | 0.20 | 0.9 |
| ESRN65S332KT | 3300  | ±20% | 100KHz, 1V | 13.30 | 0.20 | 0.17 | 0.7 |
| ESRN65S472KT | 4700  | ±20% | 100KHz, 1V | 19.75 | 0.17 | 0.14 | 0.6 |
| ESRN65S682KT | 6800  | ±20% | 100KHz, 1V | 33.50 | 0.14 | 0.11 | 0.5 |
| ESRN65S103KT | 10000 | ±20% | 100KHz, 1V | 38.90 | 0.12 | 0.10 | 0.4 |
| ESRN65S123KT | 12000 | ±20% | 100KHz, 1V | 62.00 | 0.11 | 0.08 | 0.4 |
| ESRN65S153KT | 15000 | ±20% | 100KHz, 1V | 70.00 | 0.10 | 0.07 | 0.4 |

Maximum +40°C temperature rise at Irms. Maximum -30% inductance drop from initial measured value at Isat.

Temperature vs. DC Current Characteristics



Inductance vs. DC Current Characteristics



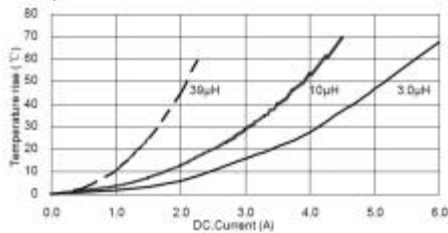
## ■ ESRN84S(8042) Size

| Series       | Standard Values - Case Size 84 (8.0 x 8.0 x 4.0mm) |           |                 |              |                  |                  |           |
|--------------|----------------------------------------------------|-----------|-----------------|--------------|------------------|------------------|-----------|
|              | Inductance (µH)                                    | Tolerance | Test Conditions | DCR (Ω) ±30% | Max. Isat (Amps) | Max. Irms (Amps) | SRF (MHz) |
| ESRN84SR82NT | 0.82                                               | ±30%      | 100KHz, 1V      | 0.008        | 13.8             | 6.3              | 94        |
| ESRN84S1R0NT | 1                                                  | ±30%      | 100KHz, 1V      | 0.008        | 9.85             | 6.3              | 89        |
| ESRN84S1R5NT | 1.5                                                | ±30%      | 100KHz, 1V      | 0.01         | 8.15             | 5.65             | 67        |
| ESRN84S2R0NT | 2                                                  | ±30%      | 100KHz, 1V      | 0.012        | 9.25             | 5.15             | 43        |
| ESRN84S2R2NT | 2.2                                                | ±30%      | 100KHz, 1V      | 0.012        | 7.1              | 5.15             | 41        |
| ESRN84S3R0NT | 3                                                  | ±30%      | 100KHz, 1V      | 0.014        | 6.1              | 4.7              | 32        |
| ESRN84S3R3NT | 3.3                                                | ±30%      | 100KHz, 1V      | 0.017        | 6.5              | 4.4              | 27        |
| ESRN84S3R6NT | 3.6                                                | ±30%      | 100KHz, 1V      | 0.017        | 7.52             | 4.35             | 30        |
| ESRN84S3R9NT | 3.9                                                | ±30%      | 100KHz, 1V      | 0.017        | 5.75             | 4.35             | 26        |
| ESRN84S4R7NT | 4.7                                                | ±30%      | 100KHz, 1V      | 0.019        | 5.9              | 4.1              | 24        |
| ESRN84S5R1NT | 5.1                                                | ±30%      | 100KHz, 1V      | 0.019        | 4.7              | 4.05             | 22        |
| ESRN84S5R6NT | 5.6                                                | ±30%      | 100KHz, 1V      | 0.021        | 6                | 3.85             | 24        |
| ESRN84S6R2NT | 6.2                                                | ±30%      | 100KHz, 1V      | 0.021        | 4.45             | 3.85             | 20        |
| ESRN84S6R8MT | 6.8                                                | ±20%      | 100KHz, 1V      | 0.024        | 4.55             | 3.6              | 20        |
| ESRN84S8R2MT | 8.2                                                | ±20%      | 100KHz, 1V      | 0.026        | 4.2              | 3.45             | 17        |
| ESRN84S100MT | 10                                                 | ±20%      | 100KHz, 1V      | 0.029        | 4.00             | 3.3              | 15        |
| ESRN84S120MT | 12                                                 | ±20%      | 100KHz, 1V      | 0.041        | 4.00             | 3.00             | 13        |
| ESRN84S150MT | 15                                                 | ±20%      | 100KHz, 1V      | 0.047        | 3.40             | 2.80             | 12        |
| ESRN84S180MT | 18                                                 | ±20%      | 100KHz, 1V      | 0.053        | 3.10             | 2.60             | 11        |
| ESRN84S220MT | 22                                                 | ±20%      | 100KHz, 1V      | 0.069        | 2.70             | 2.30             | 9.5       |
| ESRN84S270MT | 27                                                 | ±20%      | 100KHz, 1V      | 0.078        | 2.50             | 2.20             | 9.2       |
| ESRN84S330MT | 33                                                 | ±20%      | 100KHz, 1V      | 0.097        | 2.40             | 2.00             | 7.8       |
| ESRN84S360MT | 36                                                 | ±20%      | 100KHz, 1V      | 0.102        | 2.30             | 1.90             | 7.8       |
| ESRN84S390MT | 39                                                 | ±20%      | 100KHz, 1V      | 0.107        | 2.20             | 1.90             | 7.8       |
| ESRN84S430MT | 43                                                 | ±20%      | 100KHz, 1V      | 0.113        | 2.20             | 1.80             | 7.8       |
| ESRN84S470MT | 47                                                 | ±20%      | 100KHz, 1V      | 0.136        | 2.00             | 1.70             | 6.4       |
| ESRN84S510MT | 51                                                 | ±20%      | 100KHz, 1V      | 0.142        | 1.90             | 1.60             | 6.4       |
| ESRN84S620MT | 62                                                 | ±20%      | 100KHz, 1V      | 0.182        | 1.60             | 1.40             | 6.4       |
| ESRN84S680MT | 68                                                 | ±20%      | 100KHz, 1V      | 0.196        | 1.60             | 1.40             | 4.9       |

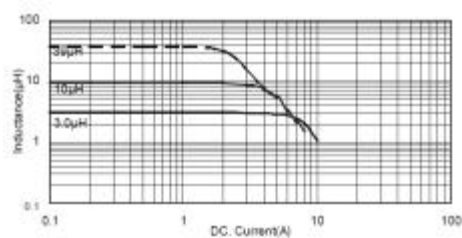
|              |      |      |            |       |      |      |     |
|--------------|------|------|------------|-------|------|------|-----|
| ESRN84S750MT | 75   | ±20% | 100KHz, 1V | 0.211 | 1.50 | 1.30 | 4.9 |
| ESRN84S820MT | 82   | ±20% | 100KHz, 1V | 0.225 | 1.40 | 1.20 | 5.9 |
| ESRN84S910MT | 91   | ±20% | 100KHz, 1V | 0.272 | 1.30 | 1.10 | 4.9 |
| ESRN84S101MT | 100  | ±20% | 100KHz, 1V | 0.290 | 1.30 | 1.10 | 4.2 |
| ESRN84S121MT | 120  | ±20% | 100KHz, 1V | 0.334 | 1.10 | 1.00 | 3.5 |
| ESRN84S151MT | 150  | ±20% | 100KHz, 1V | 0.410 | 1.20 | 0.94 | 3.5 |
| ESRN84S181MT | 180  | ±20% | 100KHz, 1V | 0.520 | 1.15 | 0.92 | 3.5 |
| ESRN84S221MT | 220  | ±20% | 100KHz, 1V | 0.599 | 0.94 | 0.88 | 3.5 |
| ESRN84S331MT | 330  | ±20% | 100KHz, 1V | 0.889 | 0.75 | 0.70 | 2.8 |
| ESRN84S471MT | 470  | ±20% | 100KHz, 1V | 1.260 | 0.70 | 0.60 | 2.1 |
| ESRN84S681MT | 680  | ±20% | 100KHz, 1V | 2.040 | 0.60 | 0.50 | 1.7 |
| ESRN84S102MT | 1000 | ±20% | 100KHz, 1V | 2.800 | 0.50 | 0.40 | 1.4 |
| ESRN84S152MT | 1500 | ±20% | 100KHz, 1V | 5.000 | 0.38 | 0.27 | 1.0 |

Maximum +40°C temperature rise at Irms. Maximum -30% inductance drop from initial measured value at Isat.

Temperature vs. DC Current Characteristics



Inductance vs. DC Current Characteristics

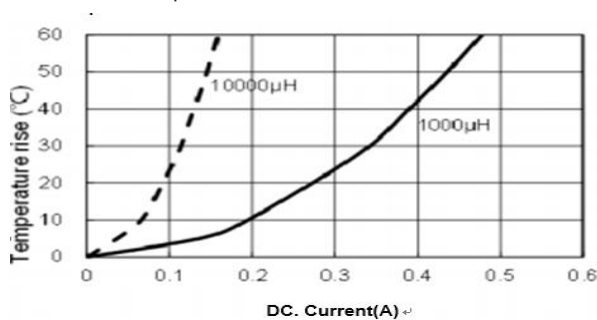


## ■ ESRN85S(8050) Size

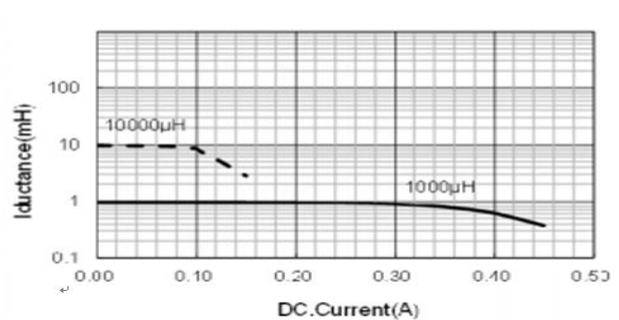
| Series        | Standard Values - Case Size 65 (8.0 x 8.0 x 5.0mm) |           |                 |              |                  |                  |           |
|---------------|----------------------------------------------------|-----------|-----------------|--------------|------------------|------------------|-----------|
|               | Inductance (µH)                                    | Tolerance | Test Conditions | DCR (Ω) ±30% | Max. Isat (Amps) | Max. Irms (Amps) | SRF (MHz) |
| ESRN85S102MT  | 1000                                               | ±20%      | 100KHz, 1V      | 2.10         | 0.35             | 0.35             | 1.5       |
| ESRN85S103MT* | 10000                                              | ±20%      | 100KHz, 1V      | 19.00        | 0.10             | 0.13             | 0.35      |

Maximum +40°C temperature rise at Irms. Maximum -30% inductance drop from initial measured value at Isat.

Temperature vs. DC Current Characteristics



Inductance vs. DC Current Characteristics



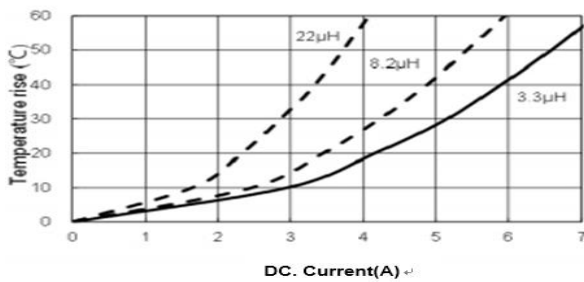
## ■ ESRN86S(8065) Size

| Series       | Standard Values - Case Size 65 (8.0 x 8.0 x 6.5mm) |           |                 |              |                  |                  |           |
|--------------|----------------------------------------------------|-----------|-----------------|--------------|------------------|------------------|-----------|
|              | Inductance (µH)                                    | Tolerance | Test Conditions | DCR (Ω) ±30% | Max. Isat (Amps) | Max. Irms (Amps) | SRF (MHz) |
| ESRN86S1R0MT | 1.0                                                | ±20%      | 100KHz, 1V      | 0.305        | 22.0             | 8.00             | 96        |
| ESRN86S3R3MT | 3.3                                                | ±20%      | 100KHz, 1V      | 0.341        | 10.00            | 5.90             | 27        |
| ESRN86S4R7MT | 4.7                                                | ±20%      | 100KHz, 1V      | 0.359        | 9.50             | 5.40             | 18        |
| ESRN86S5R6MT | 5.6                                                | ±20%      | 100KHz, 1V      | 0.433        | 9.00             | 5.20             | 17        |
| ESRN86S6R8MT | 6.9                                                | ±20%      | 100KHz, 1V      | 0.484        | 8.00             | 5.20             | 16        |
| ESRN86S8R2MT | 8.2                                                | ±20%      | 100KHz, 1V      | 0.58         | 7.70             | 4.80             | 15        |
| ESRN86S100MT | 10                                                 | ±20%      | 100KHz, 1V      | 0.834        | 8.90             | 3.70             | 13        |

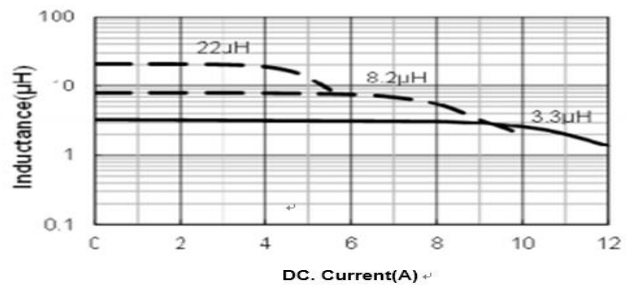
|              |       |      |            |      |      |      |      |
|--------------|-------|------|------------|------|------|------|------|
| ESRN86S220MT | 22    | ±20% | 100KHz, 1V | 1.27 | 4.80 | 3.30 | 8    |
| ESRN86S431MT | 430   | ±20% | 100KHz, 1V | 0.33 | 1.05 | 0.69 | 1.5  |
| ESRN86S102MT | 1000  | ±20% | 100KHz, 1V | 0.29 | 0.73 | 0.45 | 1.1  |
| ESRN86S152MT | 1500  | ±20% | 100KHz, 1V | 0.29 | 0.60 | 0.37 | 0.7  |
| ESRN86S222MT | 2200  | ±20% | 100KHz, 1V | 0.23 | 0.51 | 0.31 | 0.7  |
| ESRN86S332MT | 3300  | ±20% | 100KHz, 1V | 0.23 | 0.40 | 0.26 | 0.7  |
| ESRN86S472MT | 4700  | ±20% | 100KHz, 1V | 0.23 | 0.40 | 0.20 | 0.40 |
| ESRN86S682MT | 6800  | ±20% | 100KHz, 1V | 0.23 | 0.40 | 0.16 | 0.40 |
| ESRN86S103MT | 10000 | ±20% | 100KHz, 1V | 0.23 | 0.40 | 0.15 | 0.40 |

Maximum +40°C temperature rise at I<sub>rms</sub>. Maximum -30% inductance drop from initial measured value at I<sub>sat</sub>.

Temperature vs. DC Current Characteristics



Inductance vs. DC Current Characteristics



※1: All test data is referenced to 20°C ambient;

※2: Rated current: I<sub>sat</sub> or I<sub>rms</sub>, whichever is smaller;

※3: I<sub>sat</sub>: DC current at which the inductance drops approximate 30% from its value without current;

※4: I<sub>rms</sub>: DC current that causes the temperature rise T=40°C) from 20°C ambient.

