Shielded Power Inductors

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

Shielded Power Inductors

Fig.1

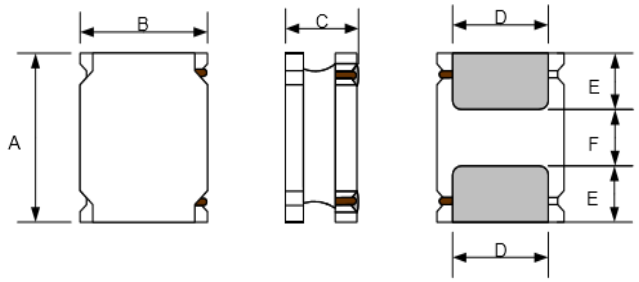


Fig.2

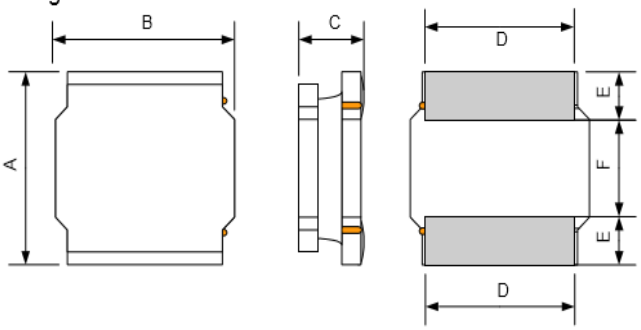
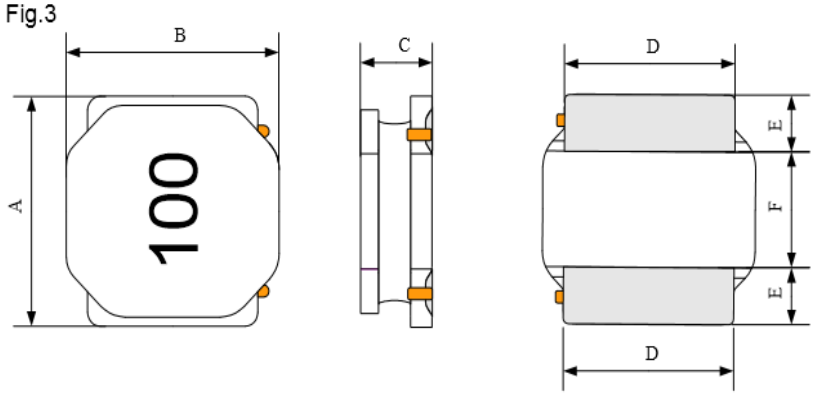
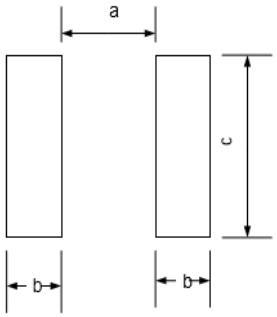


Fig.3



Recommended Land Pattern



PART NUMBER SYSTEM

ESRN	31	S	470	M	TR	F
①	②	③	④	⑤	⑥	⑦

①:Product Type.

②:Size Code (see table for details)

③:Feature Type S: Standard

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: TR = Tape & Reel

⑦:RoHS Compliant

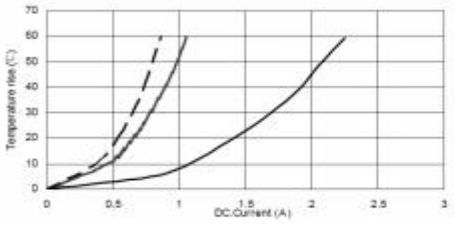
Shielded Power Inductors

ESRN20S Size

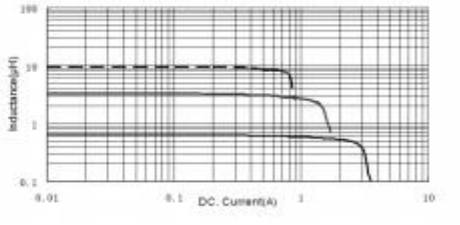
Series	Standard Values - Case Size 20 (2.0 x 2.5 x 1.0mm)						
	Inductance (µH)	Tolerance	Test Conditions	Max. DCR (Ω) ±30%	Max. I sat (Amps)	Typ. I sat (Amps)	I rms (Amps)
ESRN20SR47NT	0.47	±30%	100KHz, 1V	0.061	2.5	3.35	2.35
ESRN20SR56NT	0.56	±30%	100KHz, 1V	0.072	2.9	3.2	2.18
ESRN20SR68NT	0.68	±30%	100KHz, 1V	0.074	2.2	2.75	2.18
ESRN20S1R0NT	1.0	±30%	100KHz, 1V	0.108	1.85	2.2	1.80
ESRN20S1R5NT	1.5	±30%	100KHz, 1V	0.182	1.8	2.1	1.42
ESRN20S2R2NT	2.2	±30%	100KHz, 1V	0.209	1.2	1.6	1.31
ESRN20S3R3MT	3.3	±20%	100KHz, 1V	0.328	1.05	1.3	0.98
ESRN20S4R7MT	4.7	±20%	100KHz, 1V	0.563	0.95	1.15	0.76
ESRN20S5R6MT	5.6	±20%	100KHz, 1V	0.563	0.8	0.95	0.80
ESRN20S6R8MT	6.8	±20%	100KHz, 1V	0.896	0.92	0.59	0.64
ESRN20S100MT	10	±20%	100KHz, 1V	1,092	0.78	0.5	0.55

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



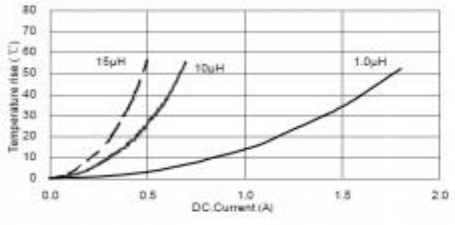
ESRN22S Size

Series	Standard Values - Case Size 21 (2.0 x 2.5 x 1.2mm)						
	Inductance (µH)	Tolerance	Test Conditions	Max. DCR (Ω) ±30%	Max. Isat (Amps)	Typ. Isat (Amps)	Irms (Amps)
ESRN22SR47NT	0.47	±30%	100KHz, 1V	0.05	3.82	4.27	2.34
ESRN22SR68NT	0.68	±30%	100KHz, 1V	0.088	3.28	3.43	2.13
ESRN22S1R0NT	1.0	±30%	100KHz, 1V	0.102	2.59	2.90	2.10
ESRN22S1R2NT	1.2	±30%	100KHz, 1V	0.119	2.38	2.67	1.46
ESRN22S1R5MT	1.5	±20%,	100KHz, 1V	0.136	2.24	2.51	1.53
ESRN22S2R2MT	2.2	±20%	100KHz, 1V	0.166	1.85	1.92	1.42
ESRN22S2R7MT	2.7	±20%	100KHz, 1V	0.239	1.72	1.92	1.19
ESRN22S3R3MT	3.3	±20%	100KHz, 1V	0.264	1.61	1.80	1.13
ESRN22S3R6MT	3.6	±20%	100KHz, 1V	0.378	1.46	1.64	0.98
ESRN22S4R3MT	4.3	±20%	100KHz, 1V	0.378	1.12	1.53	0.95
ESRN22S4R7MT	4.7	±20%	100KHz, 1V	0.401	1.13	1.25	0.92
ESRN22S5R1MT	5.1	±20%	100KHz, 1V	0.500	1.23	1.37	0.82
ESRN22S5R6MT	5.6	±20%	100KHz, 1V	0.536	1.11	1.25	0.80
ESRN22S6R2MT	6.2	±20%	100KHz, 1V	0.564	1.03	1.16	0.80
ESRN22S6R8MT	6.8	±20%	100KHz, 1V	0.607	0.98	1.09	0.75
ESRN22S7R5MT	7.5	±20%	100KHz, 1V	0.667	0.95	1.09	0.74
ESRN22S8R2MT	8.2	±20%	100KHz, 1V	0.658	0.98	1.10	0.71
ESRN22S9R1MT	9.1	±20%	100KHz, 1V	0.690	0.91	1.02	0.68
ESRN22S100MT	10	±20%	100KHz, 1V	0.690	0.79	0.88	0.68
ESRN22S120MT	12	±20%	100KHz, 1V	1.075	0.78	0.88	0.56
ESRN22S150MT	15	±20%	100KHz, 1V	1.591	0.68	0.77	0.46
ESRN22S220MT	22	±20%	100KHz, 1V	1.076	0.53	0.59	0.41

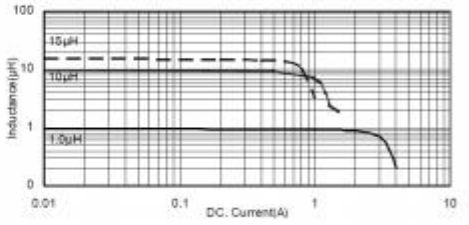
Shielded Power Inductors

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

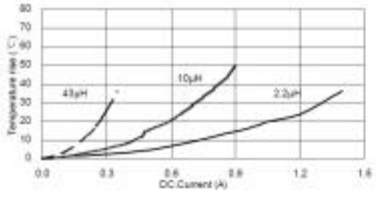


ESRN31S Size

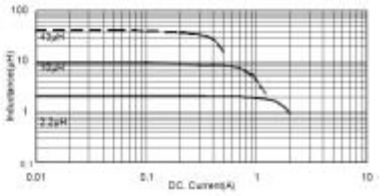
Series	Standard Values - Case Size 31 (3.0 x 3.0 x 1.0mm)						
	Inductance (μH)	Tolerance	Test Conditions	DCR (Ω) ±30%	Max. Isat (Amps)	Typ. Max. Irms (Amps)	SRF (MHz)
ESRN31S1R0NT	1.0	±30%	100KHz, 1V	0.065	1.4	1.45	180
ESRN31S1R2NT	1.2	±30%	100KHz, 1V	0.065	1.25	1.45	137
ESRN31S1R5NT	1.5	±30%	100KHz, 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



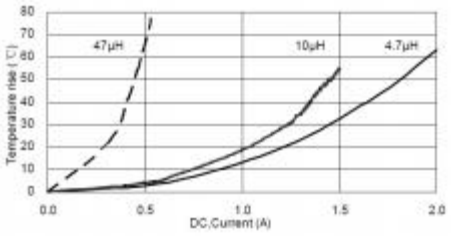
Shielded Power Inductors

ESRN32S Size

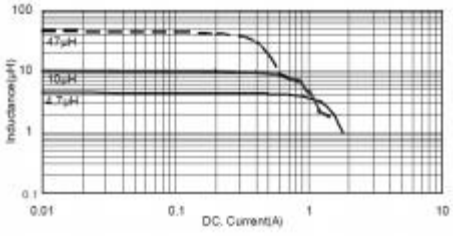
Series	Standard Values - Case Size 32 (3.0 x 3.0 x 1.2mm)						
	Inductance (µH)	Tolerance	Test Conditions	DCR (Ω) ±30%	Max. Isat (Amps)	Max. Irms (Amps)	SRF (MHz)
ESRN32SR22NT	0.22	±30%	100KHz, 1V	0.017	5.30	3.00	321
ESRN32SR82NT	0.82	±30%	100KHz, 1V	0.030	2.05	2.47	180
ESRN32S1R0NT	1.0	±30%	100KHz, 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



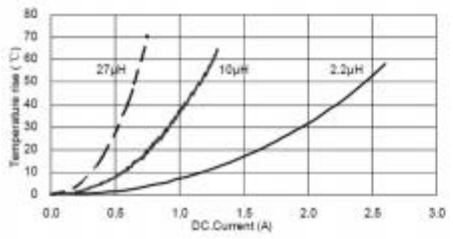
Shielded Power Inductors

ESRN35S Size

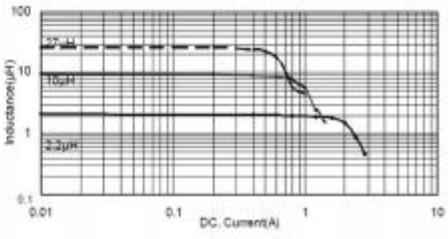
Series	Standard Values - Case Size 35 (3.0 x 3.0 x 1.5mm)						
	Inductance (µH)	Tolerance	Test Conditions	DCR (Ω) ±30%	Max. Isat (Amps)	Max. Irms (Amps)	SRF (MHz)
ESRN35SR50NT	0.5	±30%	100KHz, 1V	0.030	3.90	2.60	162
ESRN35S1R0NT	1.0	±30%	100KHz, 1V	0.030	2.32	2.35	150
ESRN35S1R2NT	1.2	±30%	100KHz, 1V	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



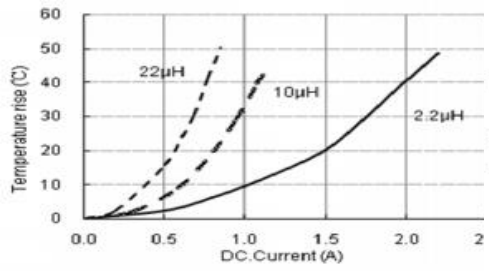
Shielded Power Inductors

ESRN40S Size

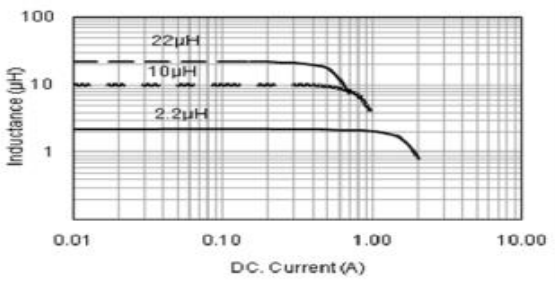
Series	Standard Values - Case Size 40 (4.0 x 4.0 x 1.0mm)						
	Inductance (µH)	Tolerance	Test Conditions	DCR (Ω) ±30%	Max. Isat (Amps)	Max. Irms (Amps)	SRF (MHz)
ESRN40S1R0NT	1.0	±30%	100KHz, 1V	0.056	2.00	1.90	116
ESRN40S1R5NT	1.5	±30%	100KHz, 1V	0.070	1.68	1.70	94
ESRN40S2R2MT	2.2	±20%	100KHz, 1V	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



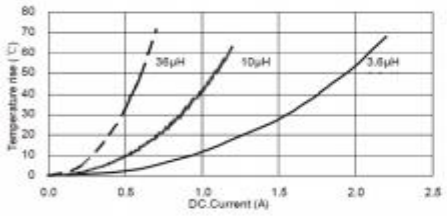
ESRN41S Size

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

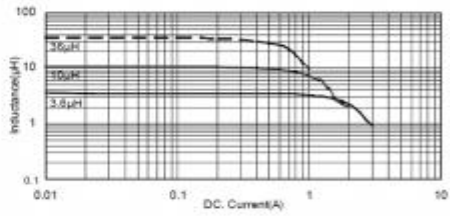
ESRN41S360MT	36	±20%	100KHz, 1V	0.9	0.4	0.4	14
ESRN41S390MT	39	±20%	100KHz, 1V	1.1	0.55	0.37	16
ESRN41S470MT	47	±20%	100KHz, 1V	1.1	0.35	0.37	12
ESRN41S560MT	56	±20%	100KHz, 1V	1.25	0.33	0.33	11
ESRN41S680MT	68	±20%	100KHz, 1V	1.46	0.3	0.31	11
ESRN41S820MT	82	±20%	100KHz, 1V	2.14	0.28	0.26	11
ESRN41S101MT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

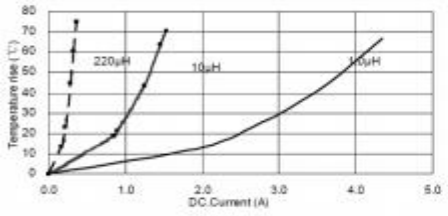


ESRN48S Size

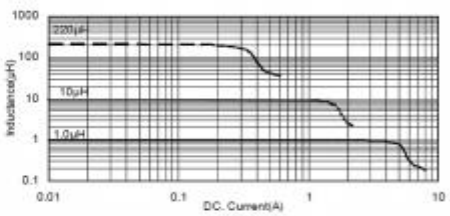
Series	Standard Values - Case Size 48 (4.0 x 4.0 x 1.8mm)						
	Inductance (μH)	Tolerance	Test Conditions	DCR (Ω) ±30%	Max. Isat (Amps)	Max. Irms (Amps)	SRF (MHz)
ESRN48SR47NT	0.47	±30%	100KHz, 1V	0.014	4.30	4.00	155
ESRN48SR68NT	0.68	±30%	100KHz, 1V	0.020	4.90	3.30	128
ESRN48S1R0NT	1.0	±30%	100KHz, 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



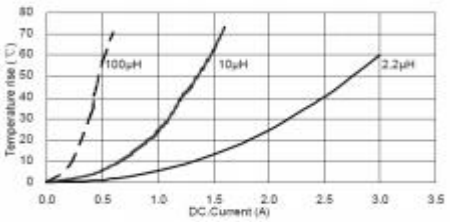
Shielded Power Inductors

ESRN42S Size

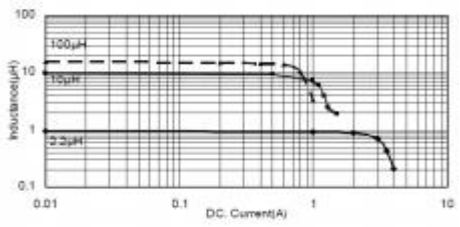
Series	Standard Values - Case Size 42 (4.0 x 4.0 x 2.0mm)						
	Inductance (µH)	Tolerance	Test Conditions	DCR (Ω) ±30%	Max. Isat (Amps)	Max. Irms (Amps)	SRF (MHz)
ESRN42SR24MT	0.24	±30%	100KHz, 1V	0.011	10.5	4.50	283
ESRN42SR33NT	0.33	±30%	100KHz, 1V	0.013	7.50	3.30	223
ESRN42SR47NT	0.47	±30%	100KHz, 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



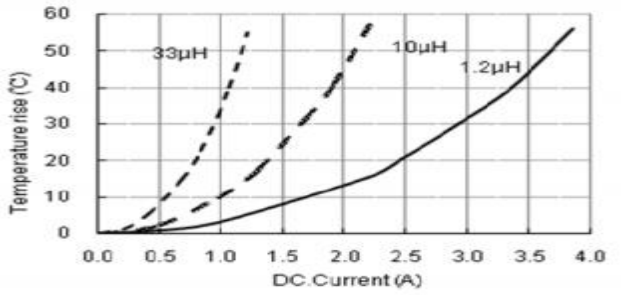
Shielded Power Inductors

ESRN46S Size

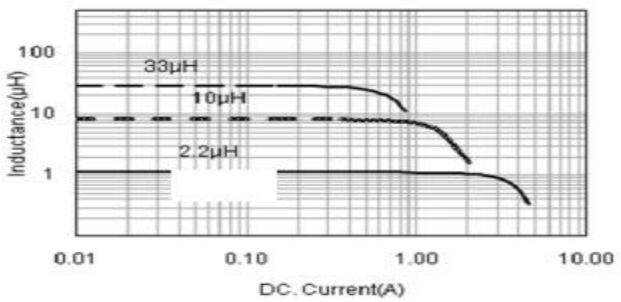
Series	Standard Values - Case Size 48 (4.0 x 4.0 x 2.6mm)						
	Inductance (µH)	Tolerance	Test Conditions	DCR (Ω) ±30%	Max. Isat (Amps)	Max. Irms (Amps)	SRF (MHz)
ESRN46S1R0NT	1.0	±30%	100KHz, 1V	0.025	3.30	3.00	151
ESRN46S1R2NT	1.2	±30%	100KHz, 1V	0.030	3.10	2.30	120
ESRN46S1R5NT	1.5	±30%	100KHz, 1V	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



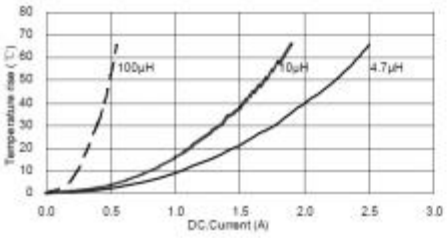
ESRN43S Size

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

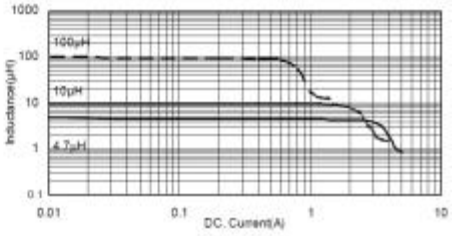
ESRN43S180MT	18	±20%	100KHz, 1V	0.200	1.40	1.10	10
ESRN43S220MT	22	±20%	100KHz, 1V	0.225	1.30	1.00	10
ESRN43S270MT	27	±20%	100KHz, 1V	0.260	1.15	0.90	10
ESRN43S330MT	33	±20%	100KHz, 1V	0.330	1.10	0.84	10
ESRN43S360MT	36	±20%	100KHz, 1V	0.335	1.05	0.83	9.8
ESRN43S390MT	39	±20%	100KHz, 1V	0.435	1.03	0.73	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 Size

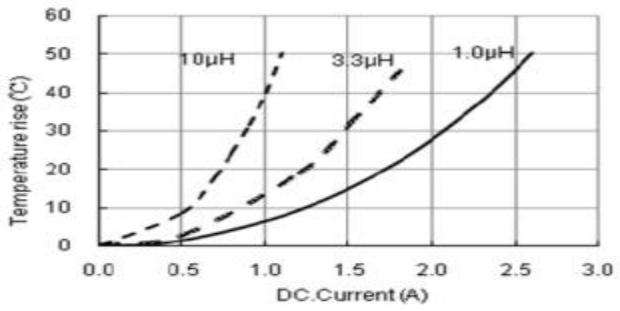
Series	Standard Values - Case Size 54 (5.0 x 5.0 x 1.2mm)						
	Inductance (μH)	Tolerance	Test Conditions	DCR (Ω) ±30%	Max. Isat (Amps)	Max. Irms (Amps)	SRF (MHz)
ESRN51SR22NT	0.22	±30%	100KHz, 1V	0.028	8.10	3.00	315
ESRN51S1R0NT	1.0	±30%	100KHz, 1V	0.057	4.40	2.00	103
ESRN51S1R5NT	1.5	±30%	100KHz, 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

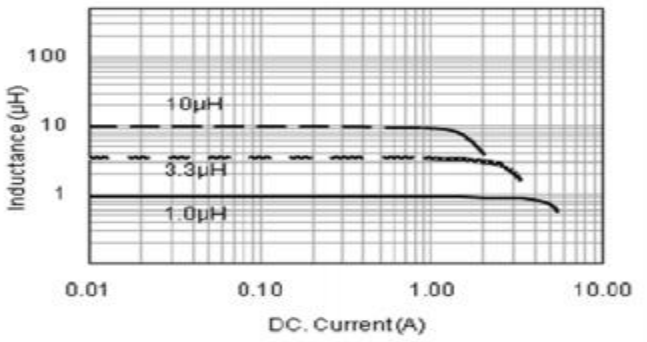
Maximum +40°C temperature rise at Irms. Maximum -30% inductance drop from initial measured value at Isat.

Temperature vs. DC Current Characteristics

Inductance vs. DC Current Characteristics

Shielded Power Inductors





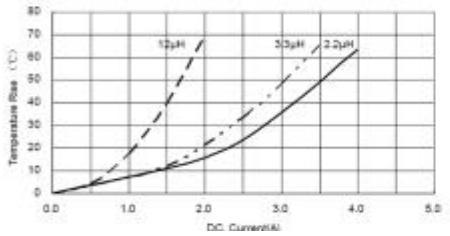
ESRN52S Size

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

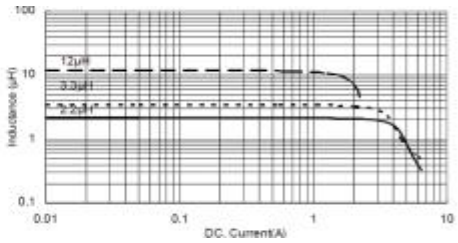
ESRN52S101MT	100	±20%	100KHz, 1V	1.06	0.57	0.49	7.6
ESRN52S121MT	120	±20%	100KHz, 1V	1.350	0.42	0.40	6
ESRN52S201MT	200	±20%	100KHz, 1V	2.000	0.30	0.40	4.5

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



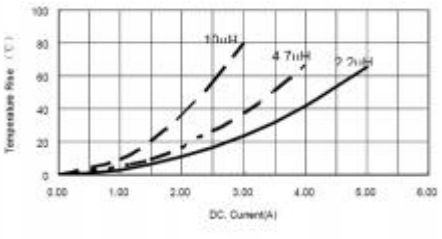
ESRN54S Size

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

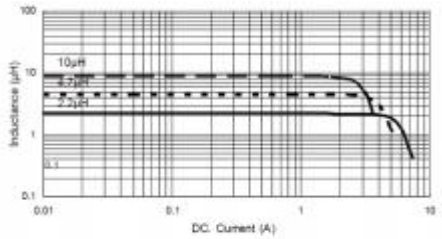
ESRN54S471MT	470.0	±20%	100KHz, 1V	3.00	0.37	0.35	2.7
ESRN54S561MT	560.0	±20%	100KHz, 1V	3.78	0.31	0.31	1.3
ESRN54S681MT	680.0	±20%	100KHz, 1V	3.90	0.30	0.25	1.3
ESRN54S102MT	1000.0	±20%	100KHz, 1V	6.000	0.21	0.20	1.3
ESRN54S332MT	3300.0	±20%	100KHz, 1V	21.00	0.140	0.100	0.9
ESRN54S392MT	3900.0	±20%	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

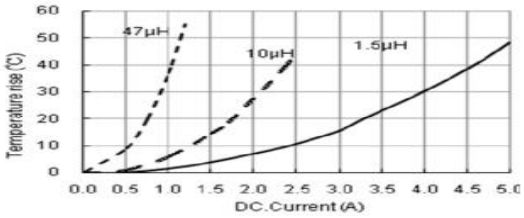


ESRN55S Size

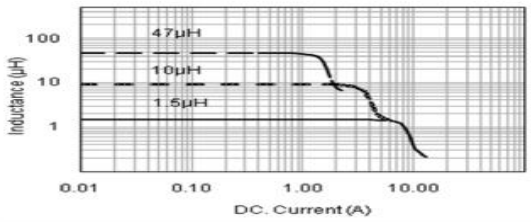
Series	Standard Values - Case Size 54 (5.0 x 5.0 x 4.5mm)						
	Inductance (μH)	Tolerance	Test Conditions	DCR (Ω) ±30%	Max. Isat (Amps)	Max. Irms (Amps)	SRF (MHz)
ESRN5045S2R2MT	2.2	±20%	100KHz, 1V	0.022	6.40	4.70	50
ESRN5045S100MT	10	±20%	100KHz, 1V	0.061	3.20	2.50	17
ESRN5045S100MT	15	±20%	100KHz,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



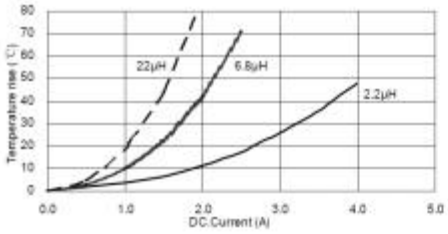
ESRN62S Size

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
ESRN 62S1R5NT	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

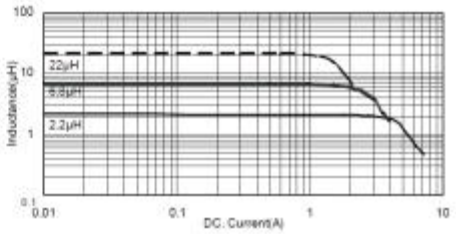
ESRN2S2R2NT	2.2	±30%	100KHz, 1V	0.028	3.75	2.75	61
ESRN2S2R7NT	2.7	±30%	100KHz, 1V	0.035	3.9	2.6	56
ESRN62S3R3NT	3.3	±30%	100KHz, 1V	0.035	3.15	2.6	51
ESRN62S3R9NT	3.9	±30%	100KHz, 1V	0.049	3.25	2.1	46
ESRN62S4R3NT	4.3	±30%	100KHz, 1V	0.049	2.7	2.1	44
ESRN62S4R7NT	4.7	±30%	100KHz, 1V	0.058	3	2	41
ESRN62S5R6NT	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



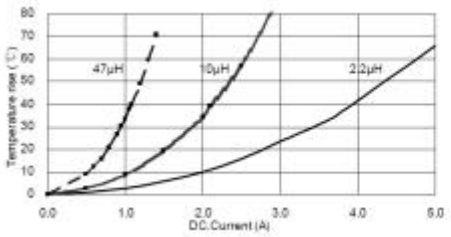
ESRN68S Size

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

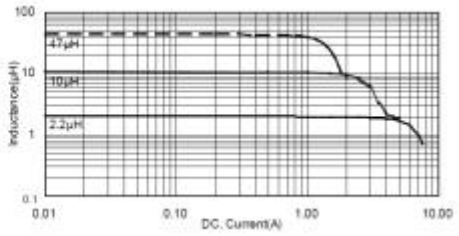
ESRN68S430MT	43	±20%	100KHz, 1V	0.235	1.2	1.07	11
ESRN68S470MT	47	±20%	100KHz, 1V	0.245	1.15	1.06	9.5
ESRN68S510MT	51	±20%	100KHz, 1V	0.265	1.05	1.01	9.5
ESRN68S620MT	62	±20%	100KHz, 1V	0.345	0.95	0.89	7.7
ESRN68S680MT	68	±20%	100KHz, 1V	0.36	0.95	0.86	7.7
ESRN68S750MT	75	±20%	100KHz, 1V	0.41	0.9	0.81	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
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

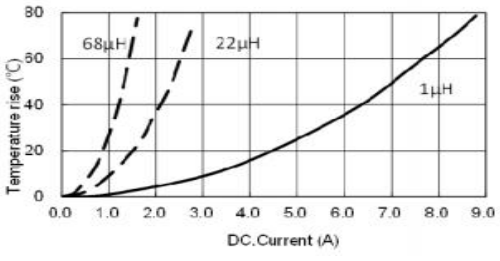


ESRN64S Size

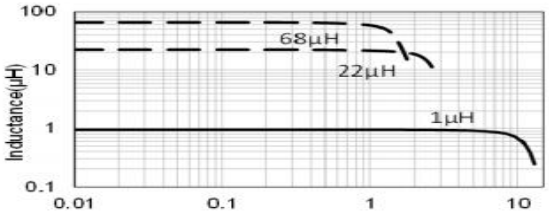
Series	Standard Values - Case Size 54 (6.0 x 6.0 x 4.0mm)						
	Inductance (μH)	Tolerance	Test Conditions	DCR (Ω) ±30%	Max. Isat (Amps)	Max. Irms (Amps)	SRF (MHz)
ESRN64S1R0MT	1.0	±20%	100KHz, 1V	0.008	9.05	7.20	97
ESRN64S100MT	10	±20%	100KHz, 1V	0.048	3.50	2.80	16
ESRN64S120MT	12	±20%	100KHz, 1V	0.058	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



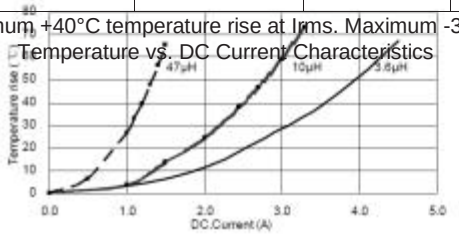
ESRN65S Size

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

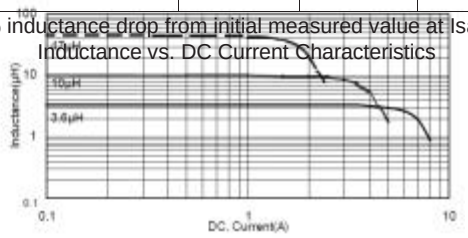
ESRN65S681MT	680	±20%	100KHz, 1V	2.500	0.46	0.38	1.7
ESRN65S102MT	1000	±20%	100KHz, 1V	4.500	0.35	0.35	0.5
ESRN65S152MT	1500	±20%	100KHz, 1V	6.500	0.27	0.24	0.8
ESRN65S222KT	2200	±20%	100KHz, 1V	10.40	0.23	0.20	0.9
ESRN65S332KT	3300	±20%	100KHz, 1V	13.30	0.20	0.17	0.7
ESRN65S472KT	4700	±20%	100KHz, 1V	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



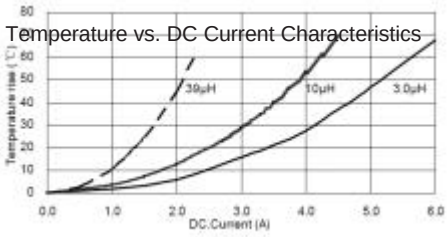
ESRN84S Size

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

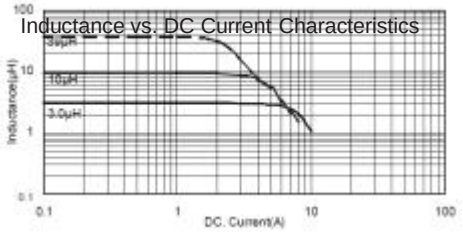
ESRN84S680MT	68	±20%	100KHz, 1V	0.196	1.60	1.40	4.9
ESRN84S750MT	75	±20%	100KHz, 1V	0.211	1.50	1.30	4.9
ESRN84S820MT	82	±20%	100KHz, 1V	0.225	1.40	1.20	5.9
ESRN84S910MT	91	±20%	100KHz, 1V	0.272	1.30	1.10	4.9
ESRN84S101MT	100	±20%	100KHz, 1V	0.290	1.30	1.10	4.2
ESRN84S121MT	120	±20%	100KHz, 1V	0.334	1.10	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

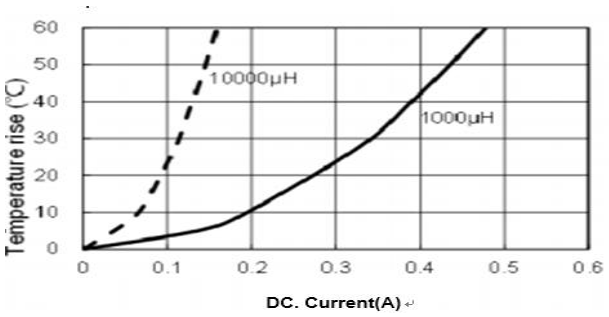


ESRN85S Size

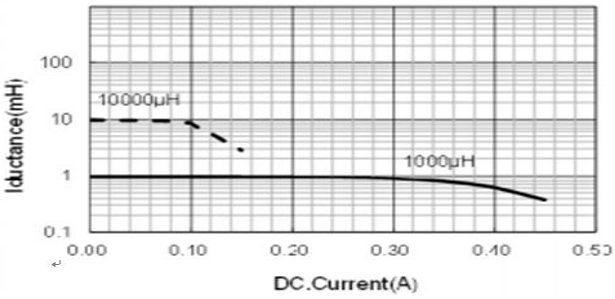
Series	Standard Values - Case Size 65 (8.0 x 8.0 x 5.0mm)						
	Inductance (μH)	Tolerance	Test Conditions	DCR (Ω) ±30%	Max. Isat (Amps)	Max. Irms (Amps)	SRF (MHz)
ESRN85S102MT	1000	±20%	100KHz, 1V	2.10	0.35	0.35	1.5
ESRN85S103MT*	10000	±20%	100KHz, 1V	19.00	0.10	0.13	0.35

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



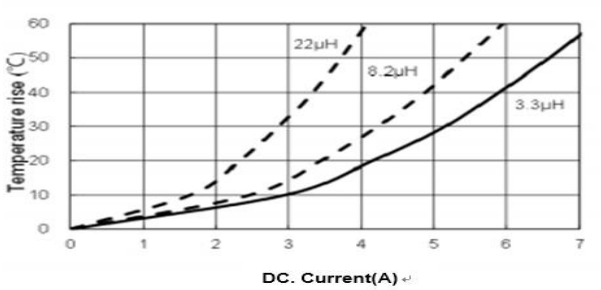
ESRN86S Size

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

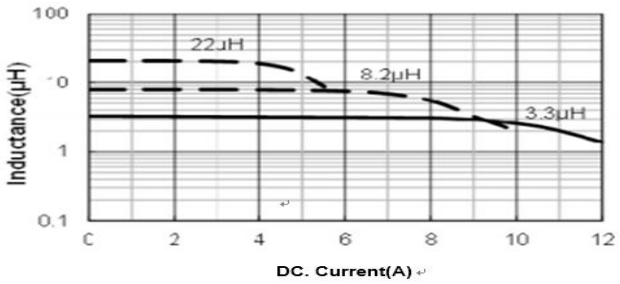
ESRN86S8R2MT	8.2	±20%	100KHz, 1V	0.58	7.70	4.80	15
ESRN86S100MT	10	±20%	100KHz, 1V	0.834	8.90	3.70	13
ESRN86S220MT	22	±20%	100KHz, 1V	1.27	4.80	3.30	8
ESRN86S431MT	430	±20%	100KHz, 1V	0.33	1.05	0.69	1.5
ESRN86S102MT	1000	±20%	100KHz, 1V	0.29	0.73	0.45	1.1
ESRN86S152MT	1500	±20%	100KHz, 1V	0.29	0.60	0.37	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 Irms. Maximum -30% inductance drop from initial measured value at Isat.

Temperature vs. DC Current Characteristics



Inductance vs. DC Current Characteristics



※1: All test data is referenced to 20°C ambient;
※2: Rated current: Isat or Irms, whichever is smaller;
※*3: Isat: DC current at which the inductance drops approximate 30% from its value without current;
※*4: Irms: DC current that causes the temperature rise T=40°C) from 20°C ambient.