

## SMD Wire Wound Power Inductors---MR Series



### Feature

- Metallization on ferrite core result in excellent thermal shock.
- Magnetic-resin shielded construction reduce buzz noise to ultra-low levels.
- Closed magnetic circuit design reduces leakage flux and excellent for EMI.
- Operating temperature range  $-40^{\circ}\text{C} \sim 125^{\circ}\text{C}$  (Including self - temperature rise).

### Application

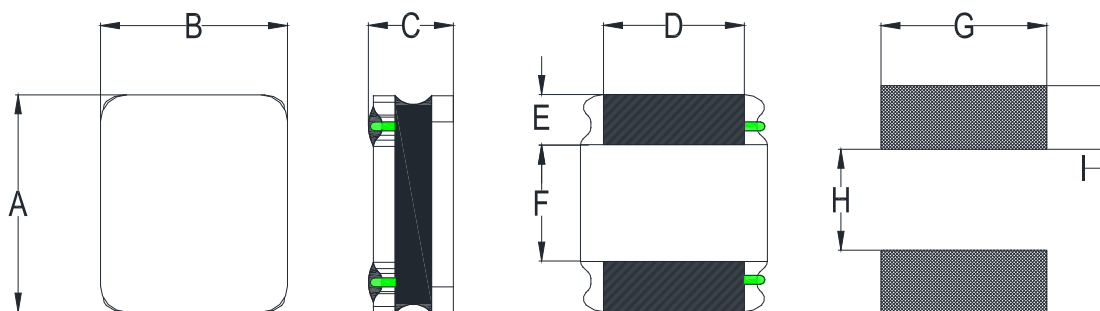
- Smart phone, MID, table terminal, HDDs, DCSs, VRMs.
- Set Top Boxes, Mobile power.
- Portable gaming device, navigation systems.

### Production identification

$\frac{\text{MR}}{\text{①}}$      $\frac{\text{4020}}{\text{②}}$      $\frac{\text{S}}{\text{③}}$     -     $\frac{\text{2R2}}{\text{④}}$      $\frac{\text{M}}{\text{⑤}}$      $\frac{\text{T}}{\text{⑥}}$

- ① Series name
- ② Size:  $4.0 \times 4.0 \times 2.0\text{mm}$
- ③ S: Standard product; P: High current product
- ④ Inductance:  $2.2\mu\text{H}$
- ⑤ Tolerance:  $\pm 20\%$
- ⑥ Packing

### Series Shape and Dimensions (Unit:mm)

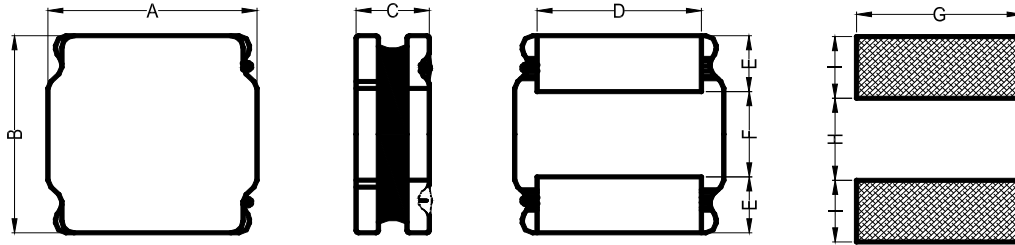


Series	A	B	C	D	E	F	G <sub>Typ</sub>	H <sub>Typ</sub>	I <sub>Typ</sub>	SPQ
MR201610	$2.0 \pm 0.2$	$1.6 \pm 0.2$	1.05Max	$1.2 \pm 0.2$	$0.6 \pm 0.2$	$0.8 \pm 0.2$	1.70	0.70	0.70	2000
MR252010	$2.5 \pm 0.1$	$2.0 \pm 0.1$	1.05Max	$1.5 \pm 0.2$	$0.8 \pm 0.2$	$0.8 \pm 0.2$	2.00	0.80	0.85	2000
MR252012	$2.5 \pm 0.1$	$2.0 \pm 0.1$	1.20Max	$1.5 \pm 0.2$	$0.8 \pm 0.2$	$0.8 \pm 0.2$	2.00	0.80	0.85	2000

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### Series Shape and Dimensions (Unit:mm)



Series	A	B	C	D	E	F	G <sub>Typ</sub>	H <sub>Typ</sub>	I <sub>Typ</sub>	SPQ
MR3010	3.0±0.2	3.0±0.2	1.00Max	2.5±0.2	0.75±0.2	1.5±0.2	2.7	1.5	0.8	2000
MR3012	3.0±0.2	3.0±0.2	1.20Max	2.5±0.2	0.75±0.2	1.5±0.2	2.7	1.5	0.8	2000
MR3015	3.0±0.2	3.0±0.2	1.50Max	2.5±0.2	0.75±0.2	1.5±0.2	2.7	1.5	0.8	2000
MR3020	3.0±0.2	3.0±0.2	2.35Max	2.5±0.2	0.75±0.2	1.5±0.2	2.7	1.5	0.8	3000
MR4015	4.0±0.2	4.0±0.2	1.65Max	3.3±0.2	0.95±0.2	2.1±0.2	3.7	1.9	1.1	3000
MR4018	4.0±0.2	4.0±0.2	1.80Max	3.3±0.2	0.95±0.2	2.1±0.2	3.7	1.9	1.1	3000
MR4020	4.0±0.2	4.0±0.2	2.00Max	3.3±0.2	0.95±0.2	2.1±0.2	3.7	1.9	1.1	3000
MR4030	4.0±0.2	4.0±0.2	3.00Max	3.3±0.2	0.95±0.2	2.1±0.2	3.7	1.9	1.1	2000
MR5015	5.0±0.2	5.0±0.2	1.50Max	4.0±0.2	1.25±0.2	2.5±0.2	4.2	2.3	1.4	3000
MR5020	5.0±0.2	5.0±0.2	2.00Max	4.0±0.2	1.25±0.2	2.5±0.2	4.2	2.3	1.4	3000
MR5030	5.0±0.2	5.0±0.2	3.00Max	4.0±0.2	1.25±0.2	2.5±0.2	4.2	2.3	1.4	2000
MR5040	5.0±0.2	5.0±0.2	4.00Max	4.0±0.2	1.25±0.2	2.5±0.2	4.2	2.3	1.4	1500
MR6015	6.0±0.3	6.0±0.3	1.50Max	4.9±0.3	1.55±0.3	2.9±0.3	5.7	2.8	1.7	3000
MR6020	6.0±0.3	6.0±0.3	2.00Max	4.9±0.3	1.55±0.3	2.9±0.3	5.7	2.8	1.7	3000
MR6028	6.0±0.3	6.0±0.3	2.80Max	4.9±0.3	1.55±0.3	2.9±0.3	5.7	2.8	1.7	2000
MR6045	6.0±0.3	6.0±0.3	4.50Max	4.9±0.3	1.55±0.3	2.9±0.3	5.7	2.8	1.7	1500
MR8040	8.0±0.3	8.0±0.3	4.20Max	6.3±0.3	2.20±0.3	4.0±0.3	7.5	3.8	2.2	1000

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### MR201610 Electrical Characteristics

Part Number	Inductance ( $\mu$ H)	Tolerance ( $\pm$ %)	DCR( $\Omega$ )		Isat (A)		Irms (A)		Test Condition
			Max	Typ	Max	Typ	Max	Typ	
MR201610S-R24MT	0.24	20	0.040	0.033	3.70	4.10	2.80	3.10	1MHz /1.0V
MR201610S-R33MT	0.33	20	0.048	0.041	3.00	3.70	2.40	2.90	1MHz /1.0V
MR201610S-R47MT	0.47	20	0.060	0.050	2.30	2.85	2.30	2.60	1MHz /1.0V
MR201610S-R68MT	0.68	20	0.076	0.063	1.95	2.45	2.00	2.20	1MHz /1.0V
MR201610S-1R0MT	1.0	20	0.114	0.096	1.65	1.85	1.45	1.60	1MHz /1.0V
MR201610S-1R5MT	1.5	20	0.174	0.145	1.35	1.65	1.10	1.20	1MHz /1.0V
MR201610S-2R2MT	2.2	20	0.265	0.215	1.20	1.45	1.05	1.15	1MHz /1.0V
MR201610S-3R3MT	3.3	20	0.345	0.290	1.00	1.20	0.85	0.95	1MHz /1.0V
MR201610S-4R7MT	4.7	20	0.480	0.400	0.75	0.90	0.70	0.80	1MHz /1.0V
MR201610S-6R8MT	6.8	20	0.800	0.610	0.70	0.85	0.55	0.60	1MHz /1.0V
MR201610S-8R2MT	8.2	20	0.940	0.730	0.68	0.78	0.53	0.60	1MHz /1.0V
MR201610S-100MT	10	20	1.000	0.800	0.65	0.70	0.50	0.60	1MHz /1.0V
MR201610S-120MT	12	20	1.430	1.100	0.62	0.70	0.36	0.42	1MHz /1.0V
MR201610S-150MT	15	20	1.700	1.300	0.50	0.56	0.30	0.38	1MHz /1.0V
MR201610S-220MT	22	20	1.700	1.400	0.32	0.38	0.30	0.36	1MHz /1.0V

### MR252010 Electrical Characteristics

Part Number	Inductance ( $\mu$ H)	Tolerance ( $\pm$ %)	DCR( $\Omega$ )		Isat (A)		Irms (A)		Test Condition
			Max	Typ	Max	Typ	Max	Typ	
MR252010S-R22MT	0.22	20	0.034	0.026	3.60	4.40	2.75	3.00	1MHz /1.0V
MR252010S-R24MT	0.24	20	0.034	0.026	3.60	4.40	2.75	3.00	1MHz /1.0V
MR252010S-R33MT	0.33	20	0.043	0.033	3.60	4.30	2.45	2.70	1MHz /1.0V
MR252010S-R47MT	0.47	20	0.044	0.033	2.80	3.20	2.40	2.60	1MHz /1.0V
MR252010S-R68MT	0.68	20	0.062	0.051	2.75	3.10	2.10	2.35	1MHz /1.0V
MR252010S-1R0MT	1.0	20	0.080	0.066	2.05	2.50	1.85	2.05	1MHz /1.0V
MR252010S-1R5MT	1.5	20	0.108	0.085	1.70	2.05	1.55	1.70	1MHz /1.0V
MR252010S-2R2MT	2.2	20	0.150	0.130	1.50	1.75	1.35	1.50	1MHz /1.0V
MR252010S-3R3MT	3.3	20	0.228	0.170	1.10	1.35	1.05	1.20	1MHz /1.0V
MR252010S-4R7MT	4.7	20	0.330	0.280	1.00	1.15	0.90	1.00	1MHz /1.0V
MR252010S-5R6MT	5.6	20	0.480	0.370	0.90	1.05	0.80	0.90	1MHz /1.0V
MR252010S-6R8MT	6.8	20	0.480	0.400	0.80	0.95	0.72	0.80	1MHz /1.0V
MR252010S-8R2MT	8.2	20	0.572	0.463	0.73	0.85	0.69	0.78	1MHz /1.0V
MR252010S-100MT	10	20	0.600	0.500	0.65	0.75	0.67	0.74	1MHz /1.0V
MR252010S-120MT	12	20	0.850	0.700	0.58	0.62	0.58	0.62	1MHz /1.0V
MR252010S-150MT	15	20	1.05	0.820	0.50	0.60	0.45	0.50	1MHz /1.0V

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### MR252012 Electrical Characteristics

Part Number	Inductance ( $\mu$ H)	Tolerance ( $\pm$ %)	DCR( $\Omega$ )		Isat (A)		Irms (A)		Test Condition
			Max	Typ	Max	Typ	Max	Typ	
MR252012S-R24MT	0.24	20	0.023	0.019	4.10	4.80	4.10	4.50	1MHz /1.0V
MR252012S-R33MT	0.33	20	0.031	0.026	4.00	4.70	3.35	3.70	1MHz /1.0V
MR252012S-R47MT	0.47	20	0.036	0.031	3.80	4.50	3.00	3.30	1MHz /1.0V
MR252012S-R68MT	0.68	20	0.047	0.038	3.00	3.30	2.30	2.50	1MHz /1.0V
MR252012S-1R0MT	1.0	20	0.060	0.050	2.25	2.50	2.30	2.60	1MHz /1.0V
MR252012S-1R2MT	1.2	20	0.078	0.065	2.20	2.50	2.00	2.20	1MHz /1.0V
MR252012S-1R5MT	1.5	20	0.090	0.075	2.00	2.35	1.80	2.00	1MHz /1.0V
MR252012S-1R8MT	1.8	20	0.108	0.093	1.95	2.20	1.75	1.90	1MHz /1.0V
MR252012S-2R2MT	2.2	20	0.108	0.093	1.75	1.90	1.75	1.90	1MHz /1.0V
MR252012S-2R7MT	2.7	20	0.156	0.130	1.30	1.60	1.40	1.50	1MHz /1.0V
MR252012S-3R3MT	3.3	20	0.156	0.130	1.20	1.35	1.40	1.50	1MHz /1.0V
MR252012S-4R7MT	4.7	20	0.228	0.190	1.10	1.20	1.10	1.20	1MHz /1.0V
MR252012S-5R6MT	5.6	20	0.330	0.255	1.00	1.10	1.00	1.15	1MHz /1.0V
MR252012S-6R8MT	6.8	20	0.360	0.300	0.90	1.10	0.95	1.05	1MHz /1.0V
MR252012S-100MT	10	20	0.522	0.435	0.70	0.85	0.78	0.86	1MHz /1.0V
MR252012S-150MT	15	20	1.000	0.700	0.60	0.70	0.50	0.60	1MHz /1.0V
MR252012S-220MT	22	20	1.290	1.000	0.45	0.55	0.48	0.55	1MHz /1.0V

### MR3010 Electrical Characteristics

Part Number	Inductance ( $\mu$ H)	Tolerance ( $\pm$ %)	DCR(m $\Omega$ ) $\pm$ 30%	Isat (A)	Irms (A)	Test Condition
MR3010S-1R0NT	1.0	30	65	1.40	1.45	100KHz /0.25V
MR3010S-1R5NT	1.5	30	80	1.27	1.30	100KHz /0.25V
MR3010S-2R2MT	2.2	20	110	1.15	1.09	100KHz /0.25V
MR3010S-3R3MT	3.3	20	145	0.97	0.96	100KHz /0.25V
MR3010S-4R7MT	4.7	20	225	0.75	0.77	100KHz /0.25V
MR3010S-6R8MT	6.8	20	305	0.65	0.66	100KHz /0.25V
MR3010S-100MT	10	20	400	0.60	0.58	100KHz /0.25V
MR3010S-150MT	15	20	310	0.42	0.47	100KHz /0.25V
MR3010S-220MT	22	20	930	0.35	0.38	100KHz /0.25V

#### Notes:

1. Irms: DC current that will causes the temperature rise ( $\Delta t=40^{\circ}\text{C}$ ) from  $20^{\circ}\text{C}$  ambient.
2. Isat: DC current at which the inductance drops approximate 30% from it's value without current.

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### MR3012 Electrical Characteristics

Part Number	Inductance (μH)	Tolerance (±%)	DCR(mΩ) ±30%	Isat (A)	Irms (A)	Test Condition
MR3012S-R33NT	0.33	30	21	3.00	2.90	100KHz /0.25V
MR3012S-R47NT	0.47	30	33	2.20	2.20	100KHz /0.25V
MR3012S-R82NT	0.82	30	40	2.05	2.10	100KHz /0.25V
MR3012S-1R0NT	1.0	30	48	1.90	2.00	100KHz /0.25V
MR3012S-1R5NT	1.5	30	55	1.62	1.85	100KHz /0.25V
MR3012S-1R8NT	1.8	30	68	1.50	1.70	100KHz /0.25V
MR3012S-2R2MT	2.2	20	75	1.20	1.55	100KHz /0.25V
MR3012S-3R3MT	3.3	20	100	1.05	1.35	100KHz /0.25V
MR3012S-4R7MT	4.7	20	120	0.90	1.25	100KHz /0.25V
MR3012S-5R6MT	5.6	20	160	0.80	1.10	100KHz /0.25V
MR3012S-6R8MT	6.8	20	190	0.75	1.00	100KHz /0.25V
MR3012S-100MT	10	20	265	0.60	0.89	100KHz /0.25V
MR3012S-150MT	15	20	430	0.45	0.72	100KHz /0.25V
MR3012S-220MT	22	20	630	0.42	0.55	100KHz /0.25V
MR3012S-270MT	27	20	800	0.35	0.45	100KHz /0.25V
MR3012S-330MT	33	20	875	0.36	0.46	100KHz /0.25V
MR3012S-470MT	47	20	1450	0.27	0.35	100KHz /0.25V

### MR3015 Electrical Characteristics

Part Number	Inductance (μH)	Tolerance (±%)	DCR(mΩ) ±30%	Isat (A)	Irms (A)	Test Condition
MR3015S-1R0NT	1.0	30	30	2.32	2.10	100KHz /0.25V
MR3015S-1R8NT	1.8	30	55	1.75	1.65	100KHz /0.25V
MR3015S-2R2NT	2.2	30	60	1.60	1.60	100KHz /0.25V
MR3015S-2R7NT	2.7	30	70	1.52	1.50	100KHz /0.25V
MR3015S-3R3MT	3.3	20	80	1.32	1.36	100KHz /0.25V
MR3015S-3R9MT	3.9	20	108	1.20	1.10	100KHz /0.25V
MR3015S-4R7MT	4.7	20	125	1.10	1.09	100KHz /0.25V
MR3015S-5R6MT	5.6	20	170	1.05	1.00	100KHz /0.25V
MR3015S-6R8MT	6.8	20	200	0.85	0.85	100KHz /0.25V
MR3015S-8R2MT	8.2	20	230	0.80	0.75	100KHz /0.25V
MR3015S-100MT	10	20	250	0.72	0.77	100KHz /0.25V
MR3015S-150MT	15	20	350	0.66	0.65	100KHz /0.25V
MR3015S-180MT	18	20	430	0.56	0.59	100KHz /0.25V
MR3015S-220MT	22	20	460	0.52	0.57	100KHz /0.25V
MR3015S-270MT	27	20	630	0.48	0.46	100KHz /0.25V
MR3015S-330MT	33	20	780	0.44	0.42	100KHz /0.25V
MR3015S-470MT	47	20	1200	0.35	0.32	100KHz /0.25V

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### MR3020 Electrical Characteristics

Part Number	Inductance (μH)	Tolerance (±%)	DCR(mΩ) ±30%	Isat (A)	Irms (A)	Test Condition
MR3020S-1R0NT	1.0	30	43	4.00	2.00	100KHz /0.25V
MR3020S-1R0NT	1.2	30	47	3.80	1.95	100KHz /0.25V
MR3020S-1R5NT	1.5	30	47	3.90	2.00	100KHz /0.25V
MR3020S-2R2NT	2.2	30	70	3.20	1.85	100KHz /0.25V
MR3020S-3R3MT	3.3	20	92	2.70	1.50	100KHz /0.25V
MR3020S-4R7MT	4.7	20	120	2.20	1.20	100KHz /0.25V
MR3020S-6R8MT	6.8	20	160	2.00	1.00	100KHz /0.25V
MR3020S-100MT	10	20	240	1.40	0.93	100KHz /0.25V
MR3020S-220MT	22	20	530	1.00	0.55	100KHz /0.25V
MR3020S-470MT	47	20	1000	0.70	0.40	100KHz /0.25V
MR3020S-151MT	150	20	4000	0.40	0.16	100KHz /0.25V

### MR4015 Electrical Characteristics

Part Number	Inductance (μH)	Tolerance (±%)	DCR(mΩ) ±30%	Isat (A)	Irms (A)	Test Condition
MR4015S-1R0NT	1.0	30	35	3.30	2.50	100KHz /0.25V
MR4015S-1R5NT	1.5	30	40	2.70	2.20	100KHz /0.25V
MR4015S-2R2MT	2.2	20	53	2.10	2.00	100KHz /0.25V
MR4015S-3R3MT	3.3	20	75	1.90	1.80	100KHz /0.25V
MR4015S-4R7MT	4.7	20	100	1.45	1.35	100KHz /0.25V
MR4015S-6R8MT	6.8	20	135	1.30	1.20	100KHz /0.25V
MR4015S-100MT	10	20	200	1.10	1.00	100KHz /0.25V
MR4015S-150MT	15	20	300	0.90	0.85	100KHz /0.25V
MR4015S-220MT	22	20	400	0.72	0.68	100KHz /0.25V
MR4015S-470MT	47	20	975	0.55	0.45	100KHz /0.25V

### MR4018 Electrical Characteristics

Part Number	Inductance (μH)	Tolerance (±%)	DCR(mΩ) ±30%	Isat (A)	Irms (A)	Test Condition
MR4018S-R56NT	0.56	30	18	6.50	3.50	100KHz /0.25V
MR4018S-1R0NT	1.0	30	23	4.50	2.50	100KHz /0.25V
MR4018S-1R2NT	1.2	30	28	4.30	2.40	100KHz /0.25V
MR4018S-1R5NT	1.5	30	33	3.35	2.34	100KHz /0.25V
MR4018S-1R8NT	1.8	30	44	3.00	2.00	100KHz /0.25V
MR4018S-2R2MT	2.2	20	44	2.70	2.00	100KHz /0.25V
MR4018S-3R3MT	3.3	20	70	2.45	1.90	100KHz /0.25V
MR4018S-4R7MT	4.7	20	90	1.70	1.70	100KHz /0.25V
MR4018S-5R6MT	5.6	20	103	1.60	1.50	100KHz /0.25V
MR4018S-6R8MT	6.8	20	124	1.45	1.30	100KHz /0.25V

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### MR4018 Electrical Characteristics

Part Number	Inductance (μH)	Tolerance (±%)	DCR(mΩ) ±30%	Isat (A)	Irms (A)	Test Condition
MR4018S-8R2MT	8.2	20	180	1.40	1.15	100KHz /0.25V
MR4018S-100MT	10	20	200	1.30	1.10	100KHz /0.25V
MR4018S-120MT	12	20	230	1.15	0.95	100KHz /0.25V
MR4018S-150MT	15	20	268	0.94	0.92	100KHz /0.25V
MR4018S-180MT	18	20	320	0.86	0.61	100KHz /0.25V
MR4018S-220MT	22	20	390	0.80	0.80	100KHz /0.25V
MR4018S-330MT	33	20	560	0.65	0.60	100KHz /0.25V
MR4018S-470MT	47	20	850	0.57	0.50	100KHz /0.25V

### MR4020 Electrical Characteristics

Part Number	Inductance (μH)	Tolerance (±%)	DCR(mΩ) ±30%	Isat (A)	Irms (A)	Test Condition
MR4020S-R33NT	0.33	30	13	7.50	3.30	100KHz /0.25V
MR4020S-R47NT	0.47	30	18	7.50	3.30	100KHz /0.25V
MR4020S-1R0NT	1.0	30	28	5.10	2.15	100KHz /0.25V
MR4020S-1R2NT	1.2	30	29	4.70	2.10	100KHz /0.25V
MR4020S-1R5NT	1.5	30	35	4.45	1.98	100KHz /0.25V
MR4020S-1R8NT	1.8	30	45	4.00	1.90	100KHz /0.25V
MR4020S-2R2MT	2.2	20	45	3.40	1.85	100KHz /0.25V
MR4020S-3R3MT	3.3	20	70	3.20	1.40	100KHz /0.25V
MR4020S-4R7MT	4.7	20	80	2.35	1.34	100KHz /0.25V
MR4020S-5R6MT	5.6	20	95	2.20	1.22	100KHz /0.25V
MR4020S-6R8MT	6.8	20	125	2.00	1.04	100KHz /0.25V
MR4020S-8R2MT	8.2	20	150	1.75	1.00	100KHz /0.25V
MR4020S-100MT	10	20	165	1.60	0.90	100KHz /0.25V
MR4020S-120MT	12	20	175	1.50	0.88	100KHz /0.25V
MR4020S-150MT	15	20	230	1.35	0.77	100KHz /0.25V
MR4020S-220MT	22	20	350	1.05	0.62	100KHz /0.25V
MR4020S-330MT	33	20	500	0.85	0.49	100KHz /0.25V
MR4020S-470MT	47	20	710	0.74	0.44	100KHz /0.25V
MR4020S-560MT	56	20	800	0.68	0.40	100KHz /0.25V
MR4020S-680MT	68	20	1250	0.60	0.35	100KHz /0.25V

#### Notes:

1. I<sub>rms</sub>: DC current that will causes the temperature rise ( $\Delta t=40^{\circ}\text{C}$ ) from  $20^{\circ}\text{C}$  ambient.
2. I<sub>sat</sub>: DC current at which the inductance drops approximate 30% from it's value without current.

## SMD Wire Wound Power Inductors---MR Series



### MR4030 Electrical Characteristics

Part Number	Inductance (μH)	Tolerance (±%)	DCR(mΩ) ±30%	Isat (A)	Irms (A)	Test Condition
MR4030S-1R0NT	1.0	30	15	5.90	3.40	100KHz /0.25V
MR4030S-2R2MT	2.2	20	35	4.10	2.95	100KHz /0.25V
MR4030S-3R3MT	3.3	20	40	3.30	2.40	100KHz /0.25V
MR4030S-4R7MT	4.7	20	60	2.90	2.00	100KHz /0.25V
MR4030S-5R6MT	5.6	20	70	2.75	1.95	100KHz /0.25V
MR4030S-6R8MT	6.8	20	75	2.60	1.70	100KHz /0.25V
MR4030S-100MT	10	20	115	1.95	1.50	100KHz /0.25V
MR4030S-220MT	22	20	225	1.30	1.00	100KHz /0.25V
MR4030S-330MT	33	20	330	1.10	0.84	100KHz /0.25V
MR4030S-470MT	47	20	500	0.90	0.72	100KHz /0.25V
MR4030S-560MT	56	20	560	0.85	0.65	100KHz /0.25V
MR4030S-680MT	68	20	750	0.75	0.55	100KHz /0.25V
MR4030S-101MT	100	20	1150	0.60	0.45	100KHz /0.25V
MR4030S-151MT	150	20	2350	0.50	0.35	100KHz /0.25V
MR4030S-181MT	180	20	2500	0.40	0.35	100KHz /0.25V

### MR5015 Electrical Characteristics

Part Number	Inductance (μH)	Tolerance (±%)	DCR(mΩ) ±30%	Isat (A)	Irms (A)	Test Condition
MR5015S-1R0NT	1.0	30	35	4.50	2.80	100KHz /0.25V
MR5015S-1R5NT	1.5	30	50	3.50	2.50	100KHz /0.25V
MR5015S-2R2NT	2.2	30	65	3.00	2.20	100KHz /0.25V
MR5015S-3R3NT	3.3	30	80	2.50	1.90	100KHz /0.25V
MR5015S-4R7NT	4.7	30	100	2.10	1.60	100KHz /0.25V
MR5015S-6R8MT	6.8	20	150	1.65	1.40	100KHz /0.25V
MR5015S-100MT	10	20	200	1.45	1.20	100KHz /0.25V
MR5015S-150MT	15	20	320	1.20	0.85	100KHz /0.25V
MR5015S-220MT	22	20	450	1.10	0.75	100KHz /0.25V

#### Notes:

1. I<sub>rms</sub>: DC current that will causes the temperature rise ( $\Delta t=40^{\circ}\text{C}$ ) from  $20^{\circ}\text{C}$  ambient.
2. I<sub>sat</sub>: DC current at which the inductance drops approximate 30% from it's value without current.



## SMD Wire Wound Power Inductors---MR Series



### MR5020 Electrical Characteristics

Part Number	Inductance (μH)	Tolerance (±%)	DCR(mΩ) ±30%	Isat (A)	I <sub>rms</sub> (A)	Test Condition
MR5020S-R33NT	0.22	30	11	6.00	5.00	100KHz /0.25V
MR5020S-R47NT	0.47	30	15	4.85	3.95	100KHz /0.25V
MR5020S-1R0NT	1.0	30	20	4.33	3.70	100KHz /0.25V
MR5020S-1R2NT	1.2	30	25	4.20	3.50	100KHz /0.25V
MR5020S-1R5NT	1.5	30	26	4.10	3.20	100KHz /0.25V
MR5020S-1R8NT	1.8	30	30	4.00	3.00	100KHz /0.25V
MR5020S-2R2NT	2.2	30	38	3.85	2.90	100KHz /0.25V
MR5020S-2R7NT	2.7	30	45	3.50	2.40	100KHz /0.25V
MR5020S-3R3NT	3.3	30	46	3.25	2.40	100KHz /0.25V
MR5020S-3R6NT	3.6	30	48	2.90	2.30	100KHz /0.25V
MR5020S-3R9NT	3.9	30	50	2.90	2.15	100KHz /0.25V
MR5020S-4R7MT	4.7	20	65	2.40	2.05	100KHz /0.25V
MR5020S-5R6MT	5.6	20	72	2.30	1.85	100KHz /0.25V
MR5020S-6R8MT	6.8	20	92	2.10	1.70	100KHz /0.25V
MR5020S-8R2MT	8.2	20	100	1.90	1.60	100KHz /0.25V
MR5020S-100MT	10	20	125	1.80	1.50	100KHz /0.25V
MR5020S-150MT	15	20	180	1.44	1.25	100KHz /0.25V
MR5020S-220MT	22	20	250	1.18	1.05	100KHz /0.25V
MR5020S-270MT	27	20	300	1.10	1.00	100KHz /0.25V
MR5020S-330MT	33	20	370	0.97	0.83	100KHz /0.25V
MR5020S-470MT	47	20	560	0.81	0.70	100KHz /0.25V
MR5020S-680MT	68	20	850	0.70	0.53	100KHz /0.25V
MR5020S-820MT	82	20	950	0.65	0.50	100KHz /0.25V
MR5020S-151MT	150	20	1500	0.41	0.40	100KHz /0.25V
MR5020S-221MT	220	20	2230	0.35	0.30	100KHz /0.25V

### MR5030 Electrical Characteristics

Part Number	Inductance (μH)	Tolerance (±%)	DCR(mΩ) ±30%	Isat (A)	I <sub>rms</sub> (A)	Test Condition
MR5030S-R47NT	0.47	30	10	9.00	5.00	100KHz /0.25V
MR5030S-1R0NT	1.0	30	15	6.65	4.00	100KHz /0.25V
MR5030S-1R5NT	1.5	30	16	6.00	3.90	100KHz /0.25V
MR5030S-2R2MT	2.2	20	23	4.20	3.50	100KHz /0.25V
MR5030S-3R3MT	3.3	20	30	3.60	3.00	100KHz /0.25V
MR5030S-4R7MT	4.7	20	35	3.10	2.60	100KHz /0.25V
MR5030S-6R8MT	6.8	20	52	2.50	2.30	100KHz /0.25V
MR5030S-100MT	10	20	70	2.10	1.70	100KHz /0.25V
MR5030S-150MT	15	20	125	1.60	1.40	100KHz /0.25V
MR5030S-220MT	22	20	180	1.40	1.05	100KHz /0.25V

## SMD Wire Wound Power Inductors---MR Series



### MR5030 Electrical Characteristics

Part Number	Inductance (μH)	Tolerance (±%)	DCR(mΩ) ±30%	Isat (A)	Irms (A)	Test Condition
MR5030S-270MT	27	20	190	1.30	0.90	100KHz /0.25V
MR5030S-330MT	33	20	225	1.15	0.80	100KHz /0.25V
MR5030S-470MT	47	20	325	0.95	0.70	100KHz /0.25V
MR5030S-569MT	56	20	420	0.89	0.63	100KHz /0.25V
MR5030S-680MT	68	20	475	0.85	0.68	100KHz /0.25V
MR5030S-101MT	100	20	720	0.71	0.65	100KHz /0.25V
MR5030S-151MT	150	20	1050	0.60	0.55	100KHz /0.25V
MR5030S-221MT	220	20	1300	0.55	0.45	100KHz /0.25V

### MR5040 Electrical Characteristics

Part Number	Inductance (μH)	Tolerance (±%)	DCR(mΩ) ±30%	Isat (A)	Irms (A)	Test Condition
MR5040S-1R0NT	1.0	30	13	7.35	4.90	100KHz /0.25V
MR5040S-1R8NT	1.8	30	18	6.10	3.90	100KHz /0.25V
MR5040S-2R2NT	2.2	30	19	4.90	3.80	100KHz /0.25V
MR5040S-2R7NT	2.7	30	22	4.30	3.60	100KHz /0.25V
MR5040S-3R3NT	3.3	30	24	3.95	3.40	100KHz /0.25V
MR5040S-3R9NT	3.9	30	27	3.55	3.20	100KHz /0.25V
MR5040S-4R7MT	4.7	20	30	3.50	3.00	100KHz /0.25V
MR5040S-5R6MT	5.6	20	33	3.20	2.80	100KHz /0.25V
MR5040S-6R8MT	6.8	20	43	2.90	2.50	100KHz /0.25V
MR5040S-8R2MT	8.2	20	55	3.00	2.30	100KHz /0.25V
MR5040S-100MT	10	20	64	2.35	2.10	100KHz /0.25V
MR5040S-220MT	22	20	129	1.60	1.50	100KHz /0.25V
MR5040S-270MT	27	20	165	1.50	1.30	100KHz /0.25V
MR5040S-330MT	33	20	188	1.30	1.20	100KHz /0.25V
MR5040S-390MT	39	20	225	1.20	1.10	100KHz /0.25V
MR5040S-470MT	47	20	270	1.10	1.00	100KHz /0.25V
MR5040S-680MT	68	20	400	0.90	0.80	100KHz /0.25V
MR5040S-101MT	100	20	560	0.75	0.70	100KHz /0.25V

#### Notes:

1. I<sub>rms</sub>: DC current that will causes the temperature rise ( $\Delta t=40^{\circ}\text{C}$ ) from  $20^{\circ}\text{C}$  ambient.
2. I<sub>sat</sub>: DC current at which the inductance drops approximate 30% from it's value without current.

## SMD Wire Wound Power Inductors---MR Series



### MR6015 Electrical Characteristics

Part Number	Inductance (μH)	Tolerance (±%)	DCR(mΩ) ±30%	Isat (A)	Irms (A)	Test Condition
MR6015S-1R5NT	1.2	30	35	4.20	2.80	100KHz /0.25V
MR6015S-2R2NT	2.2	30	50	3.10	2.30	100KHz /0.25V
MR6015S-3R3NT	3.3	30	60	2.60	2.10	100KHz /0.25V
MR6015S-4R7MT	4.7	20	90	2.10	1.90	100KHz /0.25V
MR6015S-5R6MT	5.6	20	92	2.00	1.80	100KHz /0.25V
MR6015S-6R8MT	6.8	20	115	1.80	1.65	100KHz /0.25V
MR6015S-100MT	10	20	155	1.45	1.35	100KHz /0.25V
MR6015S-150MT	15	20	220	1.20	1.20	100KHz /0.25V
MR6015S-220MT	22	20	320	1.00	1.00	100KHz /0.25V

### MR6020 Electrical Characteristics

Part Number	Inductance (μH)	Tolerance (±%)	DCR(mΩ) ±30%	Isat (A)	Irms (A)	Test Condition
MR6020S-R68NT	0.68	30	15	7.50	3.80	100KHz /0.25V
MR6020S-1R0NT	1.0	30	20	4.80	3.50	100KHz /0.25V
MR6020S-1R2NT	1.2	30	20	4.30	3.50	100KHz /0.25V
MR6020S-1R5NT	1.5	30	25	4.30	3.20	100KHz /0.25V
MR6020S-2R2NT	2.2	30	35	3.75	2.75	100KHz /0.25V
MR6020S-3R3NT	3.3	30	45	3.15	2.60	100KHz /0.25V
MR6020S-4R7NT	4.7	30	58	3.00	2.00	100KHz /0.25V
MR6020S-5R6MT	5.6	20	70	2.40	1.90	100KHz /0.25V
MR6020S-6R8MT	6.8	20	85	2.20	1.80	100KHz /0.25V
MR6020S-100MT	10	20	120	1.75	1.40	100KHz /0.25V
MR6020S-150MT	15	20	160	1.50	1.20	100KHz /0.25V
MR6020S-220MT	22	20	240	1.25	1.00	100KHz /0.25V
MR6020S-270MT	27	20	350	1.15	0.95	100KHz /0.25V
MR6020S-330MT	33	20	400	1.10	0.90	100KHz /0.25V
MR6020S-470MT	47	20	500	1.00	0.80	100KHz /0.25V

#### Notes:

1. I<sub>rms</sub>: DC current that will causes the temperature rise ( $\Delta t=40^{\circ}\text{C}$ ) from  $20^{\circ}\text{C}$  ambient.
2. I<sub>sat</sub>: DC current at which the inductance drops approximate 30% from it's value without current.

## SMD Wire Wound Power Inductors---MR Series



### MR6028 Electrical Characteristics

Part Number	Inductance (μH)	Tolerance (±%)	DCR(mΩ) ±30%	Isat (A)	Irms (A)	Test Condition
MR6028S-1R0NT	1.0	30	12	6.70	4.60	100KHz /0.25V
MR6028S-1R5NT	1.5	30	16	6.00	4.30	100KHz /0.25V
MR6028S-1R8NT	1.8	30	19	5.30	4.10	100KHz /0.25V
MR6028S-2R2NT	2.2	30	20	5.10	3.75	100KHz /0.25V
MR6028S-3R3NT	3.3	30	25	3.63	3.40	100KHz /0.25V
MR6028S-4R7NT	4.7	30	33	3.00	3.00	100KHz /0.25V
MR6028S-5R6NT	5.6	30	45	2.80	2.45	100KHz /0.25V
MR6028S-6R8MT	6.8	20	56	2.60	2.40	100KHz /0.25V
MR6028S-8R2MT	8.2	20	68	2.40	2.25	100KHz /0.25V
MR6028S-100MT	10	20	78	2.05	1.90	100KHz /0.25V
MR6028S-120MT	12	20	88	1.80	1.70	100KHz /0.25V
MR6028S-150MT	15	20	125	1.75	1.50	100KHz /0.25V
MR6028S-180MT	18	20	130	1.55	1.45	100KHz /0.25V
MR6028S-220MT	22	20	140	1.45	1.40	100KHz /0.25V
MR6028S-270MT	27	20	180	1.40	1.30	100KHz /0.25V
MR6028S-330MT	33	20	220	1.35	1.10	100KHz /0.25V
MR6028S-390MT	39	20	225	1.25	1.10	100KHz /0.25V
MR6028S-470MT	47	20	280	1.15	1.05	100KHz /0.25V
MR6028S-680MT	68	20	420	0.95	0.85	100KHz /0.25V
MR6028S-820MT	82	20	550	0.80	0.70	100KHz /0.25V
MR6028S-101MT	100	20	670	0.65	0.60	100KHz /0.25V
MR6028S-151MT	120	20	820	0.62	0.58	100KHz /0.25V

### MR6045P Electrical Characteristics

Part Number	Inductance (μH)	Tolerance (±%)	DCR(mΩ) ±30%	Isat (A)	Irms (A)	Test Condition
MR6045P-1R0NT	1.0	30	12	12.2	6.5	100KHz /0.25V
MR6045P-1R5NT	1.5	30	15	10.4	5.90	100KHz /0.25V
MR6045P-2R2MT	2.2	20	18.4	8.80	5.10	100KHz /0.25V
MR6045P-3R3MT	3.3	20	24	7.50	4.30	100KHz /0.25V
MR6045P-4R7MT	4.7	20	31	6.70	3.90	100KHz /0.25V
MR6045P-5R6MT	5.6	20	43	5.80	3.50	100KHz /0.25V
MR6045P-6R8MT	6.8	20	43	5.30	3.20	100KHz /0.25V
MR6045P-100MT	10	20	57	4.50	2.70	100KHz /0.25V
MR6045P-220MT	22	20	110	3.00	1.70	100KHz /0.25V
MR6045P-470MT	47	20	245	2.00	1.30	100KHz /0.25V
MR6045P-680MT	68	20	350	1.80	0.98	100KHz /0.25V
MR6045P-101MT	100	20	500	1.30	0.90	100KHz /0.25V

## SMD Wire Wound Power Inductors---MR Series



### MR6045 Electrical Characteristics

Part Number	Inductance ( $\mu\text{H}$ )	Tolerance ( $\pm\%$ )	DCR( $\text{m}\Omega$ ) $\pm 30\%$	Isat (A)	Irms (A)	Test Condition
MR6045S-1R0NT	1.0	30	10	9.00	5.10	100KHz /0.25V
MR6045S-1R5NT	1.5	30	12	7.50	4.75	100KHz /0.25V
MR6045S-1R8NT	1.8	30	13	7.50	4.60	100KHz /0.25V
MR6045S-2R2NT	2.2	30	13	6.50	4.60	100KHz /0.25V
MR6045S-3R3NT	3.3	30	20	5.30	3.20	100KHz /0.25V
MR6045S-3R9NT	3.9	30	20	4.90	3.20	100KHz /0.25V
MR6045S-4R7NT	4.7	30	24	4.50	3.00	100KHz /0.25V
MR6045S-5R6NT	5.6	30	31	3.70	2.80	100KHz /0.25V
MR6045S-6R8MT	6.8	20	33	3.30	2.70	100KHz /0.25V
MR6045S-8R2MT	8.2	20	45	3.20	2.60	100KHz /0.25V
MR6045S-100MT	10	20	52	3.00	2.50	100KHz /0.25V
MR6045S-120MT	12	20	58	2.80	2.20	100KHz /0.25V
MR6045S-150MT	15	20	77	2.50	1.90	100KHz /0.25V
MR6045S-220MT	22	20	115	2.00	1.50	100KHz /0.25V
MR6045S-270MT	27	20	120	1.90	1.48	100KHz /0.25V
MR6045S-330MT	33	20	150	1.60	1.45	100KHz /0.25V
MR6045S-390MT	39	20	180	1.50	1.25	100KHz /0.25V
MR6045S-470MT	47	20	220	1.40	1.20	100KHz /0.25V
MR6045S-560MT	56	20	260	1.30	1.10	100KHz /0.25V
MR6045S-680MT	68	20	290	1.20	0.90	100KHz /0.25V
MR6045S-820MT	82	20	355	1.10	0.85	100KHz /0.25V
MR6045S-101MT	100	20	430	1.00	0.80	100KHz /0.25V
MR6045S-121MT	120	20	530	0.85	0.75	100KHz /0.25V
MR6045S-151MT	150	20	760	0.80	0.70	100KHz /0.25V
MR6045S-181MT	180	20	845	0.75	0.65	100KHz /0.25V
MR6045S-221MT	220	20	890	0.63	0.55	100KHz /0.25V

#### Notes:

1. I<sub>rms</sub>: DC current that will causes the temperature rise ( $\Delta t=40^{\circ}\text{C}$ ) from  $20^{\circ}\text{C}$  ambient.
2. I<sub>sat</sub>: DC current at which the inductance drops approximate 30% from it's value without current.

## SMD Wire Wound Power Inductors---MR Series



### MR8040 Electrical Characteristics

Part Number	Inductance (μH)	Tolerance (±%)	DCR(mΩ) ±30%	Isat (A)	I <sub>rms</sub> (A)	Test Condition
MR8040S-R56NT	0.56	30	5	11.50	7.60	100KHz /0.25V
MR8040S-1R0NT	1.0	30	8	9.85	6.30	100KHz /0.25V
MR8040S-1R5NT	1.5	30	10	8.15	5.65	100KHz /0.25V
MR8040S-2R2NT	2.2	30	12	7.10	5.15	100KHz /0.25V
MR8040S-3R3NT	3.3	30	17	6.50	4.40	100KHz /0.25V
MR8040S-4R7NT	4.7	30	20	5.90	4.00	100KHz /0.25V
MR8040S-5R6NT	5.6	30	24	5.50	3.80	100KHz /0.25V
MR8040S-6R8MT	6.8	20	28	4.55	3.60	100KHz /0.25V
MR8040S-8R2MT	8.2	20	35	4.20	3.40	100KHz /0.25V
MR8040S-100MT	10	20	37	3.60	3.10	100KHz /0.25V
MR8040S-120MT	12	20	45	3.30	2.80	100KHz /0.25V
MR8040S-150MT	15	20	56	2.95	2.50	100KHz /0.25V
MR8040S-180MT	18	20	58	2.70	2.40	100KHz /0.25V
MR8040S-220MT	22	20	74	2.40	2.00	100KHz /0.25V
MR8040S-270MT	27	20	80	2.15	1.90	100KHz /0.25V
MR8040S-330MT	33	20	100	2.05	1.70	100KHz /0.25V
MR8040S-470MT	47	20	158	1.75	1.50	100KHz /0.25V
MR8040S-560MT	56	20	160	1.55	1.40	100KHz /0.25V
MR8040S-680MT	68	20	196	1.45	1.20	100KHz /0.25V
MR8040S-820MT	82	20	245	1.30	1.10	100KHz /0.25V
MR8040S-101MT	100	20	295	1.15	1.00	100KHz /0.25V
MR8040S-151MT	150	20	470	1.10	0.80	100KHz /0.25V
MR8040S-171MT	170	20	538	0.95	0.75	100KHz /0.25V
MR8040S-181MT	180	20	610	0.90	0.75	100KHz /0.25V
MR8040S-221MT	220	20	660	0.85	0.70	100KHz /0.25V
MR8040S-331MT	330	20	970	0.68	0.55	100KHz /0.25V
MR8040S-471MT	470	20	1400	0.60	0.48	100KHz /0.25V
MR8040S-681MT	680	20	1750	0.50	0.45	100KHz /0.25V

#### Notes:

1. I<sub>rms</sub>: DC current that will causes the temperature rise ( $\Delta t=40^{\circ}\text{C}$ ) from  $20^{\circ}\text{C}$  ambient.
2. I<sub>sat</sub>: DC current at which the inductance drops approximate 30% from it's value without current.