



## SMD Power Inductors SMR0403 Series

### Electrical Characteristics

Part No	Inductance ( $\mu$ H)	DCR (m $\Omega$ ) typ	Isat (A) typ	I <sub>r</sub> (A) typ
SMR0403-1R0M	1.00 $\pm$ 20%	24.00	6.50	3.50
SMR0403-1R4M	1.20 $\pm$ 20%	27.60	6.00	3.30
SMR0403-1R8M	1.50 $\pm$ 20%	32.00	5.50	3.00
SMR0403-2R2M	1.80 $\pm$ 20%	36.50	5.00	2.80
SMR0403-2R7M	2.20 $\pm$ 20%	40.70	4.50	2.70
SMR0403-3R3M	2.70 $\pm$ 20%	45.20	4.00	2.50
SMR0403-3R9M	3.30 $\pm$ 20%	62.30	3.80	2.30
SMR0403-4R7M	4.70 $\pm$ 20%	73.50	3.20	2.20
SMR0403-5R6M	5.60 $\pm$ 20%	80.20	3.00	2.00
SMR0403-6R8M	6.80 $\pm$ 20%	92.40	2.60	1.90
SMR0403-8R2M	8.20 $\pm$ 20%	106.00	2.50	1.70
SMR0403-100M	10.0 $\pm$ 20%	126.00	1.60	1.50
SMR0403-120M	12.0 $\pm$ 20%	140.00	1.30	1.45
SMR0403-150M	15.0 $\pm$ 20%	163.00	1.20	1.40
SMR0403-180M	18.0 $\pm$ 20%	221.00	1.00	1.20
SMR0403-220M	22.0 $\pm$ 20%	251.00	0.90	1.10
SMR0403-270M	27.0 $\pm$ 20%	330.00	0.80	0.95
SMR0403-330M	33.0 $\pm$ 20%	379.00	0.70	0.90
SMR0403-390M	39.0 $\pm$ 20%	419.00	0.65	0.80
SMR0403-470M	47.0 $\pm$ 20%	587.00	0.60	0.70
SMR0403-560M	56.0 $\pm$ 20%	651.00	0.50	0.65
SMR0403-680M	68.0 $\pm$ 20%	736.00	0.45	0.60

### Test Equipment and Frequency:

- Inductance : LCR meter 4284A/4286A (HP) / 100kHz / 1.0V
- DC Resistance : HP4338B Milliohms Meter
- DC Bias : Waynekerr 3265B (Bias Current Source) / 1.0kHz / 1.0V

### Test Condition:

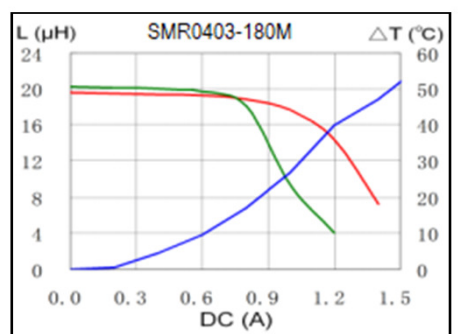
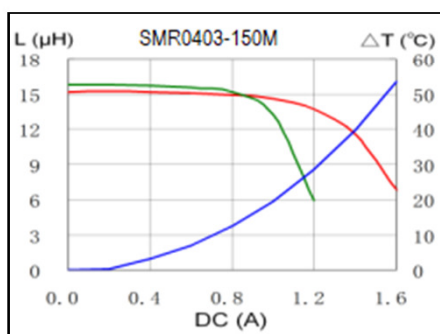
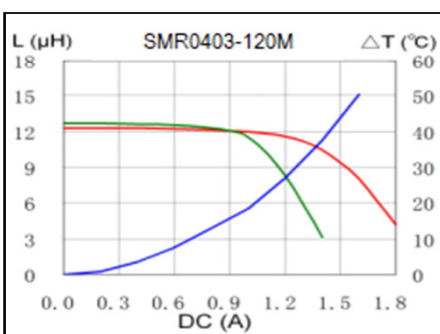
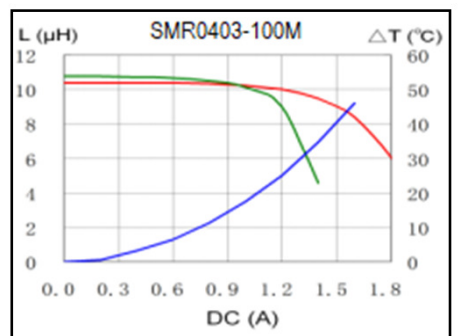
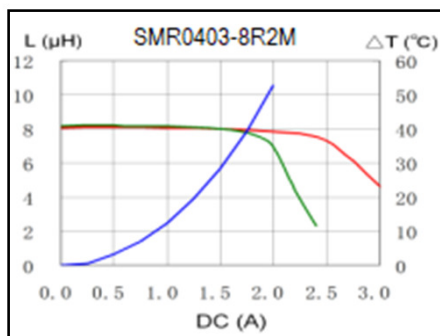
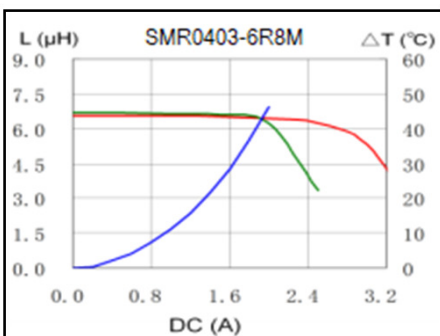
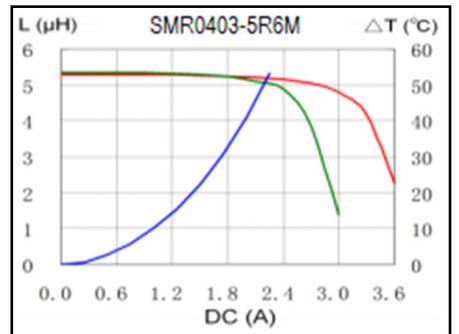
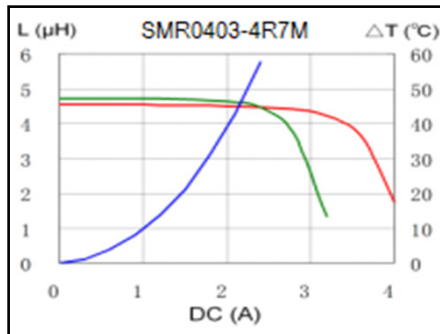
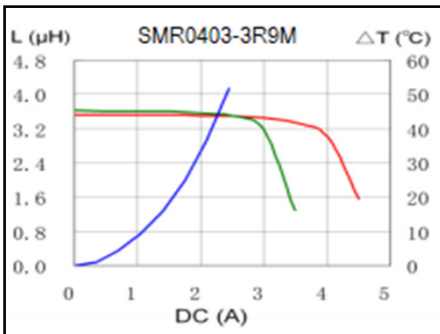
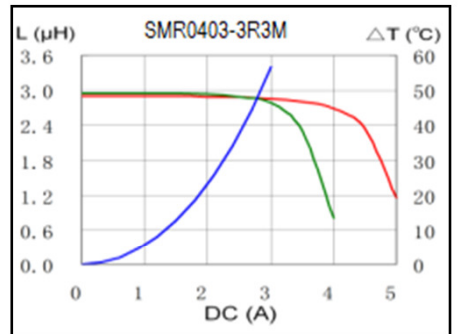
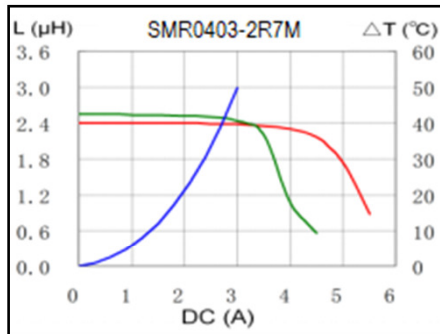
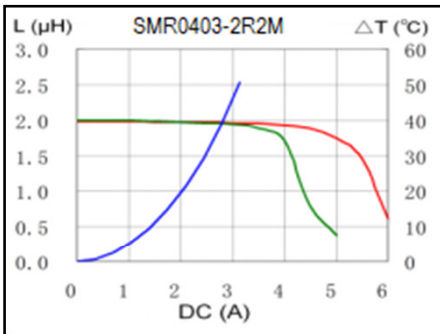
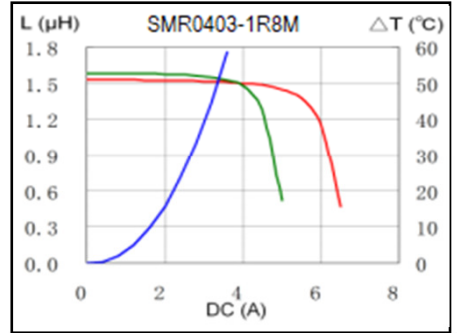
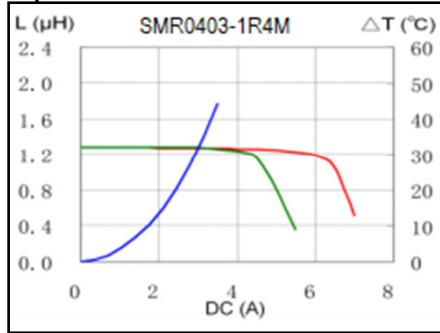
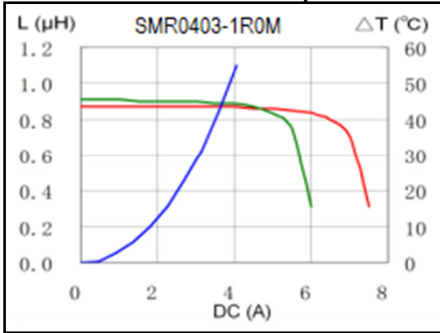
- Temperature : 26°C  $\pm$  3°C
- Humidity :  $\leq$  70% RH

### General Specification:

- Temperature Rise : 40°C
- Operating Temperature : -40°C ~ +125°C
- Storage Temperature : -20°C up to +40°C, 75% RH max
- All data is tested based on 25°C ambient temperature
- Measuring frequency inductance : 7.96MHz(1.0 $\mu$  H - 8.2 $\mu$  H), 2.52MHz (10 $\mu$  H - 68 $\mu$  H)
- Saturation current: DC current which becomes inductance value drop by 10% from the nominal value.
- Temperature rise current: The value of D.C. current when the temperature of coil becomes  $\Delta T=40^{\circ}\text{C}(T_a=20^{\circ}\text{C})$ .

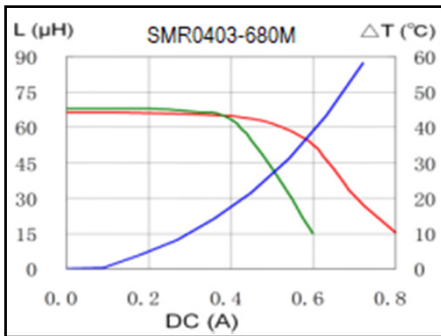
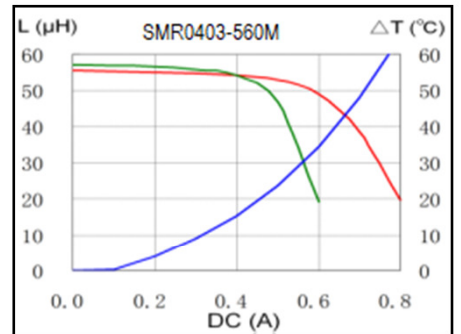
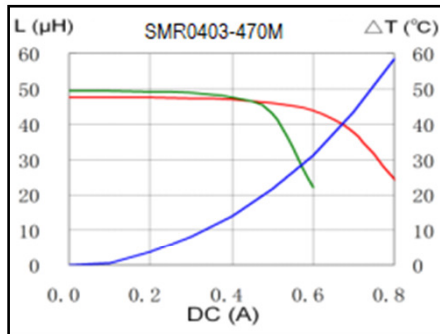
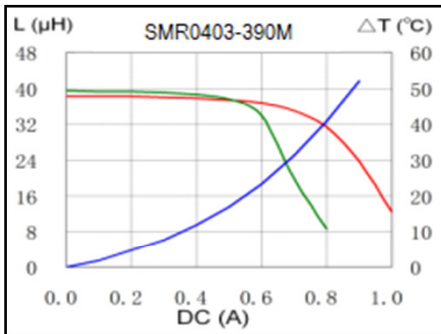
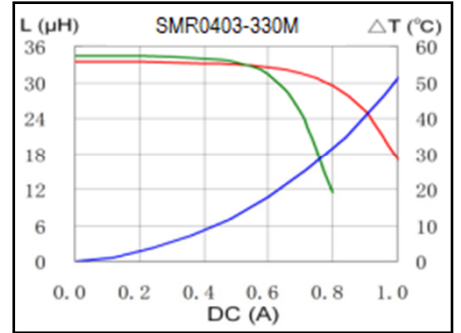
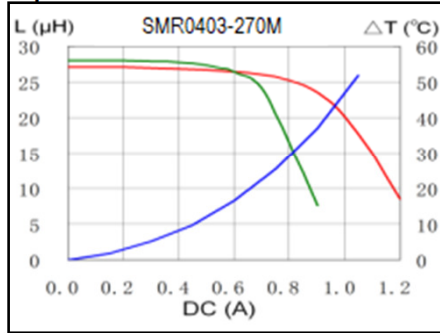
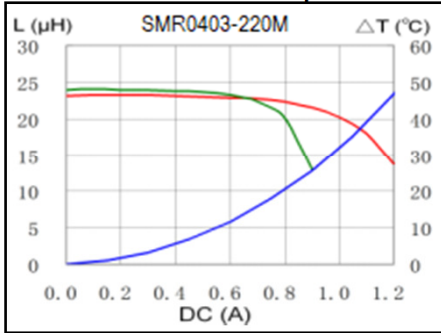
## SMD Power Inductors SMR0403 Series

Saturation Current & Temperature Rise Graph



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Saturation Current & Temperature Rise Graph

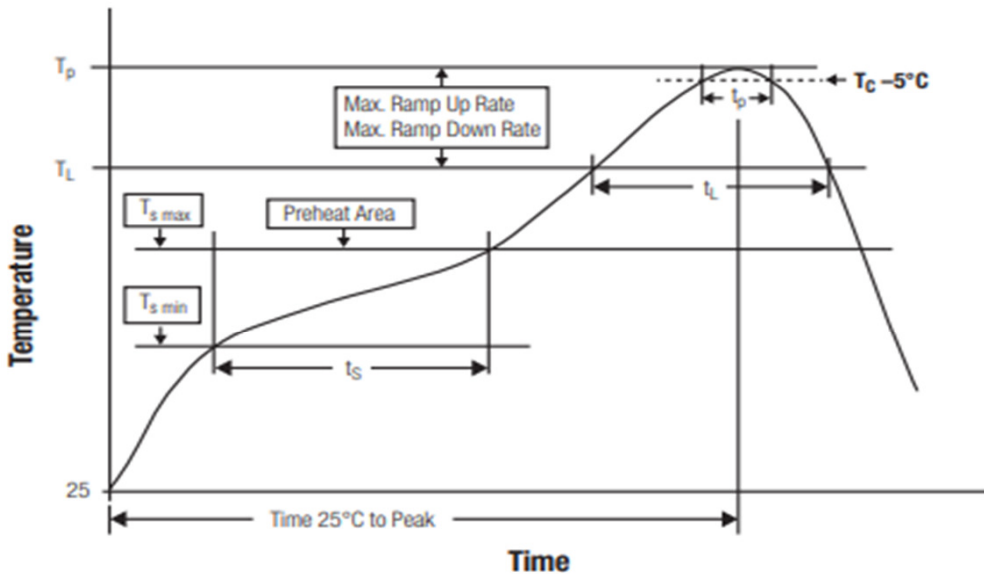


## SMD Power Inductors SMR0403 Series

### Reflow Profile for SMT Component

Profile Feature	Sn-Pb Eutectic Assembly	Pb-Free Assembly
Average Ramp-Up Rate ( $T_{s_{max}}$ to $T_p$ )	3°C/second max.	3°C/second max.
<b>Preheat</b> - Temperature Min ( $T_{s_{min}}$ ) - Temperature Max ( $T_{s_{max}}$ ) - Time ( $t_{s_{min}}$ to $t_{s_{max}}$ )	100°C 150°C 60 - 150 seconds	150°C 200°C 60 - 180 seconds
Time Maintained Above: - Temperature ( $T_L$ ) - Time ( $t_L$ )	183°C 60 - 150 seconds	217°C 60 - 150 seconds
Peak / Classification Temperature ( $T_p$ )	See Table 4.10	See Table 4.20
Ramp-Down Rate	6°C / second max.	6°C / second max.
Time 25°C to Peak Temperature	6 minutes max.	8 minutes max.

Not All temperature refer to topside of the package, measured on the package body surface



Package Thickness	Volume mm <sup>3</sup> <350	Volume mm <sup>3</sup> 350 - 2000	Volume mm <sup>3</sup> >2000
<1.60mm	260°C + 0°C	260°C + 0°C	260°C + 0°C
1.60mm - 2.50mm	260°C + 0°C	260°C + 0°C	260°C + 0°C
≥2.50mm	250°C + 0°C	245°C + 0°C	245°C + 0°C

\*Tolerance: The device manufacture/supplier shall assure process compatibility up to and including the stated classification temperature (This mean Peak Reflow Temperature +0°C. For example 260°C + 0°C) at the rated MSL level.