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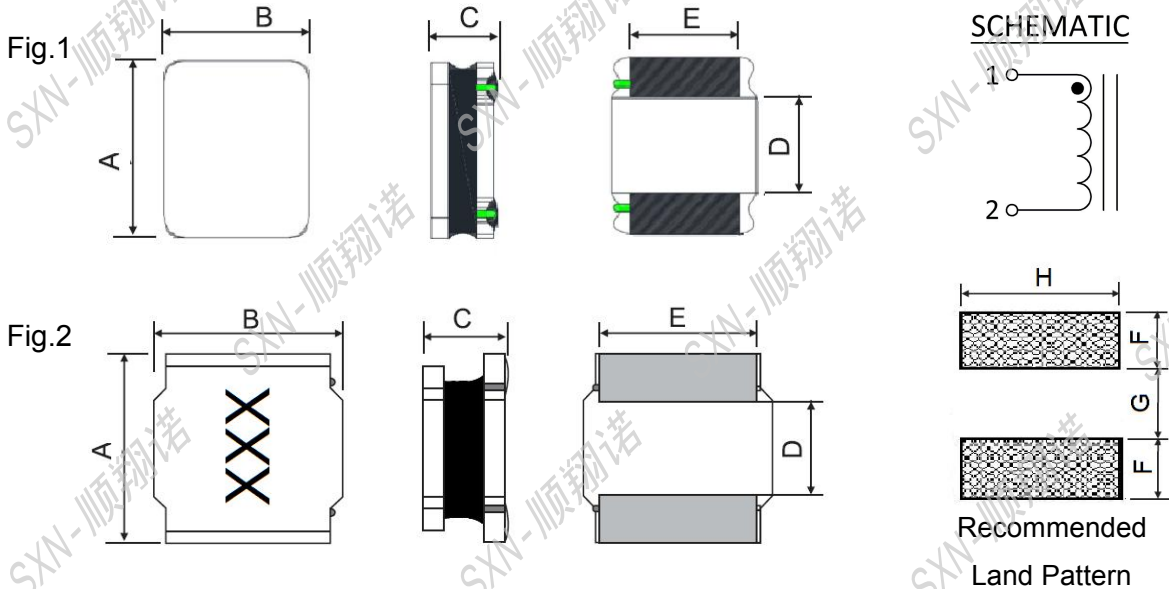
| |
|---------------------------|
| 公差 Inductance Tolerance |
| J: ±5%, K: ±10%, L: ±15% |
| M: ±20%, P: ±25%, N: ±30% |

⑤

| | |
|------------|-----------------|
| 包装 Packing | |
| B | 散装 Bulk Package |
| T | 编带 Tape & Reel |

◆外观尺寸:

Shape and Dimensions(dimensions are in mm):



| Part No | ITEM | | | | | | | | |
|------------|-------|---------|---------|----------|---------|---------|----------|---------|---------|
| | Shap | A | B | C | D | E | F | G | H |
| SMNR201610 | Fig.1 | 2.0±0.3 | 1.6±0.3 | 1.08 Max | 0.8±0.2 | 1.0±0.2 | 0.7 Typ | 0.7 Typ | 1.7 Typ |
| SMNR252012 | Fig.1 | 2.5±0.2 | 2.0±0.2 | 1.2 Max | 0.8±0.2 | 1.5±0.2 | 0.85 Typ | 0.8 Typ | 2.0 Typ |
| SMNR3010 | Fig.2 | 3.0±0.3 | 3.0±0.3 | 1.0 Max | 1.5±0.2 | 2.5±0.2 | 0.8 Typ | 1.5 Typ | 2.7 Typ |
| SMNR3012 | Fig.2 | 3.0±0.3 | 3.0±0.3 | 1.2 Max | 1.5±0.2 | 2.5±0.2 | 0.8 Typ | 1.5 Typ | 2.7 Typ |
| SMNR3015 | Fig.2 | 3.0±0.3 | 3.0±0.3 | 1.5 Max | 1.5±0.2 | 2.5±0.2 | 0.8 Typ | 1.5 Typ | 2.7 Typ |
| SMNR4010 | Fig.2 | 4.0±0.3 | 4.0±0.3 | 1.0 Max | 2.1±0.2 | 3.3±0.2 | 1.1 Typ | 1.9 Typ | 3.7 Typ |
| SMNR4012 | Fig.2 | 4.0±0.3 | 4.0±0.3 | 1.2 Max | 2.1±0.2 | 3.3±0.2 | 1.1 Typ | 1.9 Typ | 3.7 Typ |
| SMNR4018 | Fig.2 | 4.0±0.3 | 4.0±0.3 | 1.8 Max | 2.1±0.2 | 3.3±0.2 | 1.1 Typ | 1.9 Typ | 3.7 Typ |
| SMNR4020 | Fig.2 | 4.0±0.3 | 4.0±0.3 | 2.0 Max | 2.1±0.2 | 3.3±0.2 | 1.1 Typ | 1.9 Typ | 3.7 Typ |
| SMNR4030 | Fig.2 | 4.0±0.3 | 4.0±0.3 | 3.0 Max | 2.1±0.2 | 3.3±0.2 | 1.1 Typ | 1.9 Typ | 3.7 Typ |
| SMNR5020 | Fig.2 | 5.0±0.3 | 5.0±0.3 | 2.0 Max | 2.5±0.2 | 4.0±0.2 | 1.4 Typ | 2.3 Typ | 4.2 Typ |
| SMNR5030 | Fig.2 | 5.0±0.3 | 5.0±0.3 | 3.0 Max | 2.5±0.2 | 4.0±0.2 | 1.4 Typ | 2.3 Typ | 4.2 Typ |
| SMNR5040 | Fig.2 | 5.0±0.3 | 5.0±0.3 | 4.0 Max | 2.5±0.2 | 4.0±0.2 | 1.4 Typ | 2.3 Typ | 4.2 Typ |
| SMNR6020 | Fig.2 | 6.0±0.3 | 6.0±0.3 | 2.0 Max | 2.9±0.3 | 4.9±0.3 | 1.7 Typ | 2.8 Typ | 5.7 Typ |
| SMNR6028 | Fig.2 | 6.0±0.3 | 6.0±0.3 | 3.0 Max | 2.9±0.3 | 4.9±0.3 | 1.7 Typ | 2.8 Typ | 5.7 Typ |
| SMNR6045 | Fig.2 | 6.0±0.3 | 6.0±0.3 | 4.5 Max | 2.9±0.3 | 4.9±0.3 | 1.7 Typ | 2.8 Typ | 5.7 Typ |
| SMNR8040 | Fig.2 | 8.0±0.3 | 8.0±0.3 | 4.0 Max | 4.0±0.3 | 6.3±0.3 | 2.2 Typ | 3.8 Typ | 7.5 Typ |
| SMNR8060 | Fig.2 | 8.0±0.3 | 8.0±0.3 | 6.0 Max | 4.0±0.3 | 6.3±0.3 | 2.2 Typ | 3.8 Typ | 7.5 Typ |

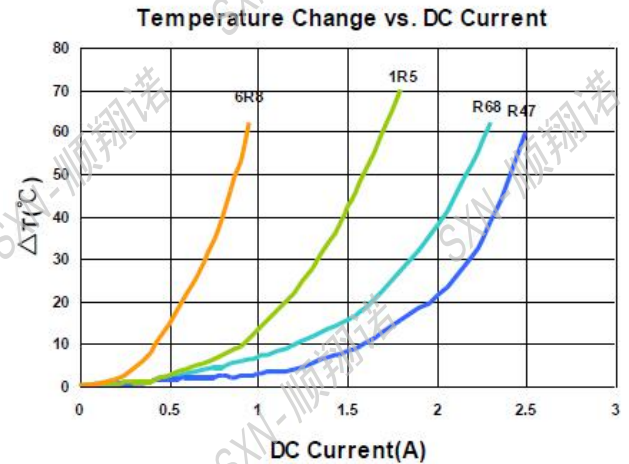
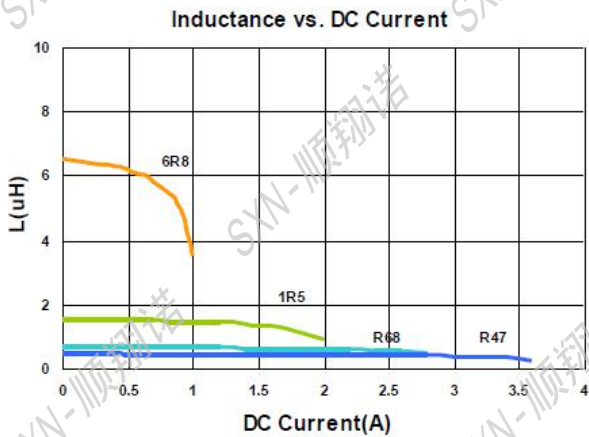
◆规格特性:

Specifications:

- SMNR201610 Series Electrical Characteristics (Electrical specifications at 25°C)

| Part No | Inductance 100KHz 0.25V | | DCR (Ω) | | Saturation Current | Temperature Rise Current |
|-------------------|----------------------------|------------|------------------|-------|-----------------------|-----------------------------|
| | L(μ H) '@0A | Tol | Typical | Max | (A) Max | (A) Max |
| SMNR201610 -R24MT | 0.24 | $\pm 20\%$ | 0.033 | 0.040 | 3.70 | 2.90 |
| SMNR201610 -R33MT | 0.33 | $\pm 20\%$ | 0.038 | 0.048 | 2.50 | 2.90 |
| SMNR201610 -R47MT | 0.47 | $\pm 20\%$ | 0.047 | 0.059 | 2.30 | 2.35 |
| SMNR201610 -R68MT | 0.68 | $\pm 20\%$ | 0.061 | 0.076 | 1.95 | 2.05 |
| SMNR201610 -1R0MT | 1.0 | $\pm 20\%$ | 0.091 | 0.114 | 1.65 | 1.45 |
| SMNR201610 -1R5MT | 1.5 | $\pm 20\%$ | 0.139 | 0.174 | 1.35 | 1.10 |
| SMNR201610 -2R2MT | 2.2 | $\pm 20\%$ | 0.211 | 0.264 | 1.20 | 1.10 |
| SMNR201610 -3R3MT | 3.3 | $\pm 20\%$ | 0.268 | 0.335 | 0.90 | 0.88 |
| SMNR201610 -4R7MT | 4.7 | $\pm 20\%$ | 0.383 | 0.479 | 0.74 | 0.70 |
| SMNR201610 -6R8MT | 6.8 | $\pm 20\%$ | 0.652 | 0.816 | 0.60 | 0.52 |
| SMNR201610 -100MT | 10.0 | $\pm 20\%$ | 0.816 | 1.020 | 0.50 | 0.45 |

- Saturation current VS temperature rise current curve

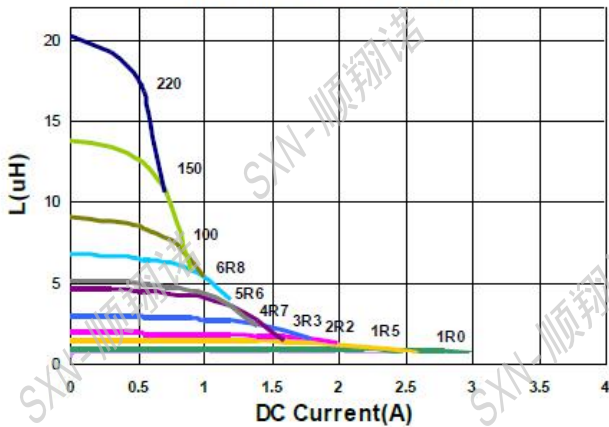


● SMNR252012 Series Electrical Characteristics (Electrical specifications at 25°C)

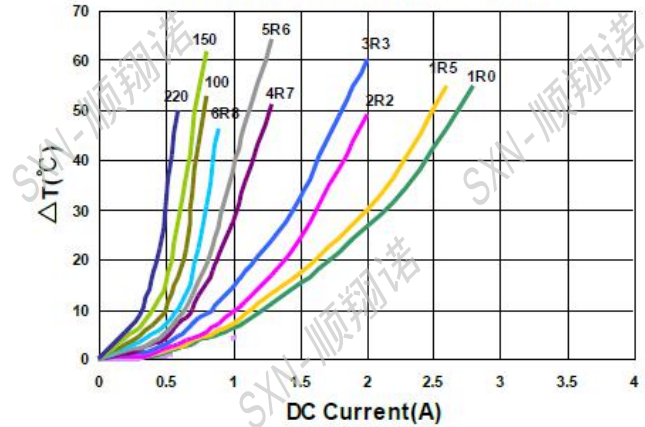
| Part No | Inductance 100KHz 0.25V | | DCR (Ω) | | Saturation Current | Temperature Rise Current |
|-------------------|----------------------------|------------|------------------|-------|-----------------------|-----------------------------|
| | L(μ H) '@0A | Tol | Typical | Max | (A) Max | (A) Max |
| SMNR252012 -R68NT | 0.68 | $\pm 30\%$ | 0.059 | 0.074 | 3.28 | 1.95 |
| SMNR252012 -1R0NT | 1.0 | $\pm 30\%$ | 0.072 | 0.090 | 2.59 | 1.93 |
| SMNR252012 -1R5MT | 1.5 | $\pm 20\%$ | 0.117 | 0.147 | 2.24 | 1.40 |
| SMNR252012 -2R2MT | 2.2 | $\pm 20\%$ | 0.173 | 0.216 | 1.85 | 1.15 |
| SMNR252012 -3R3MT | 3.3 | $\pm 20\%$ | 0.211 | 0.264 | 1.61 | 1.04 |
| SMNR252012 -4R7MT | 4.7 | $\pm 20\%$ | 0.302 | 0.377 | 1.12 | 0.84 |
| SMNR252012 -5R6MT | 5.6 | $\pm 20\%$ | 0.430 | 0.538 | 1.11 | 0.73 |
| SMNR252012 -6R8MT | 6.8 | $\pm 20\%$ | 0.464 | 0.581 | 0.98 | 0.69 |
| SMNR252012 -8R2MT | 8.2 | $\pm 20\%$ | 0.526 | 0.658 | 0.98 | 0.65 |
| SMNR252012 -100MT | 10 | $\pm 20\%$ | 0.552 | 0.690 | 0.79 | 0.62 |
| SMNR252012 -150MT | 15 | $\pm 20\%$ | 1.273 | 1.591 | 0.68 | 0.42 |
| SMNR252012 -220MT | 22 | $\pm 20\%$ | 1.459 | 1.824 | 0.53 | 0.38 |

● Saturation current VS temperature rise current curve

Inductance vs. DC Current



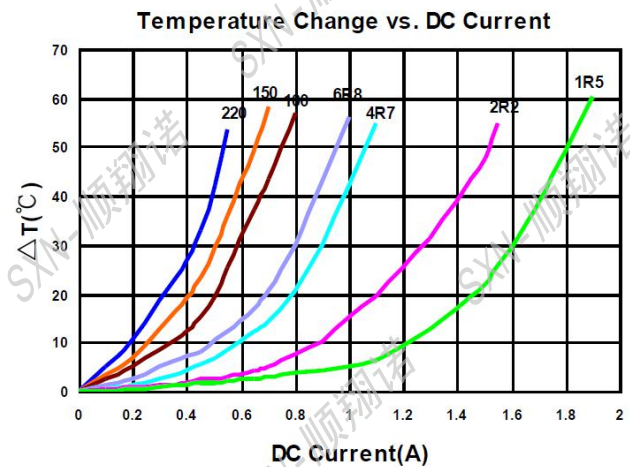
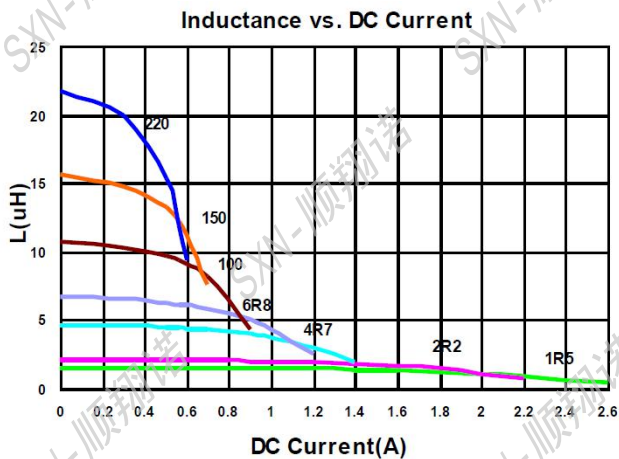
Temperature Change vs. DC Current



● SMNR3010 Series Electrical Characteristics (Electrical specifications at 25 °C)

| Part No | Inductance 100KHz 1.0V | | DCR (Ω) | | Saturation Current | Temperature Rise Current |
|----------------|---------------------------|------|---------|-------|-----------------------|-----------------------------|
| | L(μH) @0A | Tol | Typical | Max | (A) Max | (A) Max |
| SMNR3010 -1R0M | 1.0 | ±20% | 0.065 | 0.085 | 1.40 | 1.45 |
| SMNR3010 -1R5M | 1.5 | ±20% | 0.085 | 0.104 | 1.27 | 1.30 |
| SMNR3010 -2R2M | 2.2 | ±20% | 0.110 | 0.143 | 1.15 | 1.09 |
| SMNR3010 -3R3M | 3.3 | ±20% | 0.150 | 0.189 | 0.97 | 0.96 |
| SMNR3010 -4R7M | 4.7 | ±20% | 0.230 | 0.290 | 0.75 | 0.77 |
| SMNR3010 -6R8M | 6.8 | ±20% | 0.305 | 0.340 | 0.55 | 0.66 |
| SMNR3010 -100M | 10 | ±20% | 0.400 | 0.520 | 0.55 | 0.58 |
| SMNR3010 -150M | 15 | ±20% | 0.610 | 0.800 | 0.42 | 0.47 |
| SMNR3010 -220M | 22 | ±20% | 0.930 | 1.209 | 0.35 | 0.38 |
| SMNR3010 -330M | 33 | ±20% | 1.550 | 2.020 | 0.29 | 0.30 |
| SMNR3010 -470M | 47 | ±20% | 2.000 | 2.535 | 0.22 | 0.26 |

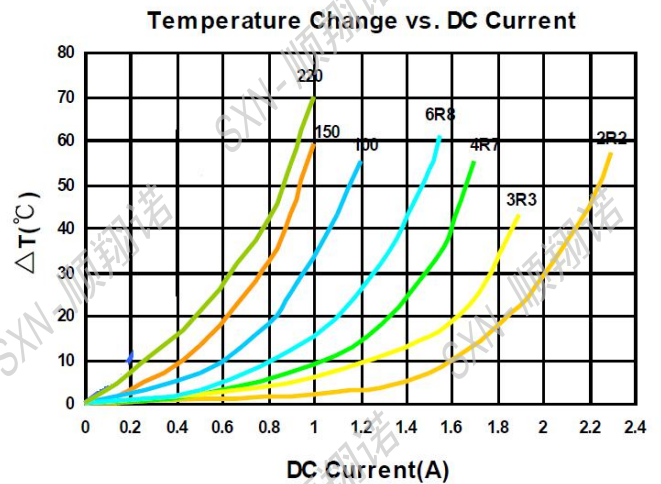
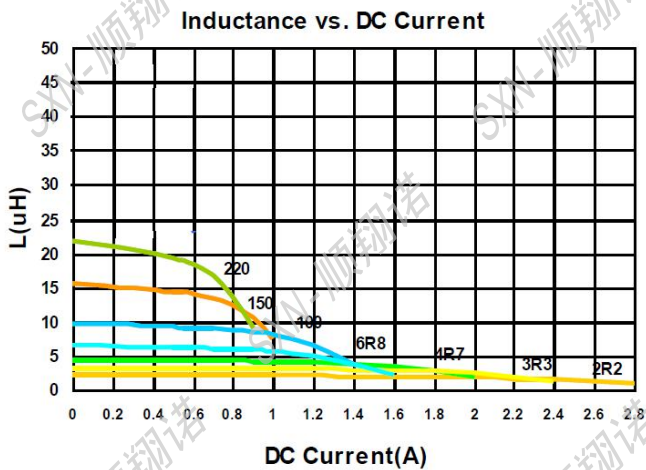
● Saturation current VS temperature rise current curve



● SMNR3012 Series Electrical Characteristics (Electrical specifications at 25 °C)

| Part No | Inductance 100KHz 1.0V | | DCR (Ω) | | Saturation Current | Temperature Rise Current |
|----------------|---------------------------|------|---------|-------|-----------------------|-----------------------------|
| | L(μH) @0A | Tol | Typical | Max | (A) Max | (A) Max |
| SMNR3012 -R24M | 0.24 | ±20% | 0.020 | 0.029 | 4.00 | 3.00 |
| SMNR3012 -1R0M | 1.0 | ±20% | 0.040 | 0.052 | 1.87 | 2.20 |
| SMNR3012 -1R5M | 1.5 | ±20% | 0.045 | 0.060 | 1.62 | 2.00 |
| SMNR3012 -2R2M | 2.2 | ±20% | 0.070 | 0.080 | 1.20 | 1.55 |
| SMNR3012 -3R3M | 3.3 | ±20% | 0.100 | 0.130 | 1.05 | 1.36 |
| SMNR3012 -4R7M | 4.7 | ±20% | 0.120 | 0.156 | 0.90 | 1.24 |
| SMNR3012 -6R8M | 6.8 | ±20% | 0.190 | 0.247 | 0.75 | 0.98 |
| SMNR3012 -100M | 10 | ±20% | 0.265 | 0.345 | 0.60 | 0.83 |
| SMNR3012 -150M | 15 | ±20% | 0.360 | 0.468 | 0.45 | 0.71 |
| SMNR3012 -220M | 22 | ±20% | 0.645 | 0.839 | 0.42 | 0.47 |

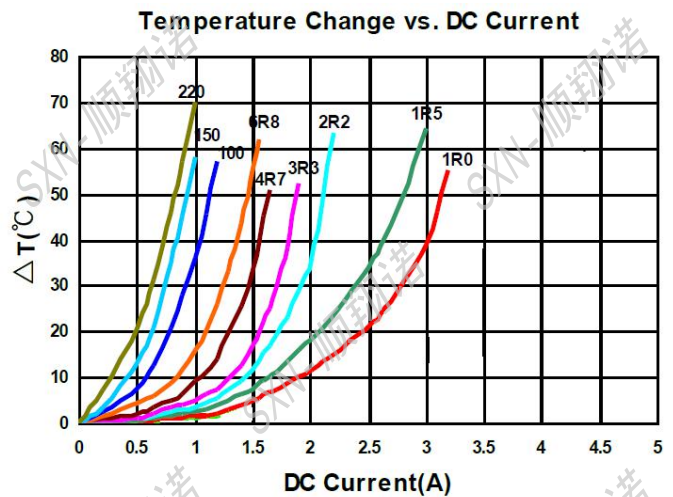
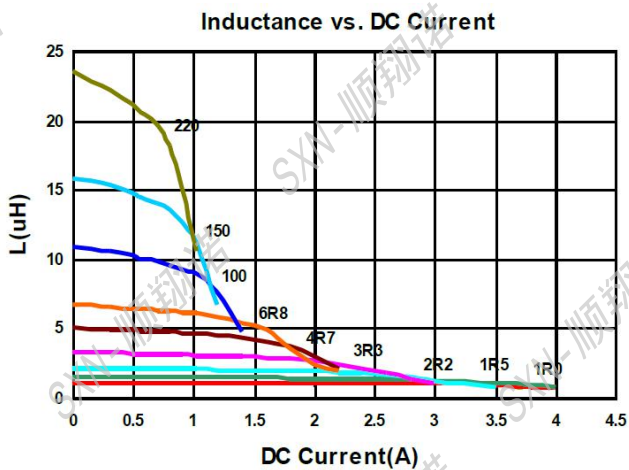
● Saturation current VS temperature rise current curve



• SMNR3015 Series Electrical Characteristics (Electrical specifications at 25 °C)

| Part No | Inductance 100KHz 1.0V | | DCR (Ω) | | Saturation Current | Temperature Rise Current |
|----------------|---------------------------|------|---------|-------|-----------------------|-----------------------------|
| | L(μH) @0A | Tol | Typical | Max | (A) Max | (A) Max |
| SMNR3015 -R47M | 0.47 | ±20% | 0.024 | 0.035 | 2.50 | 2.60 |
| SMNR3015 -1R0M | 1.0 | ±20% | 0.030 | 0.039 | 2.32 | 2.35 |
| SMNR3015 -1R5M | 1.5 | ±20% | 0.050 | 0.065 | 2.30 | 1.70 |
| SMNR3015 -1R8M | 1.8 | ±20% | 0.050 | 0.065 | 1.75 | 1.70 |
| SMNR3015 -2R2M | 2.2 | ±20% | 0.060 | 0.078 | 1.60 | 1.60 |
| SMNR3015 -3R3M | 3.3 | ±20% | 0.080 | 0.104 | 1.32 | 1.36 |
| SMNR3015 -4R7M | 4.7 | ±20% | 0.125 | 0.165 | 1.10 | 1.09 |
| SMNR3015 -6R8M | 6.8 | ±20% | 0.200 | 0.260 | 0.85 | 0.85 |
| SMNR3015 -100M | 10 | ±20% | 0.250 | 0.325 | 0.72 | 0.77 |
| SMNR3015 -150M | 15 | ±20% | 0.350 | 0.455 | 0.66 | 0.65 |
| SMNR3015 -220M | 22 | ±20% | 0.460 | 0.598 | 0.52 | 0.57 |
| SMNR3015 -330M | 33 | ±20% | 0.820 | 1.066 | 0.44 | 0.43 |
| SMNR3015 -470M | 47 | ±20% | 1.250 | 1.625 | 0.35 | 0.35 |

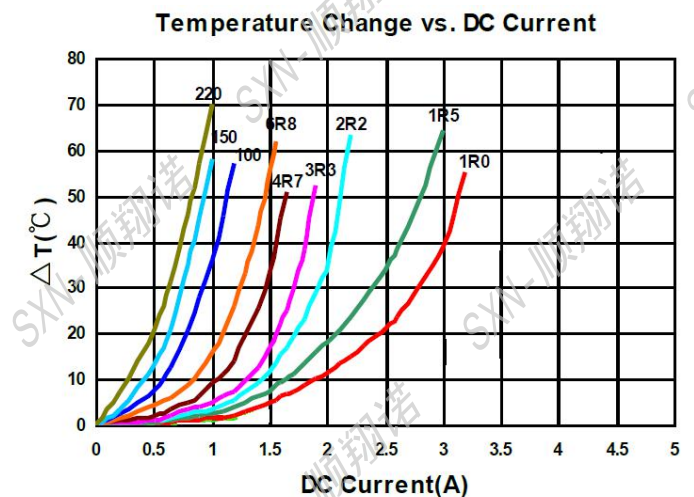
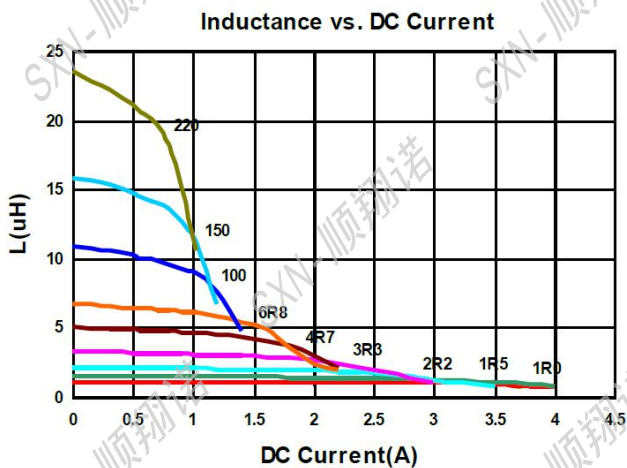
• Saturation current VS temperature rise current curve



● SMNR4010 Series Electrical Characteristics (Electrical specifications at 25 °C)

| Part No | Inductance 100KHz 1.0V | | DCR (Ω) | | Saturation Current | Temperature Rise Current |
|----------------|---------------------------|------|---------|-------|-----------------------|-----------------------------|
| | L(μH) @0A | Tol | Typical | Max | (A) Max | (A) Max |
| SMNR4010 -1R0M | 1.0 | ±20% | 0.056 | 0.070 | 2.00 | 1.90 |
| SMNR4010 -2R2M | 2.2 | ±20% | 0.085 | 0.105 | 1.20 | 1.50 |
| SMNR4010 -3R3M | 3.3 | ±20% | 0.105 | 0.125 | 1.10 | 1.40 |
| SMNR4010 -4R7M | 4.7 | ±20% | 0.185 | 0.260 | 0.95 | 1.20 |
| SMNR4010 -6R8M | 6.8 | ±20% | 0.189 | 0.270 | 0.80 | 1.00 |
| SMNR4010 -100M | 10 | ±20% | 0.266 | 0.380 | 0.62 | 0.75 |
| SMNR4010 -150M | 15 | ±20% | 0.385 | 0.550 | 0.54 | 0.60 |
| SMNR4010 -220M | 22 | ±20% | 0.490 | 0.700 | 0.45 | 0.50 |
| SMNR4010 -330M | 33 | ±20% | 0.546 | 0.780 | 0.28 | 0.32 |
| SMNR4010 -470M | 47 | ±20% | 0.693 | 0.990 | 0.16 | 0.20 |

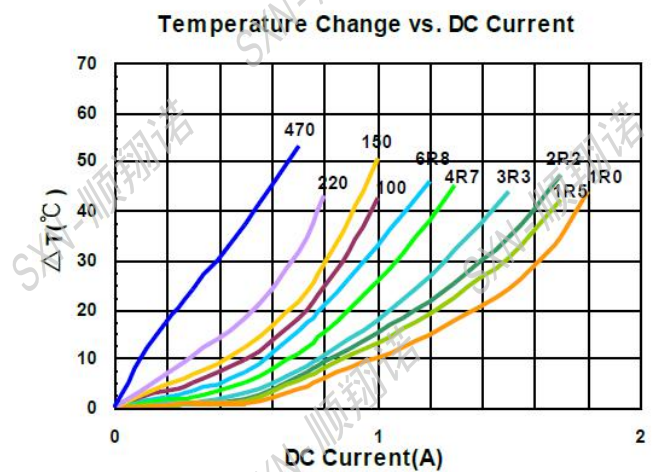
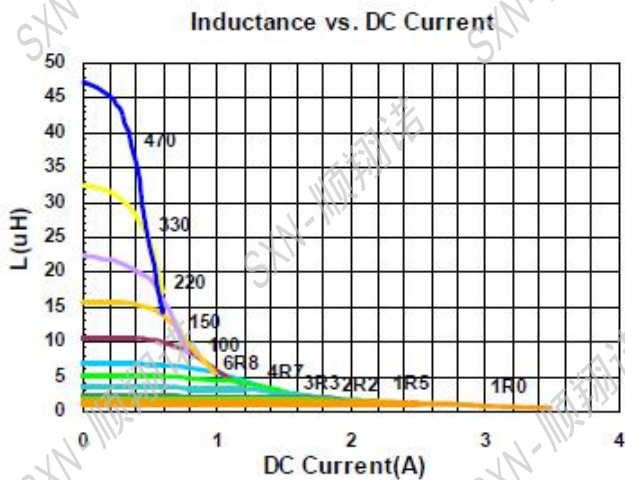
● Saturation current VS temperature rise current curve



• SMNR4012 Series Electrical Characteristics (Electrical specifications at 25 °C)

| Part No | Inductance 100KHz 1.0V | | DCR (Ω) | | Saturation Current | Temperature Rise Current |
|----------------|---------------------------|------------|------------------|-------|-----------------------|-----------------------------|
| | L(μ H) @0A | Tol | Typical | Max | (A) Max | (A) Max |
| SMNR4012 -1R0M | 1.0 | $\pm 20\%$ | 0.050 | 0.065 | 2.61 | 1.65 |
| SMNR4012 -1R5M | 1.5 | $\pm 20\%$ | 0.065 | 0.094 | 2.50 | 1.46 |
| SMNR4012 -2R2M | 2.2 | $\pm 20\%$ | 0.080 | 0.104 | 1.76 | 1.32 |
| SMNR4012 -3R3M | 3.3 | $\pm 20\%$ | 0.110 | 0.143 | 1.72 | 1.12 |
| SMNR4012 -4R7M | 4.7 | $\pm 20\%$ | 0.125 | 0.163 | 1.15 | 1.05 |
| SMNR4012 -6R8M | 6.8 | $\pm 20\%$ | 0.198 | 0.257 | 0.85 | 0.84 |
| SMNR4012 -100M | 10 | $\pm 20\%$ | 0.265 | 0.345 | 0.80 | 0.77 |
| SMNR4012 -150M | 15 | $\pm 20\%$ | 0.340 | 0.442 | 0.56 | 0.64 |
| SMNR4012 -220M | 22 | $\pm 20\%$ | 0.587 | 0.763 | 0.46 | 0.49 |
| SMNR4012 -330M | 33 | $\pm 20\%$ | 0.810 | 1.053 | 0.42 | 0.42 |
| SMNR4012 -470M | 47 | $\pm 20\%$ | 1.100 | 1.430 | 0.35 | 0.37 |

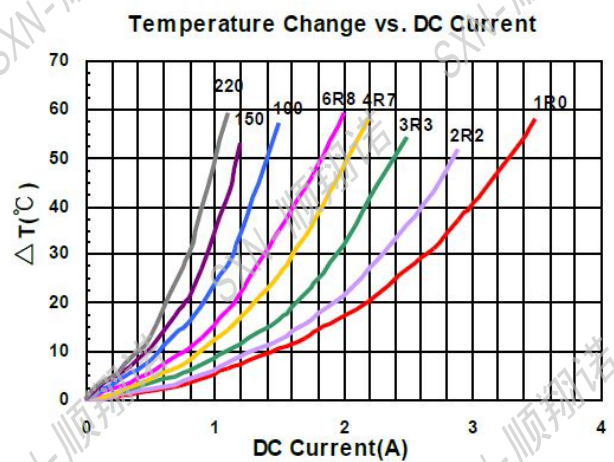
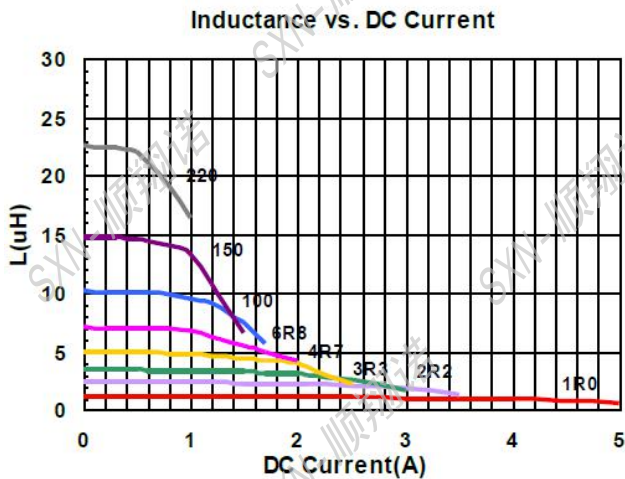
• Saturation current VS temperature rise current curve



● SMNR4018 Series Electrical Characteristics (Electrical specifications at 25 °C)

| Part No | Inductance 100KHz 1.0V | | DCR (Ω) | | Saturation Current | Temperature Rise Current |
|----------------|---------------------------|------|---------|-------|-----------------------|-----------------------------|
| | L(μH) @0A | Tol | Typical | Max | (A) Max | (A) Max |
| SMNR4018 -R24M | 0.24 | ±20% | 0.0140 | 0.018 | 4.30 | 4.00 |
| SMNR4018 -1R0M | 1.0 | ±20% | 0.025 | 0.033 | 4.80 | 2.00 |
| SMNR4018 -1R5M | 1.5 | ±20% | 0.030 | 0.039 | 3.35 | 1.80 |
| SMNR4018 -2R2M | 2.2 | ±20% | 0.34 | 0.550 | 2.70 | 1.65 |
| SMNR4018 -3R3M | 3.3 | ±20% | 0.070 | 0.091 | 2.45 | 1.23 |
| SMNR4018 -4R7M | 4.7 | ±20% | 0.090 | 0.115 | 1.70 | 1.20 |
| SMNR4018 -6R8M | 6.8 | ±20% | 0.110 | 0.140 | 1.45 | 1.06 |
| SMNR4018 -100M | 10 | ±20% | 0.180 | 0.230 | 1.30 | 0.84 |
| SMNR4018 -150M | 15 | ±20% | 0.250 | 0.320 | 0.94 | 0.65 |
| SMNR4018 -220M | 22 | ±20% | 0.360 | 0.450 | 0.80 | 0.59 |
| SMNR4018 -330M | 33 | ±20% | 0.530 | 0.689 | 0.56 | 0.49 |
| SMNR4018 -470M | 47 | ±20% | 0.650 | 0.845 | 0.57 | 0.42 |
| SMNR4018 -680M | 68 | ±20% | 1.000 | 1.300 | 0.47 | 0.32 |
| SMNR4018 -101M | 100 | ±20% | 1.750 | 2.200 | 0.40 | 0.25 |
| SMNR4018 -151M | 150 | ±20% | 2.500 | 3.000 | 0.31 | 0.22 |

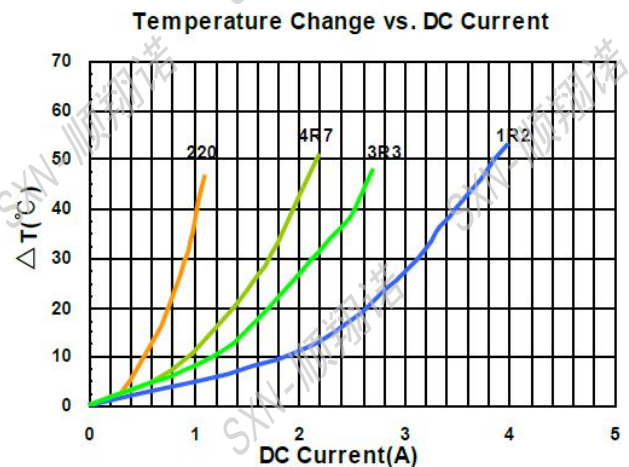
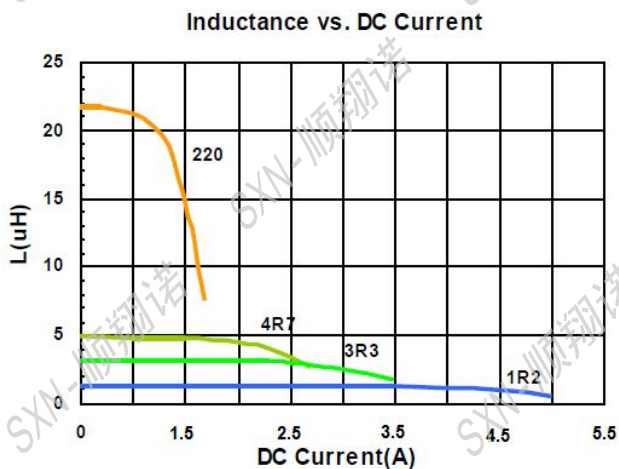
● Saturation current VS temperature rise current curve



● SMNR4020 Series Electrical Characteristics (Electrical specifications at 25 °C)

| Part No | Inductance 100KHz 1.0V | | DCR (Ω) | | Saturation Current | Temperature Rise Current |
|----------------|---------------------------|------|---------|-------|-----------------------|-----------------------------|
| | L(μH) '@0A | Tol | Typical | Max | (A) Max | (A) Max |
| SMNR4020 -R47M | 0.47 | ±20% | 0.022 | 0.029 | 7.00 | 3.30 |
| SMNR4020 -1R0M | 1.0 | ±20% | 0.029 | 0.038 | 4.78 | 2.15 |
| SMNR4020 -1R5M | 1.5 | ±20% | 0.035 | 0.045 | 4.45 | 2.15 |
| SMNR4020 -2R2M | 2.2 | ±20% | 0.035 | 0.046 | 3.40 | 1.85 |
| SMNR4020 -3R3M | 3.3 | ±20% | 0.070 | 0.091 | 3.20 | 1.40 |
| SMNR4020 -4R7M | 4.7 | ±20% | 0.075 | 0.098 | 2.35 | 1.34 |
| SMNR4020 -6R8M | 6.8 | ±20% | 0.125 | 0.163 | 2.20 | 1.04 |
| SMNR4020 -8R2M | 8.2 | ±20% | 0.148 | 0.185 | 1.75 | 1.00 |
| SMNR4020 -100M | 10 | ±20% | 0.165 | 0.215 | 1.60 | 0.90 |
| SMNR4020 -150M | 15 | ±20% | 0.230 | 0.300 | 1.35 | 0.77 |
| SMNR4020 -220M | 22 | ±20% | 0.350 | 0.455 | 1.05 | 0.62 |
| SMNR4020 -330M | 33 | ±20% | 0.550 | 0.710 | 0.85 | 0.49 |
| SMNR4020 -470M | 47 | ±20% | 0.710 | 0.920 | 0.74 | 0.44 |
| SMNR4020 -680M | 68 | ±20% | 1.060 | 1.380 | 0.60 | 0.36 |

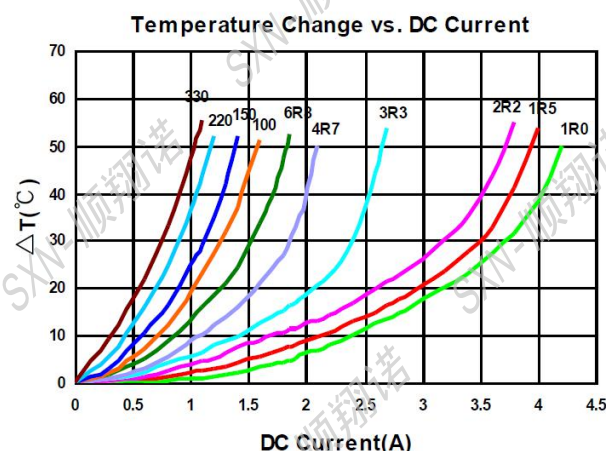
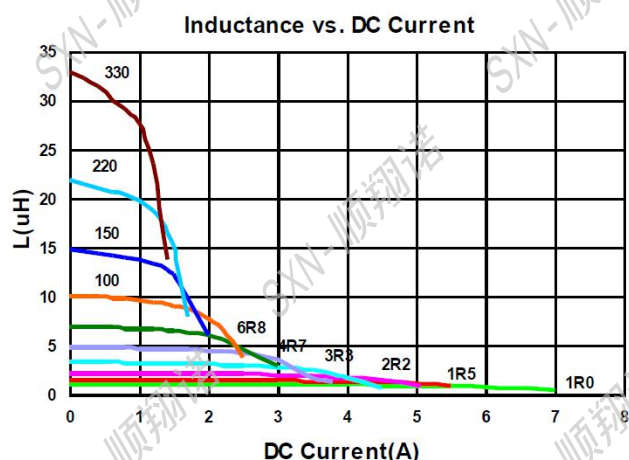
● Saturation current VS temperature rise current curve



● SMNR4030 Series Electrical Characteristics (Electrical specifications at 25 °C)

| Part No | Inductance 100KHz 1.0V | | DCR (Ω) | | Saturation Current | Temperature Rise Current |
|----------------|---------------------------|------|---------|-------|-----------------------|-----------------------------|
| | L(μH) @0A | Tol | Typical | Max | (A) Max | (A) Max |
| SMNR4030 -1R0M | 1.0 | ±20% | 0.014 | 0.018 | 5.26 | 4.15 |
| SMNR4030 -1R2M | 1.2 | ±20% | 0.015 | 0.020 | 5.26 | 3.82 |
| SMNR4030 -1R5M | 1.5 | ±20% | 0.020 | 0.026 | 4.84 | 3.34 |
| SMNR4030 -1R8M | 1.8 | ±20% | 0.025 | 0.033 | 4.84 | 3.20 |
| SMNR4030 -2R2M | 2.2 | ±20% | 0.030 | 0.039 | 4.40 | 2.95 |
| SMNR4030 -3R3M | 3.3 | ±20% | 0.040 | 0.050 | 3.30 | 2.40 |
| SMNR4030 -4R7M | 4.7 | ±20% | 0.060 | 0.076 | 2.90 | 2.00 |
| SMNR4030 -6R8M | 6.8 | ±20% | 0.090 | 0.115 | 2.75 | 1.60 |
| SMNR4030 -8R2M | 8.2 | ±20% | 0.095 | 0.122 | 2.10 | 1.60 |
| SMNR4030 -100M | 10 | ±20% | 0.100 | 0.130 | 1.95 | 1.50 |
| SMNR4030 -120M | 12 | ±20% | 0.135 | 0.172 | 1.70 | 1.30 |
| SMNR4030 -150M | 15 | ±20% | 0.190 | 0.230 | 1.65 | 1.11 |
| SMNR4030 -220M | 22 | ±20% | 0.225 | 0.290 | 1.30 | 1.00 |
| SMNR4030 -330M | 33 | ±20% | 0.330 | 0.420 | 1.10 | 0.84 |
| SMNR4030 -470M | 47 | ±20% | 0.445 | 0.570 | 0.95 | 0.72 |
| SMNR4030 -680M | 68 | ±20% | 0.868 | 1.100 | 0.72 | 0.52 |
| SMNR4030 -820M | 82 | ±20% | 1.060 | 1.280 | 0.66 | 0.47 |
| SMNR4030 -101M | 100 | ±20% | 1.150 | 1.480 | 0.60 | 0.45 |
| SMNR4030 -121M | 120 | ±20% | 1.350 | 1.700 | 0.55 | 0.42 |

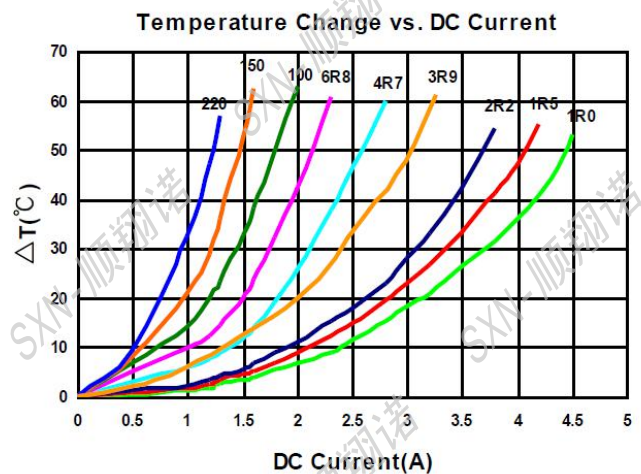
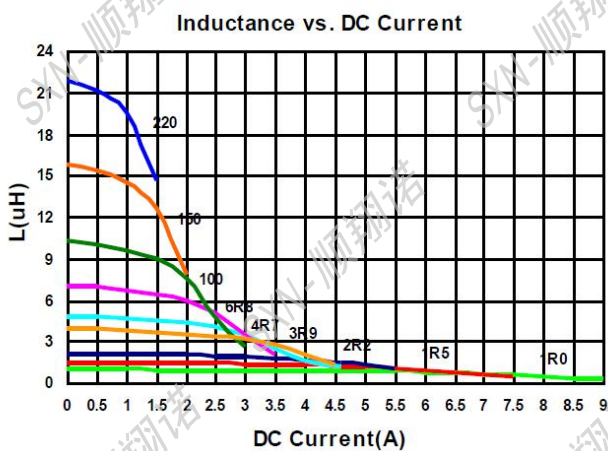
● Saturation current VS temperature rise current curve



● SMNR5020 Series Electrical Characteristics (Electrical specifications at 25 °C)

| Part No | Inductance 100KHz 1.0V | | DCR (Ω) | | Saturation Current | Temperature Rise Current |
|----------------|---------------------------|------|---------|-------|-----------------------|-----------------------------|
| | L(μH) @0A | Tol | Typical | Max | (A) Max | (A) Max |
| SMNR5020 -R47M | 0.47 | ±20% | 0.017 | 0.021 | 4.50 | 4.60 |
| SMNR5020 -1R0M | 1.0 | ±20% | 0.020 | 0.025 | 4.10 | 3.80 |
| SMNR5020 -1R5M | 1.5 | ±20% | 0.026 | 0.032 | 3.80 | 3.20 |
| SMNR5020 -2R2M | 2.2 | ±20% | 0.032 | 0.040 | 3.20 | 2.90 |
| SMNR5020 -3R3M | 3.3 | ±20% | 0.043 | 0.054 | 2.55 | 2.50 |
| SMNR5020 -3R9M | 3.9 | ±20% | 0.043 | 0.054 | 2.30 | 2.50 |
| SMNR5020 -4R7M | 4.7 | ±20% | 0.057 | 0.074 | 2.40 | 2.20 |
| SMNR5020 -6R8M | 6.8 | ±20% | 0.083 | 0.107 | 2.05 | 1.80 |
| SMNR5020 -8R2M | 8.2 | ±20% | 0.098 | 0.125 | 1.85 | 1.65 |
| SMNR5020 -100M | 10 | ±20% | 0.110 | 0.140 | 1.70 | 1.55 |
| SMNR5020 -120M | 12 | ±20% | 0.140 | 0.180 | 1.50 | 1.40 |
| SMNR5020 -150M | 15 | ±20% | 0.165 | 0.210 | 1.35 | 1.25 |
| SMNR5020 -220M | 22 | ±20% | 0.226 | 0.290 | 1.15 | 1.10 |
| SMNR5020 -330M | 33 | ±20% | 0.390 | 0.500 | 0.95 | 0.90 |
| SMNR5020 -470M | 47 | ±20% | 0.523 | 0.670 | 0.77 | 0.77 |
| SMNR5020 -680M | 68 | ±20% | 0.740 | 1.050 | 0.72 | 0.64 |
| SMNR5020 -820M | 82 | ±20% | 1.000 | 1.280 | 0.66 | 0.50 |
| SMNR5020 -101M | 100 | ±20% | 1.100 | 1.480 | 0.57 | 0.53 |
| SMNR5020 -121M | 120 | ±20% | 1.350 | 1.700 | 0.49 | 0.40 |

● Saturation current VS temperature rise current curve



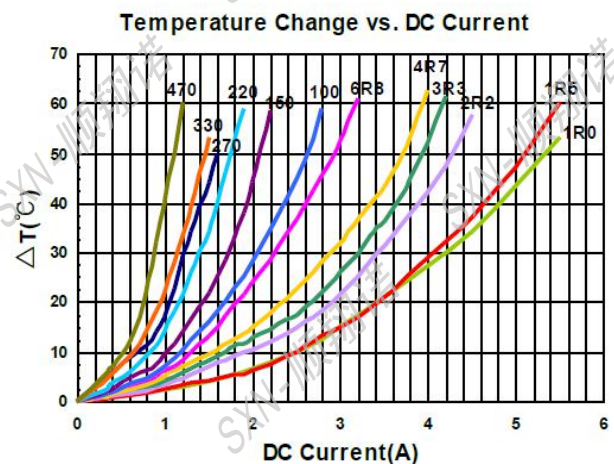
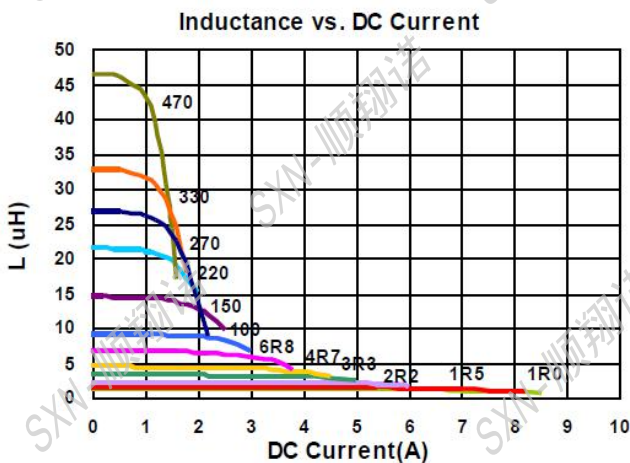
● SMNR5030 Series Electrical Characteristics (Electrical specifications at 25 °C)

| Part No | Inductance 100KHz 0.25V | | DCR (Ω) | | Saturation Current | Temperature Rise Current |
|----------------|----------------------------|------------|------------------|--------|-----------------------|-----------------------------|
| | L(μ H) @0A | Tol | Typical | Max | (A) Max | (A) Max |
| SMNR5030 -1R0M | 1.0 | $\pm 20\%$ | 0.016 | 0.020 | 7.00 | 4.00 |
| SMNR5030 -1R5N | 1.5 | $\pm 30\%$ | 0.019 | 0.024 | 5.50 | 3.60 |
| SMNR5030 -2R2N | 2.2 | $\pm 30\%$ | 0.025 | 0.031 | 4.50 | 3.20 |
| SMNR5030 -3R3N | 3.3 | $\pm 30\%$ | 0.032 | 0.039 | 4.00 | 2.80 |
| SMNR5030 -4R7M | 4.7 | $\pm 20\%$ | 0.052 | 0.065 | 3.00 | 2.20 |
| SMNR5030 -5R6N | 5.6 | $\pm 30\%$ | 0.056 | 0.070 | 3.00 | 2.10 |
| SMNR5030 -6R8M | 6.8 | $\pm 20\%$ | 0.060 | 0.075 | 2.80 | 2.00 |
| SMNR5030 -100M | 10 | $\pm 20\%$ | 0.080 | 0.100 | 2.10 | 1.80 |
| SMNR5030 -150M | 15 | $\pm 20\%$ | 0.125 | 0.156 | 1.70 | 1.40 |
| SMNR5030 -220M | 22 | $\pm 20\%$ | 0.210 | 0.260 | 1.60 | 1.10 |
| SMNR5030 -330M | 33 | $\pm 20\%$ | 0.330 | 0.410 | 1.20 | 0.85 |
| SMNR5030 -470M | 47 | $\pm 20\%$ | 0.375 | 0.468 | 0.90 | 0.80 |
| SMNR5030 -101M | 100 | $\pm 20\%$ | 0.800 | 0.988 | 0.75 | 0.56 |
| SMNR5030 -151M | 150 | $\pm 20\%$ | 1.180 | 1.470 | 0.55 | 0.46 |
| SMNR5030 -221M | 220 | $\pm 20\%$ | 1.700 | 2.080 | 0.45 | 0.39 |
| SMNR5030 -331M | 330 | $\pm 20\%$ | 2.800 | 3.500 | 0.35 | 0.30 |
| SMNR5030 -471M | 470 | $\pm 20\%$ | 3.800 | 4.700 | 0.30 | 0.26 |
| SMNR5030 -102M | 1000 | $\pm 20\%$ | 8.700 | 10.800 | 0.20 | 0.17 |

● SMNR5040 Series Electrical Characteristics (Electrical specifications at 25 °C)

| Part No | Inductance 100KHz 1.0V | | DCR (Ω) | | Saturation Current | Temperature Rise Current |
|----------------|---------------------------|------|---------|-------|-----------------------|-----------------------------|
| | L(μH) '@0A | Tol | Typical | Max | (A) Max | (A) Max |
| SMNR5040 -1R0M | 1.0 | ±20% | 0.012 | 0.018 | 7.35 | 4.90 |
| SMNR5040 -1R2M | 1.2 | ±20% | 0.016 | 0.021 | 6.50 | 4.30 |
| SMNR5040 -1R5M | 1.5 | ±20% | 0.015 | 0.020 | 6.30 | 4.30 |
| SMNR5040 -2R2M | 2.2 | ±20% | 0.019 | 0.025 | 4.90 | 3.80 |
| SMNR5040 -3R3M | 3.3 | ±20% | 0.024 | 0.031 | 3.95 | 3.40 |
| SMNR5040 -4R7M | 4.7 | ±20% | 0.030 | 0.039 | 3.50 | 3.00 |
| SMNR5040 -6R8M | 6.8 | ±20% | 0.043 | 0.056 | 2.90 | 2.50 |
| SMNR5040 -8R2M | 8.2 | ±20% | 0.050 | 0.070 | 2.70 | 2.30 |
| SMNR5040 -100M | 10 | ±20% | 0.064 | 0.082 | 2.35 | 2.10 |
| SMNR5040 -120M | 12 | ±20% | 0.077 | 0.102 | 2.20 | 2.00 |
| SMNR5040 -150M | 15 | ±20% | 0.086 | 0.115 | 2.00 | 2.00 |
| SMNR5040 -220M | 22 | ±20% | 0.129 | 0.167 | 1.60 | 1.50 |
| SMNR5040 -330M | 33 | ±20% | 0.188 | 0.244 | 1.30 | 1.20 |
| SMNR5040 -470M | 47 | ±20% | 0.272 | 0.353 | 1.10 | 1.00 |
| SMNR5040 -680M | 68 | ±20% | 0.400 | 0.520 | 0.90 | 0.80 |
| SMNR5040 -820M | 82 | ±20% | 0.560 | 0.660 | 0.80 | 0.75 |
| SMNR5040 -101M | 100 | ±20% | 0.509 | 0.728 | 0.75 | 0.70 |
| SMNR5040 -121M | 120 | ±20% | 0.665 | 0.864 | 0.70 | 0.65 |
| SMNR5040 -151M | 150 | ±20% | 0.750 | 0.975 | 0.65 | 0.60 |
| SMNR5040 -221M | 220 | ±20% | 1.400 | 1.820 | 0.48 | 0.40 |
| SMNR5040 -331M | 330 | ±20% | 2.000 | 2.730 | 0.42 | 0.40 |
| SMNR5040 -471M | 470 | ±20% | 3.000 | 3.900 | 0.37 | 0.35 |
| SMNR5040 -681M | 680 | ±20% | 3.900 | 5.070 | 0.30 | 0.25 |
| SMNR5040 -102M | 1000 | ±20% | 6.000 | 7.800 | 0.21 | 0.23 |

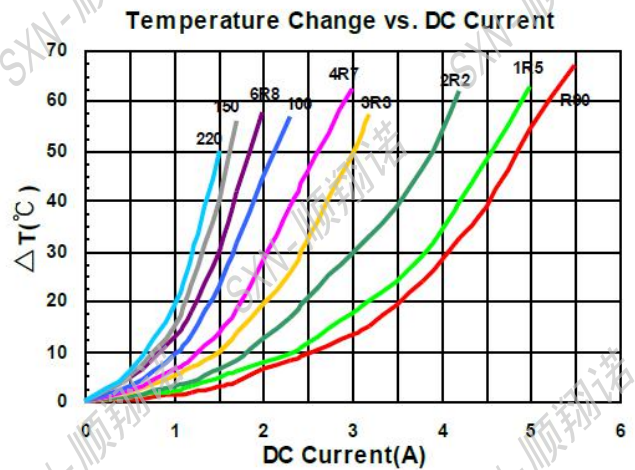
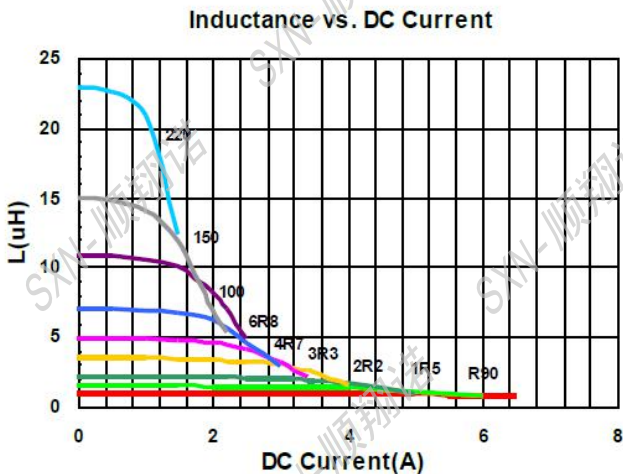
● Saturation current VS temperature rise current curve



● SMNR6020 Series Electrical Characteristics (Electrical specifications at 25 °C)

| Part No | Inductance 100KHz 1.0V | | DCR (Ω) | | Saturation Current | Temperature Rise Current |
|----------------|---------------------------|------|---------|-------|-----------------------|-----------------------------|
| | L(μH) @0A | Tol | Typical | Max | (A) Max | (A) Max |
| SMNR6020 -R68M | 0.68 | ±20% | 0.017 | 0.022 | 6.55 | 3.80 |
| SMNR6020 -R82M | 0.82 | ±20% | 0.017 | 0.023 | 5.30 | 3.80 |
| SMNR6020 -1R0M | 1.0 | ±20% | 0.018 | 0.026 | 4.15 | 3.50 |
| SMNR6020 -1R5M | 1.5 | ±20% | 0.022 | 0.028 | 4.10 | 3.20 |
| SMNR6020 -1R8M | 1.8 | ±20% | 0.028 | 0.036 | 4.05 | 2.75 |
| SMNR6020 -2R2M | 2.2 | ±20% | 0.028 | 0.038 | 4.00 | 2.75 |
| SMNR6020 -3R3M | 3.3 | ±20% | 0.035 | 0.045 | 3.15 | 2.60 |
| SMNR6020 -3R9M | 3.9 | ±20% | 0.049 | 0.060 | 3.10 | 2.10 |
| SMNR6020 -4R7M | 4.7 | ±20% | 0.058 | 0.075 | 3.00 | 2.00 |
| SMNR6020 -5R6M | 5.6 | ±20% | 0.058 | 0.077 | 2.40 | 1.90 |
| SMNR6020 -6R8M | 6.8 | ±20% | 0.079 | 0.100 | 2.20 | 1.80 |
| SMNR6020 -8R2M | 8.2 | ±20% | 0.105 | 0.130 | 2.10 | 1.40 |
| SMNR6020 -100M | 10 | ±20% | 0.105 | 0.135 | 1.75 | 1.40 |
| SMNR6020 -120M | 12 | ±20% | 0.120 | 0.150 | 1.45 | 1.30 |
| SMNR6020 -150M | 15 | ±20% | 0.145 | 0.188 | 1.20 | 1.20 |
| SMNR6020 -180M | 18 | ±20% | 0.180 | 0.230 | 1.16 | 1.08 |
| SMNR6020 -220M | 22 | ±20% | 0.204 | 0.260 | 1.05 | 1.00 |

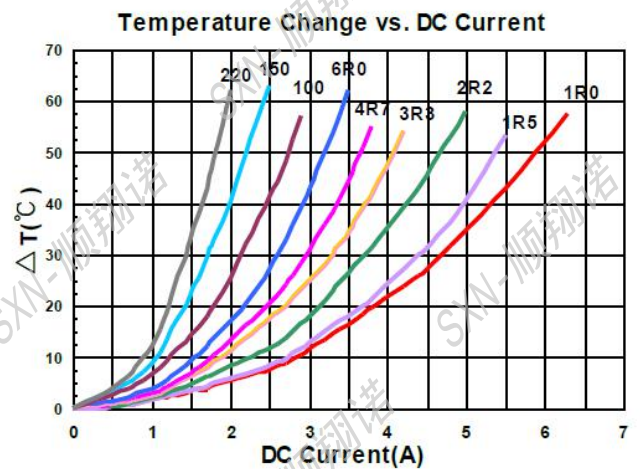
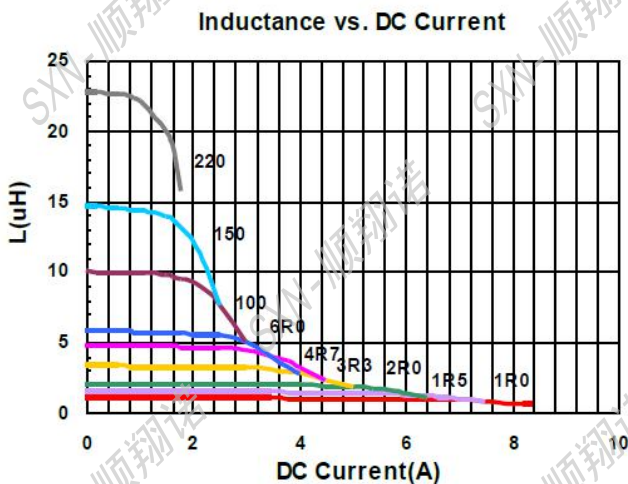
● Saturation current VS temperature rise current curve



● SMNR6028 Series Electrical Characteristics (Electrical specifications at 25 °C)

| Part No | Inductance 100KHz 1.0V | | DCR (Ω) | | Saturation Current | Temperature Rise Current |
|----------------|---------------------------|------|---------|-------|-----------------------|-----------------------------|
| | L(μH) '@0A | Tol | Typical | Max | (A) Max | (A) Max |
| SMNR6028 -R68M | 0.68 | ±20% | 0.010 | 0.013 | 6.90 | 5.20 |
| SMNR6028 -1R0M | 1.0 | ±20% | 0.010 | 0.013 | 5.75 | 5.20 |
| SMNR6028 -1R5M | 1.5 | ±20% | 0.013 | 0.016 | 5.50 | 4.58 |
| SMNR6028 -2R2M | 2.2 | ±20% | 0.020 | 0.026 | 5.10 | 3.75 |
| SMNR6028 -3R3M | 3.3 | ±20% | 0.025 | 0.032 | 4.15 | 3.48 |
| SMNR6028 -4R7M | 4.7 | ±20% | 0.030 | 0.039 | 3.00 | 3.08 |
| SMNR6028 -6R8M | 6.8 | ±20% | 0.047 | 0.061 | 2.60 | 2.40 |
| SMNR6028 -8R2M | 8.2 | ±20% | 0.055 | 0.071 | 2.30 | 2.25 |
| SMNR6028 -100M | 10 | ±30% | 0.074 | 0.093 | 2.04 | 1.95 |
| SMNR6028 -120M | 12 | ±30% | 0.080 | 0.104 | 1.80 | 1.85 |
| SMNR6028 -150M | 15 | ±30% | 0.125 | 0.162 | 1.75 | 1.45 |
| SMNR6028 -180M | 18 | ±30% | 0.120 | 0.169 | 1.52 | 1.45 |
| SMNR6028 -220M | 22 | ±30% | 0.140 | 0.182 | 1.45 | 1.40 |
| SMNR6028 -330M | 33 | ±20% | 0.185 | 0.240 | 1.35 | 1.22 |
| SMNR6028 -390M | 39 | ±20% | 0.225 | 0.292 | 1.25 | 1.10 |
| SMNR6028 -470M | 47 | ±20% | 0.315 | 0.400 | 1.15 | 1.06 |
| SMNR6028 -680M | 68 | ±20% | 0.360 | 0.468 | 0.80 | 0.86 |
| SMNR6028 -820M | 82 | ±20% | 0.500 | 0.650 | 0.75 | 0.70 |
| SMNR6028 -101M | 100 | ±20% | 0.550 | 0.675 | 0.65 | 0.70 |

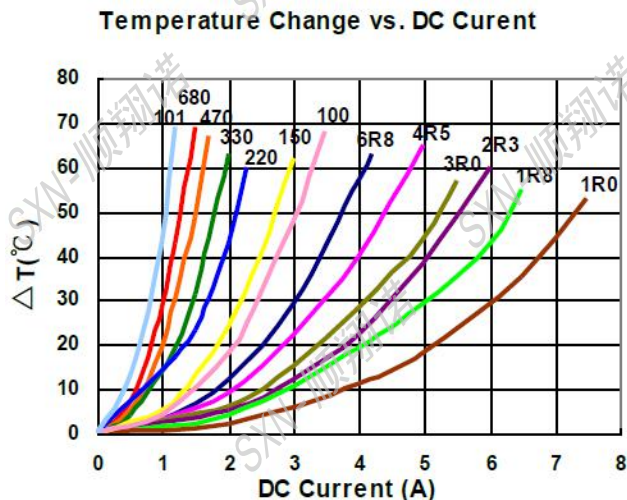
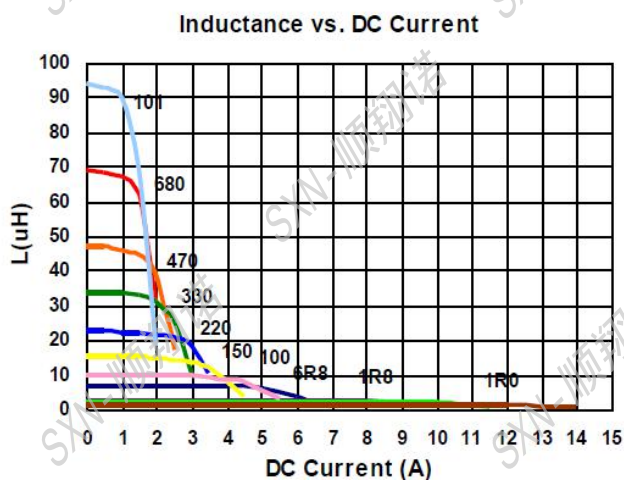
● Saturation current VS temperature rise current curve



● SMNR6045 Series Electrical Characteristics (Electrical specifications at 25 °C)

| Part No | Inductance 100KHz 1.0V | | DCR (Ω) | | Saturation Current | Temperature Rise Current |
|----------------|---------------------------|------|---------|-------|-----------------------|-----------------------------|
| | L(μH) @0A | Tol | Typical | Max | (A) Max | (A) Max |
| SMNR6045 -1R0M | 1.0 | ±20% | 0.011 | 0.014 | 9.85 | 5.14 |
| SMNR6045 -1R5M | 1.5 | ±20% | 0.012 | 0.015 | 8.80 | 4.95 |
| SMNR6045 -2R2M | 2.2 | ±20% | 0.014 | 0.018 | 6.75 | 4.60 |
| SMNR6045 -3R3M | 3.3 | ±20% | 0.021 | 0.027 | 5.90 | 3.70 |
| SMNR6045 -4R7M | 4.7 | ±20% | 0.026 | 0.033 | 4.97 | 3.30 |
| SMNR6045 -6R8M | 6.8 | ±20% | 0.031 | 0.040 | 3.90 | 3.00 |
| SMNR6045 -100M | 10 | ±20% | 0.048 | 0.062 | 3.20 | 2.45 |
| SMNR6045 -150M | 15 | ±20% | 0.068 | 0.088 | 2.50 | 2.05 |
| SMNR6045 -220M | 22 | ±20% | 0.089 | 0.115 | 2.05 | 1.80 |
| SMNR6045 -330M | 33 | ±20% | 0.137 | 0.178 | 1.65 | 1.50 |
| SMNR6045-470M | 47 | ±20% | 0.200 | 0.260 | 1.40 | 1.20 |
| SMNR6045-680M | 68 | ±20% | 0.286 | 0.375 | 1.20 | 1.00 |
| SMNR6045-820M | 82 | ±20% | 0.341 | 0.440 | 1.05 | 0.90 |
| SMNR6045-101M | 100 | ±20% | 0.433 | 0.562 | 0.95 | 0.80 |
| SMNR6045-121M | 120 | ±20% | 0.484 | 0.628 | 0.85 | 0.77 |
| SMNR6045-151M | 150 | ±20% | 0.580 | 0.750 | 0.80 | 0.70 |
| SMNR6045-221M | 220 | ±20% | 0.834 | 1.050 | 0.70 | 0.59 |
| SMNR6045-331M | 330 | ±20% | 1.270 | 1.650 | 0.57 | 0.57 |
| SMNR6045-471M | 470 | ±20% | 1.800 | 2.340 | 0.50 | 0.42 |
| SMNR6045-681M | 680 | ±20% | 2.500 | 3.250 | 0.42 | 0.33 |
| SMNR6045-102M | 1000 | ±20% | 4.500 | 5.850 | 0.30 | 0.30 |

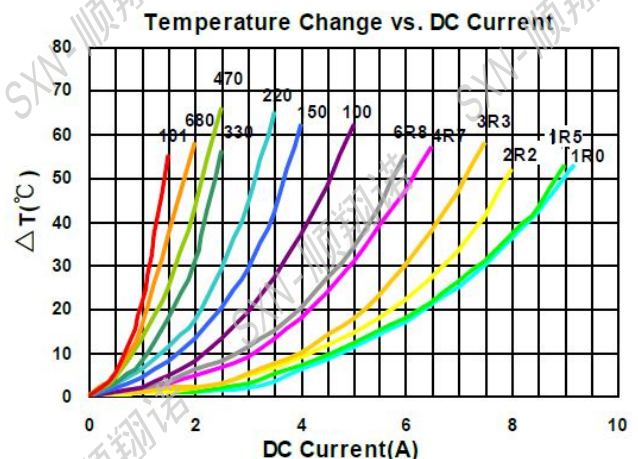
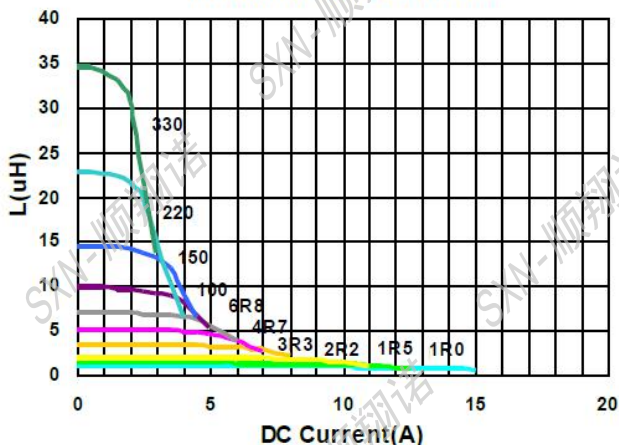
● Saturation current VS temperature rise current curve



• SMNR8040 Series Electrical Characteristics (Electrical specifications at 25 °C)

| Part No | Inductance 100KHz 1.0V | | DCR (Ω) | | Saturation Current | Temperature Rise Current |
|----------------|---------------------------|------|---------|-------|-----------------------|-----------------------------|
| | L(μH) @0A | Tol | Typical | Max | (A) Max | (A) Max |
| SMNR8040 -1R0M | 1.0 | ±20% | 0.008 | 0.010 | 9.85 | 6.30 |
| SMNR8040 -1R5M | 1.5 | ±20% | 0.010 | 0.013 | 8.15 | 5.65 |
| SMNR8040 -2R2M | 2.2 | ±20% | 0.012 | 0.015 | 7.10 | 5.15 |
| SMNR8040 -3R3M | 3.3 | ±20% | 0.017 | 0.022 | 6.50 | 4.40 |
| SMNR8040 -3R6M | 3.6 | ±20% | 0.017 | 0.022 | 6.50 | 4.35 |
| SMNR8040 -4R7M | 4.7 | ±20% | 0.019 | 0.024 | 5.90 | 4.10 |
| SMNR8040 -5R6M | 5.6 | ±20% | 0.021 | 0.027 | 4.55 | 3.85 |
| SMNR8040 -6R8M | 6.8 | ±20% | 0.024 | 0.031 | 4.55 | 3.60 |
| SMNR8040 -8R2M | 8.2 | ±20% | 0.026 | 0.033 | 4.20 | 3.45 |
| SMNR8040 -100M | 10 | ±20% | 0.029 | 0.037 | 3.60 | 3.30 |
| SMNR8040 -150M | 15 | ±20% | 0.047 | 0.061 | 2.95 | 2.80 |
| SMNR8040 -180M | 18 | ±20% | 0.053 | 0.068 | 2.70 | 2.40 |
| SMNR8040 -220M | 22 | ±20% | 0.069 | 0.089 | 2.40 | 2.10 |
| SMNR8040 -270M | 27 | ±20% | 0.078 | 0.101 | 2.15 | 2.00 |
| SMNR8040 -330M | 33 | ±20% | 0.097 | 0.126 | 2.05 | 1.80 |
| SMNR8040 -390M | 39 | ±20% | 0.107 | 0.139 | 1.95 | 1.70 |
| SMNR8040-470M | 47 | ±20% | 0.136 | 0.176 | 1.75 | 1.55 |
| SMNR8040-680M | 68 | ±20% | 0.196 | 0.254 | 1.45 | 1.25 |
| SMNR8040 -820M | 82 | ±20% | 0.225 | 0.292 | 1.30 | 1.15 |
| SMNR8040-101M | 100 | ±20% | 0.290 | 0.377 | 1.15 | 1.00 |
| SMNR8040 -121M | 120 | ±20% | 0.334 | 0.434 | 1.12 | 0.95 |
| SMNR8040 -151M | 150 | ±20% | 0.410 | 0.553 | 1.10 | 0.85 |
| SMNR8040 -221M | 220 | ±20% | 0.599 | 0.778 | 0.85 | 0.80 |
| SMNR8040 -331M | 330 | ±20% | 0.889 | 1.155 | 0.68 | 0.64 |
| SMNR8040 -471M | 470 | ±20% | 1.260 | 1.625 | 0.60 | 0.50 |
| SMNR8040 -681M | 680 | ±20% | 2.040 | 2.652 | 0.50 | 0.45 |
| SMNR8040 -102M | 1000 | ±20% | 2.800 | 3.640 | 0.40 | 0.35 |

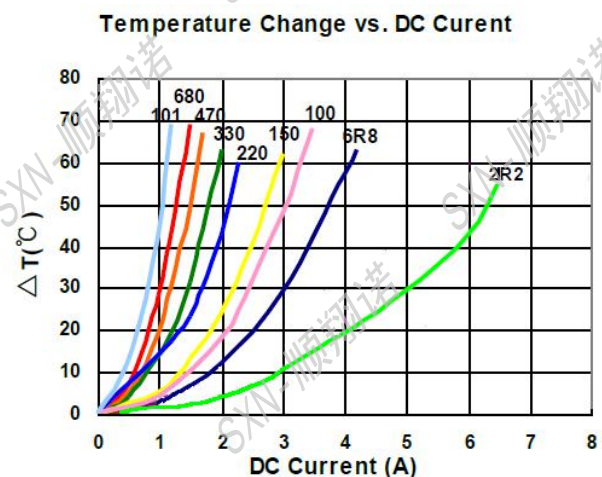
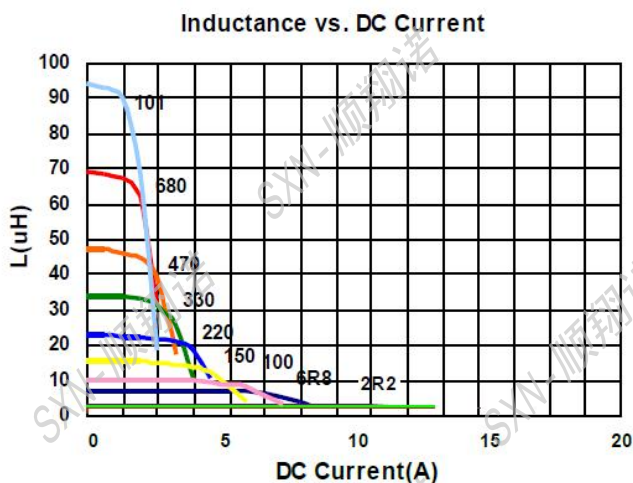
• Saturation current VS temperature rise current curve
Inductance vs. DC Current



● SMNR8060 Series Electrical Characteristics (Electrical specifications at 25 °C)

| Part No | Inductance 100KHz 1.0V | | DCR (Ω) | | Saturation Current | Temperature Rise Current |
|----------------|---------------------------|------|---------|-------|-----------------------|-----------------------------|
| | L(μH) @0A | Tol | Typical | Max | (A) Max | (A) Max |
| SMNR8060 -2R2M | 2.2 | ±20% | 0.015 | 0.022 | 8.00 | 5.70 |
| SMNR8060 -3R3M | 3.3 | ±20% | 0.017 | 0.025 | 7.50 | 5.00 |
| SMNR8060 -4R7M | 4.7 | ±20% | 0.022 | 0.032 | 7.00 | 4.65 |
| SMNR8060 -6R8M | 6.8 | ±20% | 0.025 | 0.037 | 5.90 | 4.20 |
| SMNR8060 -100M | 10 | ±20% | 0.029 | 0.042 | 5.80 | 3.80 |
| SMNR8060 -150M | 15 | ±20% | 0.049 | 0.071 | 4.50 | 3.10 |
| SMNR8060 -220M | 22 | ±20% | 0.070 | 0.100 | 4.30 | 2.70 |
| SMNR8060 -330M | 33 | ±20% | 0.113 | 0.162 | 3.00 | 2.10 |
| SMNR8060-470M | 47 | ±20% | 0.131 | 0.188 | 2.85 | 1.80 |
| SMNR8060-680M | 68 | ±20% | 0.173 | 0.248 | 2.50 | 1.60 |
| SMNR8060-101M | 100 | ±20% | 0.266 | 0.380 | 2.00 | 1.25 |
| SMNR8060 -221M | 220 | ±20% | 0.618 | 0.884 | 1.20 | 0.82 |
| SMNR8060 -331M | 330 | ±20% | 0.88 | 1.260 | 1.05 | 0.68 |
| SMNR8060 -471M | 470 | ±20% | 1.23 | 1.760 | 0.90 | 0.55 |
| SMNR8060 -681M | 680 | ±20% | 1.96 | 2.800 | 0.80 | 0.50 |
| SMNR8060 -821M | 820 | ±20% | 2.38 | 3.400 | 0.70 | 0.43 |
| SMNR8060 -102M | 1000 | ±20% | 2.71 | 3.870 | 0.60 | 0.37 |

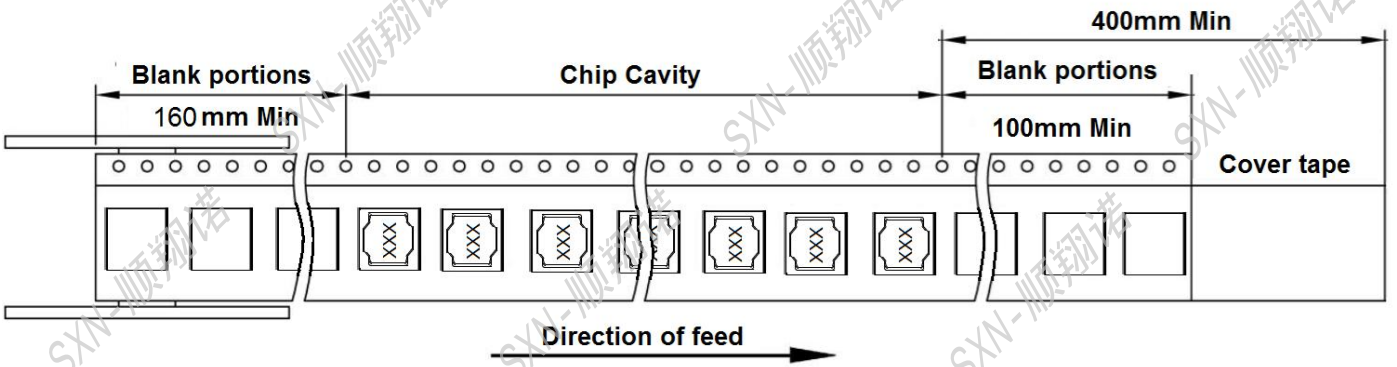
- Saturation Current: DC current at which inductance drops 30% from its value without current.
- Temperature Rise Current: the actual value of DC current when the temperature rise is $\Delta T 40^{\circ}\text{C}$ ($T_a=25^{\circ}\text{C}$).
- Rated DC Current: The less value which is Isat or Irms.
- Special remind: Circuit design, component, PCB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.
- Saturation current VS temperature rise current curve



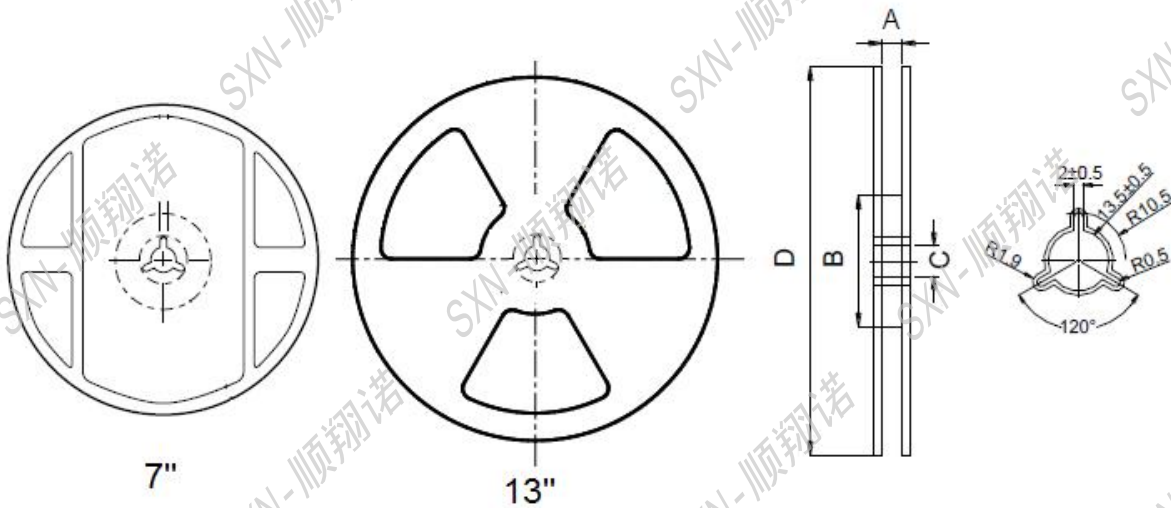
◆ 产品包装:

Packaging:

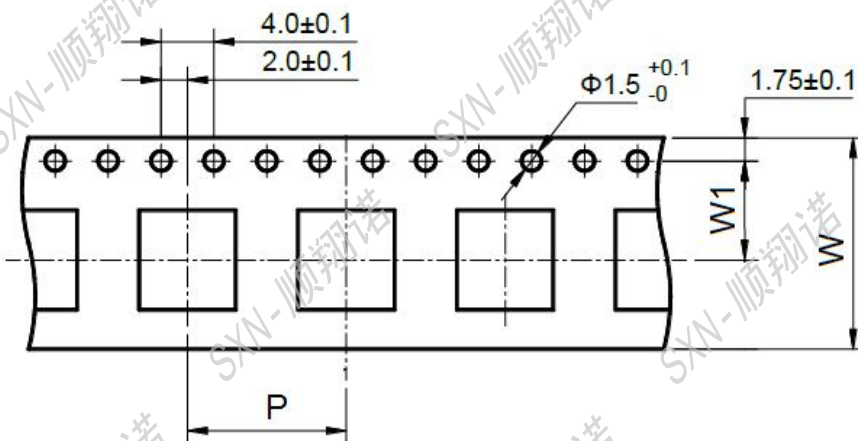
● Tape and Reel Specifications: (Dimensions are in mm)



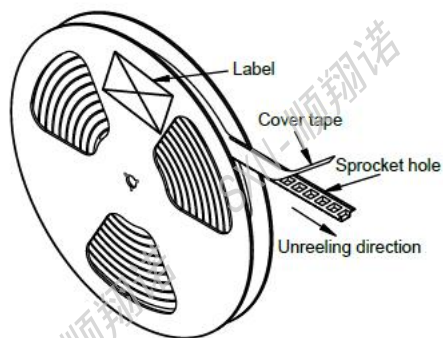
● Reel Dimensions (mm)



● Tape Dimension (mm)

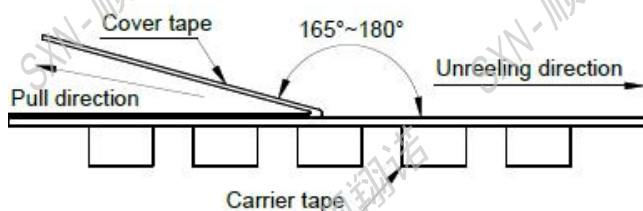


● Cover tape peel off condition

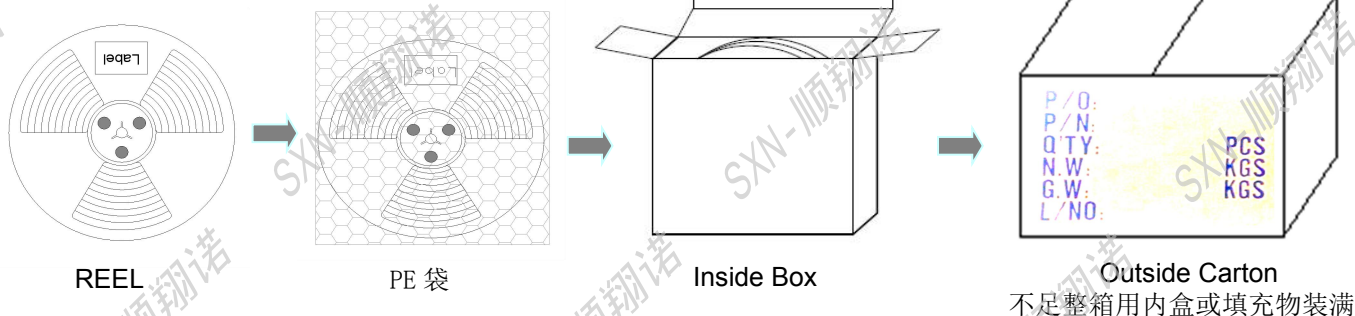


a) Cover tape peel force shall be 10 to 120g

b) Noodle strip peeling angle 165° to 180°



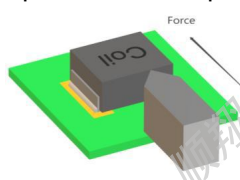

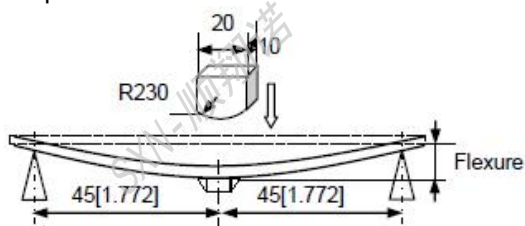
● Packing quantity

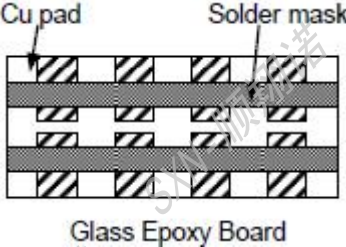
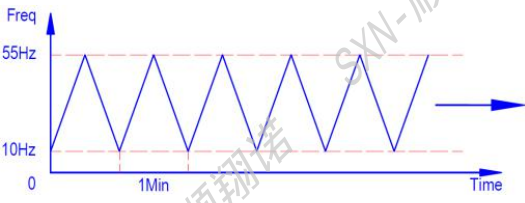
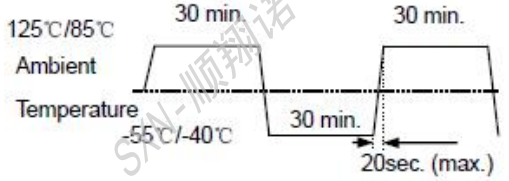
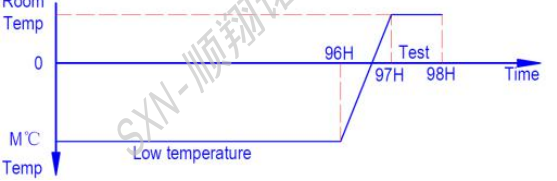


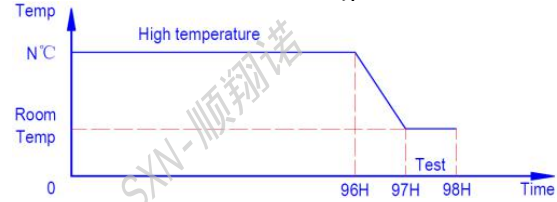
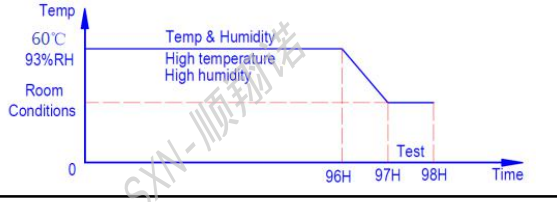
| Part No. | Tape Dimension | | | Reel Dimensions | | | | REEL (PCS) | Inside Box(PCS) | Outside Carton(PCS) |
|------------|----------------|----|-----|-----------------|-----|----|-----|------------|-----------------|---------------------|
| | W | P | W1 | A | B | C | D | | | |
| SMNR201610 | 8 | 4 | 3.5 | 8.4 | 60 | 13 | 178 | 2000 | 20,000 | 80,000 |
| SMNR252012 | 8 | 4 | 3.5 | 8.4 | 60 | 13 | 178 | 2000 | 20,000 | 80,000 |
| SMNR3010 | 8 | 4 | 3.5 | 8.4 | 60 | 13 | 178 | 2000 | 20,000 | 80,000 |
| SMNR3012 | 8 | 4 | 3.5 | 8.4 | 60 | 13 | 178 | 2000 | 20,000 | 80,000 |
| SMNR3015 | 8 | 4 | 3.5 | 8.4 | 60 | 13 | 178 | 2000 | 20,000 | 80,000 |
| SMNR4010 | 12 | 8 | 5.5 | 12.4 | 100 | 13 | 330 | 5000 | 20,000 | 80,000 |
| SMNR4012 | 12 | 8 | 5.5 | 12.4 | 100 | 13 | 330 | 4500 | 18,000 | 72,000 |
| SMNR4018 | 12 | 8 | 5.5 | 12.4 | 100 | 13 | 330 | 3000 | 12,000 | 48,000 |
| SMNR4020 | 12 | 8 | 5.5 | 12.4 | 100 | 13 | 330 | 3000 | 12,000 | 48,000 |
| SMNR4030 | 12 | 8 | 5.5 | 12.4 | 100 | 13 | 330 | 2000 | 8000 | 32,000 |
| SMNR5020 | 12 | 8 | 5.5 | 12.4 | 100 | 13 | 330 | 3000 | 12,000 | 48,000 |
| SMNR5030 | 12 | 8 | 5.5 | 12.4 | 100 | 13 | 330 | 2000 | 8000 | 32,000 |
| SMNR5040 | 12 | 8 | 5.5 | 12.4 | 100 | 13 | 330 | 1500 | 6000 | 24,000 |
| SMNR6020 | 16 | 12 | 7.5 | 16.4 | 100 | 13 | 330 | 3000 | 9000 | 36,000 |
| SMNR6028 | 16 | 12 | 7.5 | 16.4 | 100 | 13 | 330 | 2000 | 6000 | 24,000 |
| SMNR6045 | 16 | 12 | 7.5 | 16.4 | 100 | 13 | 330 | 1000 | 3000 | 12,000 |
| SMNR8040 | 16 | 12 | 7.5 | 16.4 | 100 | 13 | 330 | 1000 | 3000 | 12,000 |
| SMNR8060 | 16 | 12 | 7.5 | 16.4 | 100 | 13 | 330 | 800 | 2400 | 9600 |

◆可靠性测试:

Reliability Testing:

| Items | Requirements | Test Methods and Remarks |
|--|---|--|
| Terminal Strength Reference documents: GB/T 2423.60-2008 端子强度(SMT) | 1. Pulling test: Define: A: sectional area of terminal $A \leq 8\text{mm}^2$ force $\geq 5\text{N}$ time: 30sec $8\text{mm}^2 < A \leq 20\text{mm}^2$ force $\geq 10\text{N}$ time: 10sec $20\text{mm}^2 < A$ force $\geq 20\text{N}$ time: 10sec 2. Solder paste thickness: 0.12mm 3. Meet the above requirements without any loose terminal | Solder the inductor to the testing jig using leadfree solder. Then apply a force in the direction shown. Keep time: $10 \pm 1\text{s}$ Speed: 1.0mm/s.  |
| Terminal Strength Reference documents: GB/T 2423.60-2008 端子强度(DIP) | 1. Terminal diameter (d) mm $0.35 < d \leq 0.50$ Applied force: 5N Duration: 10sec 2. Terminal diameter (d) mm $0.50 < d \leq 0.80$ Applied force: 10N Duration: 10sec 3. Terminal diameter (d) mm $0.80 < d \leq 1.25$ Applied force: 20N Duration: 10sec 4. Terminal diameter (d) mm $D > 1.25$ Applied force: 40N Duration: 10sec 5. Meet the above requirements without any loose terminal. | Pull Force: the force shall be applied gradually to the terminal and then maintained for 10 seconds.  |
| Resistance to Flexure JIS C 5321:1997 抗弯曲性试验 | 1. No visible mechanical damage. | 1. Solder the inductor to the test jig (glass epoxy board) 2. shown in Using a leadfree solder. Then apply a force in the direction shown 3. Flexure: 2mm. 4. Pressurizing Speed: 0.5mm/sec. 5. Keep time: 30 sec.  |
| Dropping Reference documents: GB/T 2423.7-2018 落下试验 | 1. No case deformation or change in appearance. 2. No short and no open. | 1. Drop the packaged products from 1m high in 1 angle, 3 ridges and 6 surfaces, twice in each direction. |
| Solderability Reference documents: GB/T 2423.28-2005 可焊性试验 | 1. No visible mechanical damage. 2. Wetting shall exceed 75% coverage for 3. Terminals must have 95% minimum solder coverage | 1. Solder temperature: $240 \pm 2^\circ\text{C}$ 2. Duration: 3 sec. 3. Solder: Sn/3.0Ag/0.5Cu. 4. Flux: 25% Resin and 75% ethanol in weight |

| Items | Requirements | Test Methods and Remarks |
|--|--|--|
| <p>Vibration</p> <p>Reference documents: GB/T 2423.10-2019</p> <p>振動試驗</p> | <p>1.No visible mechanical damage.</p> <p>2. Inductance change: Within $\pm 10\%$.</p> <p>3. Q factor change: Within $\pm 20\%$.</p>  | <p>1.Solder the inductor to the testing jig (glass epoxy boardshown in) using leadfree solder.</p> <p>2.The inductor shall be subjected to a simple harmonic motion having total amplitude of 1.5mm, the frequency being varied uniformly between the approximate limits of 10 and 55 Hz.</p> <p>3.The frequency range from 10 to 55 Hz and return to 10 Hz shall be traversed in approximately 1 minute. This motion shall be applied for a period of 2 hours in each 3 mutually perpendicular directions(total of 6 hours).</p>  |
| <p>Thermal Shock</p> <p>Reference documents: GB/T 2423.22-2012</p> <p>Method Na</p> <p>冷热冲击试验</p> | <p>1.No visible mechanical damage.</p> <p>2. Inductance change: Within $\pm 10\%$.(Mn-Zn: Within $\leq 30\%$)</p> <p>3. Q factor change: Within $\pm 20\%$.</p> | <p>1.Start at (85~125℃) for T time, rush to (-55~40℃) for T time as one cycle, go through 100 cycles.</p> <p>2.Transforming interval: Max. 20 sec.</p> <p>3.Tested cycle: 100 cycles.</p> <p>4.The chip shall be stabilized at normal condition for 1~2 hours</p>  |
| <p>Low temperature Storage</p> <p>Reference documents: GB/T 2423.1-2008</p> <p>Method Ab</p> <p>低温储存试验</p> | <p>1.No visible mechanical damage.</p> <p>2. Inductance change: Within $\pm 10\%$.(Mn-Zn: Within $\leq 30\%$)</p> <p>3. Q factor change: Within $\pm 20\%$.</p> | <p>1. Temperature: M(-55~-40$\pm 2^\circ\text{C}$)</p> <p>2. Duration: 96± 2 hours</p> <p>3. The chip shall be stabilized at normal condition for 1~2 hours before measuring.</p>  |

| Items | Requirements | Test Methods and Remarks |
|--|---|--|
| High temperature Storage Reference documents: GB/T 2423.2-2008 Method Bb 高温储存试验 | 1.No visible mechanical damage. 2. Inductance change: Within $\pm 10\%$.(Mn-Zn: Within $\cong 30\%$) 3.Q factor change: Within $\pm 20\%$. | 1.Temperature:N($125\sim 85\pm 2^{\circ}\text{C}$). 2.Duration: 96 ± 2 hours 3.The chip shall be stabilized at normal condition for 1~2 hours before measuring.  |
| Damp Heat (Steady States) Reference documents: GB/T 2423.3-2016 恒定湿热试验 | 1.No visible mechanical damage. 2. Inductance change: Within $\pm 10\%$.(Mn-Zn: Within $\cong 30\%$) 3.Q factor change: Within $\pm 20\%$. | 1.Temperature: $60\pm 2^{\circ}\text{C}$ 2.Humidity: 90% to 95% RH. 3.Duration: 96 ± 2 hours. 4.The chip shall be stabilized at normal condition for 1~2 hours before measuring.  |
| Heat endurance of Reflow soldering Reference documents: GJB 360B-2009 回流焊耐热性试验 | 1.No significant defects in appearance. 2. $\Delta L/L \cong 10\%$ (Mn-Zn: $\Delta L/L \cong 30\%$) 3. $\Delta Q/Q \cong 30\%$ (SMD series only) 4. $\Delta DCR/DCR \cong 10\%$ | 1.Refer to the above reflow curve and go through the reflow for twice. 2.The peak temperature : $260\pm 0/-5^{\circ}\text{C}$ |
| Resistance to solvent test Reference documents: IEC 68-2-45:1993 耐溶剂性试验 | No case deformation or change in appearance or obliteration of marking | To dip parts into IPA solvent for 5 ± 0.5 Min, then drying them at room temp for 5Min, at last, to brushing making 10 times. |
| Overload test Reference documents: JIS C5311-6.13 过负荷试验 | 1.During the test no smoke, no peculiar, smell, no fire 2.The characteristic is normal after test | Apply twice as rated current for 5 minutes. |
| voltage resistance test Reference documents: MIL-STD-202G Method 301 绝缘耐压测试 | 1.During the test no breakdown 2.The characteristic is normal after test | 1. For parts with two coils 2. DC1000V, Current: 1mA, Time: 1Min. 3. Refer to catalogue of specific products |

使用注意事项



REMINDERS FOR USING THESE PRODUCTS

- 保存时间为12 个月以内，保存条件（温度5~40°C以下、湿度35 ~ 66%RH 以下），需充分注意。若超过保存时间，端子电极的可焊性将可能老化。

The storage period is within 12 months. Be sure to follow the storage conditions (temperature: 5~40°C, humidity: 35 to 65% RH or less). If the storage period elapses, the soldering of the terminal electrodes may deteriorate.

- 请勿在气体腐蚀环境（盐、酸、碱等）下使用和保存。

Do not use or store in locations where there are conditions such as gas corrosion (salt, acid, alkali, etc.).

- 手上的油脂会导致可焊性降低，应避免用手直接接触端子。

Don't touch electrodes directly with bare hands as oil secretions may inhibit soldering. Always ensure optimum conditions for soldering.

- 请小心轻拿轻放，避免由于产品的跌落或取出不当而导致的损坏。

Please always handle products carefully to prevent any damage caused by dropping down or inappropriate removing.

- 端子过度弯曲会导致断线，请不要过度弯曲端子。

Don't bend the terminals with excessive stress in case of any wire fracture.

- 不要清洗产品，如需要清洗时请联系我司。

Don't rinse coils by yourself and please contact SXN if necessary.

- 请勿将本产品靠近磁铁或带有磁力的物体

Don't expose the products to magnets or magnetic fields

- 在实施焊接前，请务必进行预热。预热温度与焊接温度及芯片温度的温度差要在150°C 以内。

Before soldering, be sure to preheat components. The preheating temperature should be set so that the temperature difference between the solder temperature and chip temperature does not exceed 150°C.

- 安装后的焊接修正应在规格书规定的条件范围内。若加热过度可能导致短路、性能降低、寿命减少。

Soldering corrections after mounting should be within the range of the conditions determined in the specifications. If overheated, a short circuit, performance deterioration, or lifespan shortening may occur.

- 装置会因通电而自我发热（温度上升），因此在热设计方面需留有充分余地。

Self heating (temperature increase) occurs when the power is turned ON, so the tolerance should be sufficient for the set thermal design.

- 非磁屏蔽型在基板设计时需注意配置线圈，受到电磁干扰可能会导致误动作。

Carefully lay out the coil for the circuit board design of the non-magnetic shield type. A malfunction may occur due to magnetic interference.

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