

Shielded SMD Power Inductor-SFM Series

Applications

- OA equipment.
- Notebook PCs
- Portable communication equipment
- DC/DC converters, etc

Inductance and rated current ranges

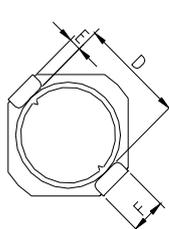
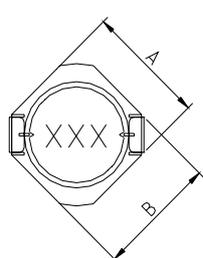
- SFM0518 1.2~47μH 1.80~0.33A
- SFM0520 1.2~100μH 2.15~0.23A
- SFM0620 1.0~47μH 3.48~0.50A
- SFM0630 1.0~150μH 3.59~0.31A
- SFM1048 1.1~120μH 6.00~0.80A
- SFM1268 1.7~680μH 7.70~0.55A
- Test equipment:

L: HP4284A Precision LCR meter.

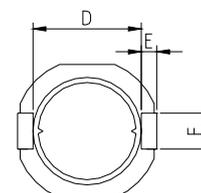
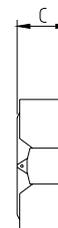
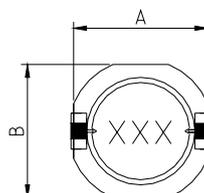
DCR: Milli-ohm meter.

Electrical Specification at 25°C

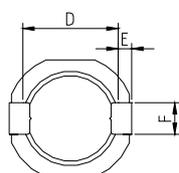
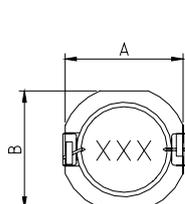
Dimension



SFM 0518 / 0520



SFM 0620 / 0630



SFM 1048 / 1268

| Codes | A(Max) | B(Max) | C(Max) | D(Ref.) | E(Ref.) | F(Ref.) |
|---------|--------|--------|--------|---------|---------|---------|
| SFM0518 | 5.2 | 5.2 | 1.8 | 4.2 | 0.6 | 1.4 |
| SFM0520 | 5.2 | 5.2 | 2.0 | 4.2 | 0.6 | 1.4 |
| SFM0620 | 6.3 | 6.2 | 2.0 | 4.8 | 0.6 | 2.0 |
| SFM0630 | 6.3 | 6.2 | 3.0 | 4.8 | 0.6 | 2.0 |
| SFM1048 | 10.4 | 10.4 | 4.8 | 6.0 | 2.0 | 3.0 |
| SFM1268 | 12.8 | 12.8 | 6.8 | 8.5 | 2.0 | 3.0 |



Features

- Low Profile.
- Magnetically shielded and low DC resistance.
- Suitable for large currents.
- Ideal for a variety of DC-DC converter inductor applications.

Product Identification

SFM 0518 M T 100

(1) (2) (3) (4) (5)

(1)Type: SMD Power Inductors

(2)Dimensions (mm): 05 is 5.2mm square and 18 is about 1.8mm height.

(3)Tolerance:M=20%, N=30%

(4) Packaging style: T (Tape and Reel)

(5) Inductance:1R1=1.1μH, 470=47μH, 101 =100μH

Electrical Characteristics

| Part No. | L (μ H) | Tol. (%) | DC Resistance (Ω)Max | Rated DC Current (A) Max |
|--------------|-----------------|-------------|----------------------------------|-----------------------------|
| SFM0518MT1R2 | 1.2 | 20 | 0.054 | 1.8 |
| SFM0518MT1R8 | 1.8 | 20 | 0.065 | 1.6 |
| SFM0518MT2R3 | 2.3 | 20 | 0.076 | 1.5 |
| SFM0518MT3R6 | 3.6 | 20 | 0.097 | 1.2 |
| SFM0518MT4R3 | 4.3 | 20 | 0.110 | 1.1 |
| SFM0518MT5R1 | 5.1 | 20 | 0.130 | 1.0 |
| SFM0518MT6R8 | 6.8 | 20 | 0.150 | 0.94 |
| SFM0518MT100 | 10 | 20 | 0.220 | 0.80 |
| SFM0518MT150 | 15 | 20 | 0.325 | 0.64 |
| SFM0518MT180 | 18 | 20 | 0.380 | 0.56 |
| SFM0518MT220 | 22 | 20 | 0.540 | 0.49 |
| SFM0518MT330 | 33 | 20 | 0.770 | 0.41 |
| SFM0518MT470 | 47 | 20 | 1.120 | 0.33 |

- Note:**
1. Test Frequency 100 kHz 0.1Vrms.
 2. Rated DC Current: The current when the inductance decrease to 70% of its initial value or the current when the temperature of coil increases to $\Delta 40^{\circ}\text{C}$. The smaller one is defined as Rated DC Current. ($T_a=25^{\circ}\text{C}$)
 3. Operating temperature range $-20\sim 85^{\circ}\text{C}$.

| Part No. | L (μ H) | Tol. (%) | DC Resistance (Ω)Max | Rated DC Current (A) Max | |
|--------------|-----------------|-------------|----------------------------------|-----------------------------|------|
| | | | | Isat | Irms |
| SFM0520MT1R2 | 1.2 | 20 | 0.037 | 2.15 | 2.29 |
| SFM0520MT2R2 | 2.2 | 20 | 0.049 | 1.63 | 1.64 |
| SFM0520MT3R5 | 3.5 | 20 | 0.061 | 1.34 | 1.45 |
| SFM0520MT4R7 | 4.7 | 20 | 0.072 | 1.14 | 1.22 |
| SFM0520MT6R8 | 6.8 | 20 | 0.084 | 0.95 | 1.10 |
| SFM0520MT100 | 10 | 20 | 0.125 | 0.76 | 0.87 |
| SFM0520MT150 | 15 | 20 | 0.175 | 0.63 | 0.72 |
| SFM0520MT220 | 22 | 20 | 0.230 | 0.56 | 0.66 |
| SFM0520MT330 | 33 | 20 | 0.375 | 0.44 | 0.48 |
| SFM0520MT470 | 47 | 20 | 0.605 | 0.36 | 0.35 |
| SFM0520MT680 | 68 | 20 | 0.780 | 0.30 | 0.33 |
| SFM0520MT101 | 100 | 20 | 1.250 | 0.23 | 0.24 |

- Note:**
1. Test Frequency 100 kHz 0.1Vrms.
 2. Rated DC Current: Isat : The current when the inductance decrease to 70% of its initial value.
Irms: The current when the temperature of coil increases to $\Delta 40^{\circ}\text{C}$. ($T_a=25^{\circ}\text{C}$)
 3. Operating temperature range $-20\sim 85^{\circ}\text{C}$.

| Part No. | L (μ H) | Tol. (%) | DC Resistance (Ω)Max | Rated DC Current (A) Max | |
|--------------|-----------------|-------------|----------------------------------|-----------------------------|------|
| | | | | Isat | Irms |
| SFM0620MT1R0 | 1.0 | 20 | 0.014 | 3.50 | 3.48 |
| SFM0620MT1R5 | 1.5 | 20 | 0.017 | 2.94 | 2.99 |
| SFM0620MT2R0 | 2.0 | 20 | 0.024 | 2.47 | 2.33 |
| SFM0620MT3R3 | 3.3 | 20 | 0.039 | 1.99 | 1.97 |
| SFM0620MT4R7 | 4.7 | 20 | 0.055 | 1.59 | 1.54 |
| SFM0620MT6R2 | 6.2 | 20 | 0.062 | 1.49 | 1.45 |
| SFM0620MT8R2 | 8.2 | 20 | 0.085 | 1.25 | 1.23 |
| SFM0620MT100 | 10 | 20 | 0.098 | 1.22 | 1.09 |
| SFM0620MT120 | 12 | 20 | 0.128 | 0.99 | 1.10 |
| SFM0620MT150 | 15 | 20 | 0.149 | 0.94 | 0.82 |
| SFM0620MT180 | 18 | 20 | 0.172 | 0.83 | 0.90 |
| SFM0620MT220 | 22 | 20 | 0.211 | 0.80 | 0.74 |
| SFM0620MT270 | 27 | 20 | 0.275 | 0.65 | 0.65 |
| SFM0620MT330 | 33 | 20 | 0.306 | 0.63 | 0.61 |
| SFM0620MT390 | 39 | 20 | 0.394 | 0.55 | 0.56 |
| SFM0620MT470 | 47 | 20 | 0.452 | 0.50 | 0.52 |

- Note:**
1. Test Frequency 100 kHz 0.1Vrms.
 2. Rated DC Current: Isat : The current when the inductance decrease to 70% of its initial value.
Irms: The current when the temperature of coil increases to $\Delta 40^{\circ}\text{C}$. ($T_a=25^{\circ}\text{C}$)
 3. Operating temperature range $-20\sim 85^{\circ}\text{C}$.

Electrical Characteristics

| Part No. | L (μ H) | Tol. (%) | DC Resistance (Ω)Max | Rated DC Current (A) Max | |
|--------------|-----------------|-------------|----------------------------------|-----------------------------|------|
| | | | | Isat | Irms |
| SFM0630MT1R0 | 1.0 | 20 | 0.011 | 3.59 | 4.03 |
| SFM0630MT1R5 | 1.5 | 20 | 0.013 | 2.93 | 3.63 |
| SFM0630MT2R2 | 2.2 | 20 | 0.016 | 2.42 | 3.30 |
| SFM0630MT3R6 | 3.6 | 20 | 0.021 | 1.89 | 2.82 |
| SFM0630MT4R7 | 4.7 | 20 | 0.027 | 1.66 | 2.45 |
| SFM0630MT6R2 | 6.2 | 20 | 0.032 | 1.45 | 2.20 |
| SFM0630MT100 | 10 | 20 | 0.049 | 1.14 | 1.77 |
| SFM0630MT120 | 12 | 20 | 0.052 | 1.04 | 1.70 |
| SFM0630MT150 | 15 | 20 | 0.062 | 0.93 | 1.55 |
| SFM0630MT180 | 18 | 20 | 0.074 | 0.85 | 1.41 |
| SFM0630MT220 | 22 | 20 | 0.095 | 0.77 | 1.23 |
| SFM0630MT270 | 27 | 20 | 0.120 | 0.70 | 1.08 |
| SFM0630MT330 | 33 | 20 | 0.140 | 0.63 | 0.99 |
| SFM0630MT390 | 39 | 20 | 0.150 | 0.58 | 0.95 |
| SFM0630MT470 | 47 | 20 | 0.185 | 0.53 | 0.84 |
| SFM0630MT560 | 56 | 20 | 0.220 | 0.48 | 0.76 |
| SFM0630MT680 | 68 | 20 | 0.270 | 0.44 | 0.69 |
| SFM0630MT820 | 82 | 20 | 0.330 | 0.40 | 0.61 |
| SFM0630MT101 | 100 | 20 | 0.415 | 0.36 | 0.54 |
| SFM0630MT151 | 150 | 20 | 0.615 | 0.31 | 0.42 |

- Note:**
1. Test Frequency 100 kHz 0.1Vrms.
 2. Rated DC Current: Isat : The current when the inductance decrease to 70% of its initial value.
Irms: The current when the temperature of coil increases to $\Delta 40^{\circ}\text{C}$. ($T_a=25^{\circ}\text{C}$)
 3. Operating temperature range $-20\sim 85^{\circ}\text{C}$.

| Part No. | L (μ H) | Tol. (%) | DC Resistance (Ω)Max | Rated DC Current (A) Max | |
|--------------|-----------------|-------------|----------------------------------|-----------------------------|------|
| | | | | Isat | Irms |
| SFM1048NT1R1 | 1.1 | 30 | 0.011 | 11.7 | 6.0 |
| SFM1048NT1R8 | 1.8 | 30 | 0.014 | 8.7 | 5.4 |
| SFM1048NT2R7 | 2.7 | 30 | 0.016 | 7.3 | 4.9 |
| SFM1048NT3R9 | 3.9 | 30 | 0.018 | 5.8 | 4.6 |
| SFM1048NT5R1 | 5.1 | 30 | 0.026 | 4.9 | 3.8 |
| SFM1048NT6R8 | 6.8 | 30 | 0.035 | 4.5 | 3.1 |
| SFM1048NT8R2 | 8.2 | 30 | 0.040 | 4.1 | 2.9 |
| SFM1048MT100 | 10 | 20 | 0.044 | 3.6 | 2.7 |
| SFM1048MT120 | 12 | 20 | 0.051 | 3.3 | 2.5 |
| SFM1048MT150 | 15 | 20 | 0.062 | 3.1 | 2.3 |
| SFM1048MT180 | 18 | 20 | 0.079 | 2.7 | 2.0 |
| SFM1048MT220 | 22 | 20 | 0.087 | 2.4 | 1.9 |
| SFM1048MT270 | 27 | 20 | 0.100 | 2.2 | 1.8 |
| SFM1048MT330 | 33 | 20 | 0.125 | 2.0 | 1.6 |
| SFM1048MT390 | 39 | 20 | 0.150 | 1.8 | 1.4 |
| SFM1048MT470 | 47 | 20 | 0.175 | 1.7 | 1.3 |
| SFM1048MT560 | 56 | 20 | 0.195 | 1.5 | 1.2 |
| SFM1048MT680 | 68 | 20 | 0.240 | 1.3 | 1.1 |
| SFM1048MT820 | 82 | 20 | 0.295 | 1.2 | 1.0 |
| SFM1048MT101 | 100 | 20 | 0.380 | 1.1 | 0.9 |
| SFM1048MT121 | 120 | 20 | 0.460 | 0.97 | 0.8 |

- Note:**
1. Test Frequency 100 kHz 0.1Vrms.
 2. Rated DC Current: Isat : The current when the inductance decrease to 70% of its initial value.
Irms: The current when the temperature of coil increases to $\Delta 40^{\circ}\text{C}$. ($T_a=25^{\circ}\text{C}$)
 3. Operating temperature range $-20\sim 85^{\circ}\text{C}$.

Electrical Characteristics

| Part No. | L (μ H) | Tol. (%) | DC Resistance (Ω)Max | Rated DC Current (A) Max | |
|--------------|-----------------|-------------|----------------------------------|-----------------------------|------|
| | | | | Isat | Irms |
| SFM1268NT1R7 | 1.7 | 30 | 0.010 | 11.8 | 7.7 |
| SFM1268NT2R7 | 2.7 | 30 | 0.011 | 9.0 | 7.0 |
| SFM1268NT3R9 | 3.9 | 30 | 0.014 | 7.9 | 6.0 |
| SFM1268NT5R6 | 5.6 | 30 | 0.016 | 6.8 | 5.6 |
| SFM1268NT7R5 | 7.5 | 30 | 0.017 | 5.7 | 5.1 |
| SFM1268MT100 | 10 | 20 | 0.023 | 5.5 | 4.4 |
| SFM1268MT120 | 12 | 20 | 0.027 | 5.0 | 4.0 |
| SFM1268MT150 | 15 | 20 | 0.032 | 4.5 | 3.6 |
| SFM1268MT180 | 18 | 20 | 0.040 | 4.1 | 3.2 |
| SFM1268MT220 | 22 | 20 | 0.046 | 3.6 | 2.9 |
| SFM1268MT270 | 27 | 20 | 0.050 | 3.2 | 2.8 |
| SFM1268MT330 | 33 | 20 | 0.064 | 3.0 | 2.4 |
| SFM1268MT390 | 39 | 20 | 0.074 | 2.7 | 2.2 |
| SFM1268MT470 | 47 | 20 | 0.082 | 2.4 | 2.1 |
| SFM1268MT560 | 56 | 20 | 0.105 | 2.0 | 1.9 |
| SFM1268MT680 | 68 | 20 | 0.120 | 1.7 | 1.7 |
| SFM1268MT820 | 82 | 20 | 0.145 | 1.6 | 1.6 |
| SFM1268MT101 | 100 | 20 | 0.170 | 1.5 | 1.4 |
| SFM1268MT121 | 120 | 20 | 0.185 | 1.3 | 1.3 |
| SFM1268MT151 | 150 | 20 | 0.235 | 1.2 | 1.2 |
| SFM1268MT181 | 180 | 20 | 0.290 | 1.1 | 1.1 |
| SFM1268MT221 | 220 | 20 | 0.350 | 1.0 | 1.0 |
| SFM1268MT271 | 270 | 20 | 0.415 | 0.93 | 0.92 |
| SFM1268MT331 | 330 | 20 | 0.495 | 0.83 | 0.83 |
| SFM1268MT391 | 390 | 20 | 0.610 | 0.76 | 0.77 |
| SFM1268MT471 | 470 | 20 | 0.705 | 0.67 | 0.70 |
| SFM1268MT561 | 560 | 20 | 0.900 | 0.62 | 0.64 |
| SFM1268MT681 | 680 | 20 | 1.120 | 0.55 | 0.58 |

- Note:**
1. Test Frequency 100 kHz 0.1Vrms.
 2. Rated DC Current: Isat : The current when the inductance decrease to 70% of its initial value.
Irms : The current when the temperature of coil increases to $\Delta 40^{\circ}\text{C}$. ($T_a=25^{\circ}\text{C}$)
 3. Operating temperature range $-20 \sim 85^{\circ}\text{C}$.