

HIGH TEMPERATURE

Shielded Power Inductors – MSS1246T



- Designed for high ambient temperatures
- Magnetic shielding allows high density mounting.

Designer's Kit C417 contains 3 each of all values.

Core material Ferrite

Core and winding loss See www.coilcraft.com/coreloss

Terminations RoHS compliant matte tin over nickel over phos bronze. Other terminations available at additional cost.

Weight: 2.3 g – 2.5 g

Ambient temperature –40°C to +125°C with (40°C rise) Irms current.

Maximum part temperature +165°C (ambient + temp rise). [Derating](#).

Storage temperature Component: –40°C to +165°C.

Tape and reel packaging: –40°C to +80°C

Resistance to soldering heat Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles

Moisture Sensitivity Level (MSL) 1 (unlimited floor life at <30°C / 85% relative humidity)

Failures in Time (FIT) / Mean Time Between Failures (MTBF)

38 per billion hours / 26,315,789 hours, calculated per Telcordia SR-332

Packaging 200/7" reel; 800/13" reel; Plastic tape: 24 mm wide, 0.35 mm thick, 16 mm pocket spacing, 4.7 mm pocket depth

PCB washing Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787_PCB_Washing.pdf](#).

| Part number ¹ | Inductance ² (µH) | DCR ³ (mOhms) | | SRF typ ⁴ (MHz) | Isat (A) ⁵ | | | Irms (A) ⁶ | |
|--------------------------|---------------------------------|-----------------------------|-------|----------------------------------|-----------------------|-------------|-------------|-----------------------|--------------|
| | | typ | max | | 10% drop | 20% drop | 30% drop | 20°C rise | 40°C rise |
| MSS1246T-102ML_ | 1.0±20% | 5.6 | 6.3 | 100 | 18.14 | 20.64 | 22.24 | 6.00 | 8.00 |
| MSS1246T-152ML_ | 1.5±20% | 8.7 | 9.7 | 85.0 | 14.06 | 15.90 | 17.08 | 5.80 | 7.80 |
| MSS1246T-272ML_ | 2.7±20% | 10.3 | 11.5 | 70.0 | 11.66 | 13.16 | 14.16 | 5.00 | 6.80 |
| MSS1246T-332ML_ | 3.3±20% | 15.1 | 16.8 | 65.0 | 9.74 | 11.08 | 11.98 | 4.50 | 6.30 |
| MSS1246T-472ML_ | 4.7±20% | 19.1 | 21.3 | 42.0 | 8.62 | 9.70 | 10.42 | 4.40 | 6.00 |
| MSS1246T-562ML_ | 5.6±20% | 22.1 | 24.6 | 37.0 | 7.62 | 8.74 | 9.44 | 3.95 | 5.75 |
| MSS1246T-682ML_ | 6.8±20% | 24.9 | 27.7 | 33.0 | 7.38 | 8.36 | 9.00 | 3.70 | 5.20 |
| MSS1246T-822ML_ | 8.2±20% | 27.4 | 30.5 | 31.0 | 6.84 | 7.70 | 8.32 | 3.35 | 4.67 |
| MSS1246T-103ML_ | 10±20% | 36.8 | 40.9 | 27.0 | 5.88 | 6.66 | 7.18 | 2.85 | 3.90 |
| MSS1246T-123ML_ | 12±20% | 38.9 | 43.3 | 24.0 | 5.34 | 6.04 | 6.52 | 2.69 | 3.65 |
| MSS1246T-153ML_ | 15±20% | 48.6 | 54.1 | 22.0 | 4.68 | 5.36 | 5.78 | 2.50 | 3.40 |
| MSS1246T-183ML_ | 18±20% | 51.0 | 56.7 | 19.0 | 4.32 | 4.92 | 5.32 | 2.41 | 3.19 |
| MSS1246T-223ML_ | 22±20% | 60.3 | 67.0 | 18.0 | 3.84 | 4.34 | 4.75 | 2.30 | 3.14 |
| MSS1246T-273ML_ | 27±20% | 67.5 | 75.0 | 16.0 | 3.54 | 4.02 | 4.32 | 2.06 | 2.86 |
| MSS1246T-333ML_ | 33±20% | 81.7 | 90.8 | 15.0 | 3.24 | 3.66 | 3.96 | 1.90 | 2.60 |
| MSS1246T-393ML_ | 39±20% | 95.2 | 105.8 | 13.3 | 3.04 | 3.46 | 3.72 | 1.73 | 2.39 |
| MSS1246T-473ML_ | 47±20% | 120.6 | 134.0 | 12.0 | 2.70 | 3.08 | 3.34 | 1.50 | 2.10 |
| MSS1246T-563ML_ | 56±20% | 133.8 | 148.7 | 10.6 | 2.46 | 2.80 | 3.02 | 1.44 | 2.01 |
| MSS1246T-683ML_ | 68±20% | 167.3 | 185.9 | 9.7 | 2.26 | 2.54 | 2.74 | 1.30 | 1.80 |
| MSS1246T-823ML_ | 82±20% | 188.5 | 209.5 | 8.8 | 1.98 | 2.26 | 2.46 | 1.24 | 1.72 |
| MSS1246T-104ML_ | 100±20% | 216.8 | 240.9 | 8.0 | 1.84 | 2.08 | 2.24 | 1.19 | 1.65 |
| MSS1246T-124KL_ | 120±10% | 287.2 | 319.2 | 7.2 | 1.62 | 1.86 | 2.04 | 1.03 | 1.42 |
| MSS1246T-154KL_ | 150±10% | 326.7 | 363.0 | 6.6 | 1.48 | 1.70 | 1.82 | 0.95 | 1.30 |
| MSS1246T-184KL_ | 180±10% | 379.5 | 421.7 | 5.9 | 1.36 | 1.56 | 1.68 | 0.89 | 1.21 |
| MSS1246T-224KL_ | 220±10% | 488.2 | 542.5 | 5.3 | 1.22 | 1.38 | 1.50 | 0.76 | 1.00 |
| MSS1246T-274KL_ | 270±10% | 560.1 | 622.4 | 4.7 | 1.12 | 1.26 | 1.36 | 0.72 | 0.95 |
| MSS1246T-334KL_ | 330±10% | 731.4 | 812.7 | 4.1 | 1.00 | 1.10 | 1.20 | 0.65 | 0.87 |
| MSS1246T-394KL_ | 390±10% | 813.7 | 904.2 | 3.8 | 0.946 | 1.00 | 1.10 | 0.59 | 0.79 |
| MSS1246T-474KL_ | 470±10% | 935.1 | 1039 | 3.5 | 0.864 | 0.978 | 1.00 | 0.56 | 0.76 |
| MSS1246T-564KL_ | 560±10% | 1193 | 1326 | 3.0 | 0.776 | 0.884 | 0.956 | 0.50 | 0.67 |
| MSS1246T-684KL_ | 680±10% | 1370 | 1523 | 2.8 | 0.720 | 0.818 | 0.882 | 0.46 | 0.62 |
| MSS1246T-824KL_ | 820±10% | 1590 | 1767 | 2.6 | 0.634 | 0.728 | 0.792 | 0.43 | 0.58 |
| MSS1246T-105KL_ | 1000±10% | 2090 | 2323 | 2.4 | 0.594 | 0.676 | 0.728 | 0.36 | 0.50 |

1. Please specify **termination** and **packaging** codes:

MSS1246T-105KLD

Termination: L = RoHS compliant matte tin over nickel over phos bronze.
Special order:
T = RoHS tin-silver-copper (95.5/4/0.5) or S = non-RoHS tin-lead (63/37).

Packaging: C = 7" machine-ready reel. EIA-481 embossed plastic tape (200 parts per full reel).

B = Less than full reel. In tape, but not machine ready.
To have a leader and trailer added (\$25 charge), use code letter C instead.

D = 13 machine-ready reel. EIA-481 embossed plastic tape (800 parts per full reel).

2. Inductance measured at 100 kHz, 0.1 Vrms, 0 Adc using a Coilcraft SMD-A fixture in an Agilent/HP 4263B LCR meter or equivalent.
3. DCR measured on a micro-ohmmeter and a Coilcraft CCF858 test fixture.
4. SRF measured using an Agilent/HP 8753D network analyzer and a Coilcraft SMD-D test fixture.
5. DC current at 25°C that causes the specified inductance drop from its value without current. [Click for temperature derating information.](#)
6. Current that causes the specified temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings. [Click for temperature derating information.](#)
7. Electrical specifications at 25°C.
Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

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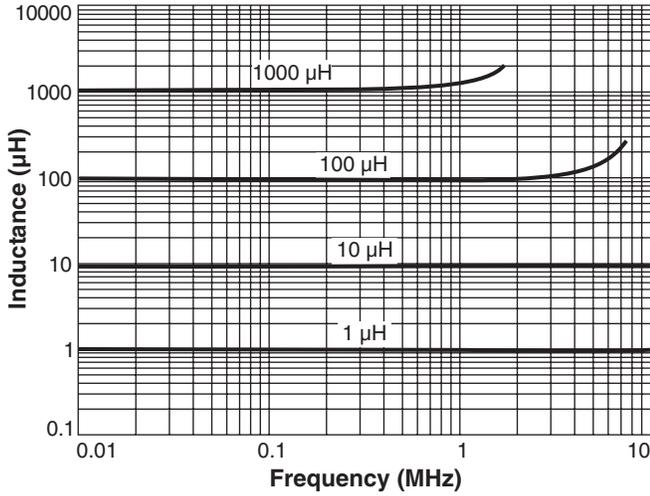
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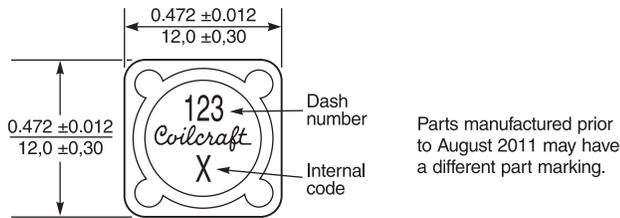
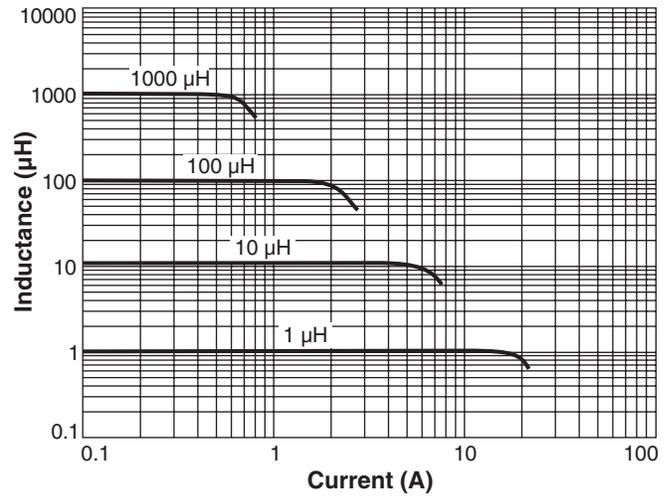
HIGH TEMPERATURE

Shielded Power Inductors – MSS1246T

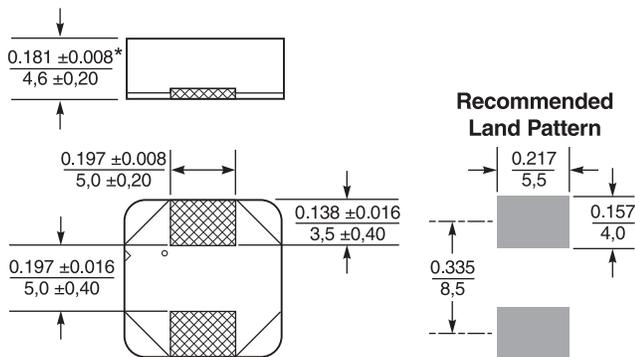
Typical L vs Frequency



Typical L vs Current



Parts manufactured prior to August 2011 may have a different part marking.



* For optional tin-lead and tin-silver-copper terminations, dimensions are for the mounted part. Dimensions before mounting can be an additional 0.012 inch (0,3 mm).

Dimensions are in $\frac{\text{inches}}{\text{mm}}$

