

# High Temp Power Inductors MSS7341T



- Designed for high ambient temperatures – up to 125°C
- AEC-Q200 Grade 1 qualified
- Low DCR and excellent current handling

**Core material** Ferrite

**Core and winding loss** See [www.coilcraft.com/coreloss](http://www.coilcraft.com/coreloss)

**Environment** RoHS compliant

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

**Weight:** 0.61 – 0.67 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** 300/7 reel; 1200/13" reel; Plastic tape: 16 mm wide, 0.35 mm thick, 12 mm pocket spacing, 4.5 mm pocket depth

**PCB washing** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787\\_PCB\\_Washing.pdf](#).

| Part number <sup>1</sup> | Inductance <sup>2</sup><br>(µH) | Percent tolerance <sup>3</sup> | DCR (Ohms) |       | SRF typ <sup>4</sup><br>(MHz) | Isat (A) <sup>5</sup> |          |          | Irms (A) <sup>6</sup> |           |
|--------------------------|---------------------------------|--------------------------------|------------|-------|-------------------------------|-----------------------|----------|----------|-----------------------|-----------|
|                          |                                 |                                | typ        | max   |                               | 10% drop              | 20% drop | 30% drop | 20°C rise             | 40°C rise |
| MSS7341T-332_L_          | 3.3                             | <b>30</b> ,20                  | 0.014      | 0.018 | 85                            | 2.8                   | 3.4      | 3.7      | 3.95                  | 5.00      |
| MSS7341T-502_L_          | 5.0                             | <b>30</b> ,20                  | 0.018      | 0.023 | 49                            | 2.4                   | 2.8      | 3.1      | 3.40                  | 4.70      |
| MSS7341T-622_L_          | 6.2                             | <b>30</b> ,20                  | 0.024      | 0.027 | 42                            | 2.1                   | 2.5      | 2.7      | 3.05                  | 4.30      |
| MSS7341T-742_L_          | 7.4                             | <b>30</b> ,20                  | 0.027      | 0.031 | 35                            | 2.0                   | 2.3      | 2.6      | 2.80                  | 4.10      |
| MSS7341T-872_L_          | 8.7                             | <b>30</b> ,20                  | 0.029      | 0.034 | 33                            | 1.8                   | 2.1      | 2.3      | 2.80                  | 3.90      |
| MSS7341T-103ML_          | 10                              | <b>20</b>                      | 0.032      | 0.038 | 32                            | 1.7                   | 2.0      | 2.2      | 2.80                  | 3.80      |
| MSS7341T-123ML_          | 12                              | <b>20</b>                      | 0.040      | 0.050 | 27                            | 1.6                   | 1.8      | 2.0      | 2.45                  | 3.30      |
| MSS7341T-153ML_          | 15                              | <b>20</b>                      | 0.047      | 0.055 | 26                            | 1.4                   | 1.7      | 1.8      | 2.05                  | 3.00      |
| MSS7341T-183ML_          | 18                              | <b>20</b>                      | 0.065      | 0.075 | 25                            | 1.3                   | 1.5      | 1.6      | 1.85                  | 2.65      |
| MSS7341T-223ML_          | 22                              | <b>20</b>                      | 0.074      | 0.082 | 22                            | 1.2                   | 1.4      | 1.5      | 1.70                  | 2.35      |
| MSS7341T-273ML_          | 27                              | <b>20</b>                      | 0.091      | 0.109 | 19                            | 1.0                   | 1.2      | 1.3      | 1.50                  | 2.10      |
| MSS7341T-333ML_          | 33                              | <b>20</b>                      | 0.104      | 0.124 | 17                            | 0.94                  | 1.1      | 1.2      | 1.50                  | 1.95      |
| MSS7341T-393ML_          | 39                              | <b>20</b>                      | 0.115      | 0.130 | 15                            | 0.86                  | 1.0      | 1.1      | 1.50                  | 1.90      |
| MSS7341T-473ML_          | 47                              | <b>20</b>                      | 0.127      | 0.155 | 14                            | 0.80                  | 0.95     | 1.0      | 1.50                  | 1.85      |
| MSS7341T-563ML_          | 56                              | <b>20</b>                      | 0.174      | 0.202 | 11                            | 0.72                  | 0.86     | 0.94     | 1.25                  | 1.60      |
| MSS7341T-683ML_          | 68                              | <b>20</b>                      | 0.236      | 0.250 | 9.6                           | 0.64                  | 0.76     | 0.83     | 1.00                  | 1.35      |
| MSS7341T-823ML_          | 82                              | <b>20</b>                      | 0.257      | 0.290 | 8.5                           | 0.57                  | 0.68     | 0.74     | 1.00                  | 1.25      |
| MSS7341T-104ML_          | 100                             | <b>20</b>                      | 0.286      | 0.310 | 7.2                           | 0.54                  | 0.64     | 0.70     | 0.90                  | 1.15      |
| MSS7341T-154ML_          | 150                             | <b>20</b>                      | 0.438      | 0.475 | 6.0                           | 0.45                  | 0.53     | 0.58     | 0.86                  | 1.14      |
| MSS7341T-224ML_          | 220                             | <b>20</b>                      | 0.660      | 0.710 | 5.0                           | 0.39                  | 0.47     | 0.51     | 0.57                  | 0.78      |
| MSS7341T-474KL_          | 470                             | <b>10</b>                      | 1.21       | 1.45  | 3.0                           | 0.27                  | 0.32     | 0.35     | 0.43                  | 0.57      |
| MSS7341T-684KL_          | 680                             | <b>10</b>                      | 1.85       | 1.98  | 2.5                           | 0.20                  | 0.25     | 0.27     | 0.42                  | 0.56      |

1. When ordering, specify **tolerance**, **termination** and **packaging** codes:

MSS7341T-872NLD

**Tolerance:** M = 20%, N = 30% (Table shows stock tolerances in bold.)

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

**Packaging:** D = 13" machine-ready reel. EIA-481 embossed plastic tape (1200 parts per full reel).

C = 7" machine-ready reel. EIA-481 embossed plastic tape. Special order (300 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 D instead.

2. Inductance measured at 100 kHz, 0.1 Vrms, 0 Adc using a Coilcraft SMD-A fixture in an Agilent/HP 4263B LCR meter.

3. Tolerances shown in bold are stocked for immediate shipment.

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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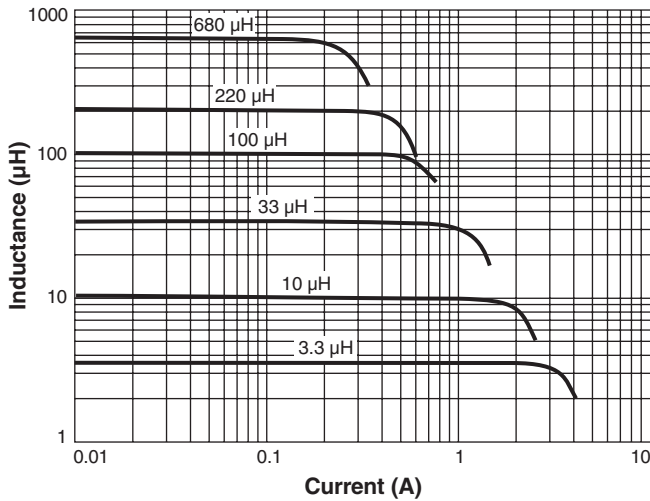
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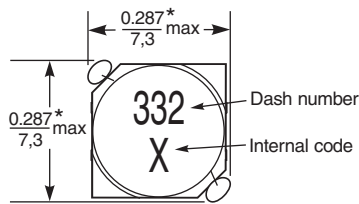
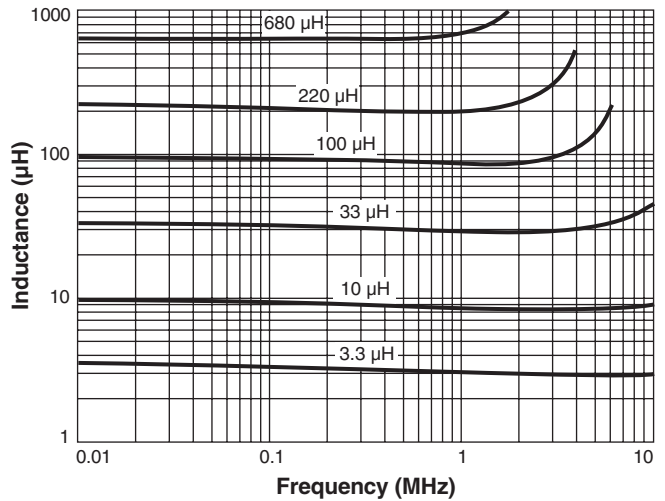
# HIGH TEMPERATURE

## High Temperature Power Inductors – MSS7341T Series

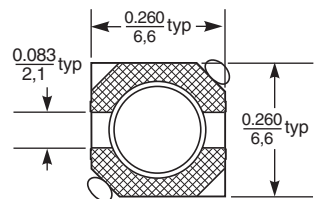
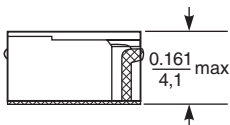
### Typical L vs Current



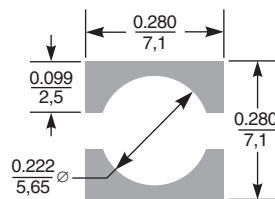
### Typical L vs Frequency



\*Dimensions are of the case not including the termination. For maximum overall dimensions including the termination, add 0.02 in / 0,51 mm.



#### Recommended Land Pattern



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

