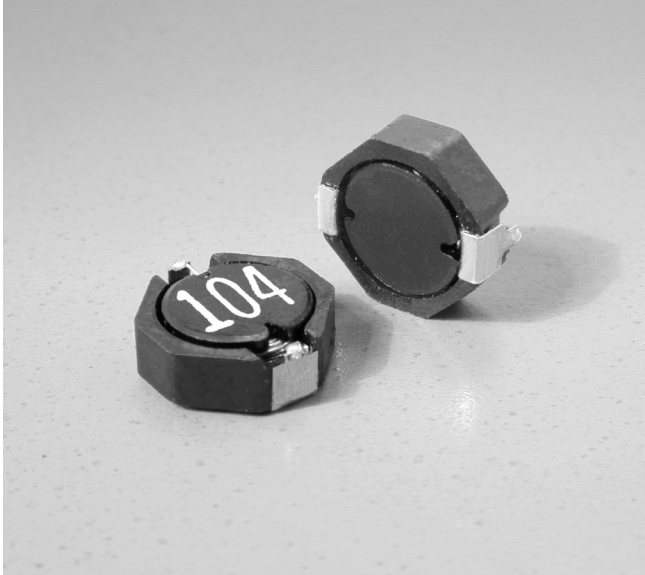




# Shielded Power Inductors – MOS6020



- 6.0 × 7.1 mm footprint; 2.4 mm high shielded inductors
- Custom versions up to 4.7 mH are available.

**Designer's Kit C359** contains 3 of each value

**Core material** Ferrite

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

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

**Weight** 0.21 g

**Ambient temperature** -40°C to +85°C with (40°C rise) Irms current.

**Maximum part temperature** +125°C (ambient + temp rise). [Derating](#).

**Storage temperature** Component: -40°C to +125°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** 500 per 7" reel; 2000 per 13" reel; Plastic tape: 16 mm wide, 0.3 mm thick, 12 mm pocket spacing, 2.5 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>±20% (μH) | DCR max<br>(Ohms) | SRF typ <sup>3</sup><br>(MHz) | Isat (A) <sup>4</sup> |          |          | Irms (A) <sup>5</sup> |           |
|--------------------------|--------------------------------------|-------------------|-------------------------------|-----------------------|----------|----------|-----------------------|-----------|
|                          |                                      |                   |                               | 10% drop              | 20% drop | 30% drop | 20°C rise             | 40°C rise |
| MOS6020-222ML_           | 2.2                                  | 0.035             | 110                           | 2.86                  | 3.26     | 3.56     | 3.0                   | 4.1       |
| MOS6020-332ML_           | 3.3                                  | 0.046             | 85                            | 1.90                  | 2.28     | 2.46     | 2.6                   | 3.6       |
| MOS6020-472ML_           | 4.7                                  | 0.050             | 60                            | 1.46                  | 1.82     | 1.94     | 2.3                   | 3.1       |
| MOS6020-682ML_           | 6.8                                  | 0.078             | 55                            | 1.32                  | 1.56     | 1.72     | 1.9                   | 2.7       |
| MOS6020-822ML_           | 8.2                                  | 0.085             | 45                            | 0.94                  | 1.18     | 1.30     | 1.7                   | 2.3       |
| MOS6020-103ML_           | 10                                   | 0.092             | 36                            | 0.79                  | 0.95     | 1.06     | 1.6                   | 2.2       |
| MOS6020-153ML_           | 15                                   | 0.130             | 30                            | 0.83                  | 0.95     | 1.03     | 1.3                   | 1.8       |
| MOS6020-223ML_           | 22                                   | 0.182             | 22                            | 0.79                  | 0.92     | 0.97     | 1.0                   | 1.4       |
| MOS6020-333ML_           | 33                                   | 0.290             | 20                            | 0.57                  | 0.67     | 0.74     | 0.80                  | 1.1       |
| MOS6020-473ML_           | 47                                   | 0.420             | 16                            | 0.45                  | 0.56     | 0.62     | 0.50                  | 0.7       |
| MOS6020-683ML_           | 68                                   | 0.520             | 15                            | 0.37                  | 0.45     | 0.51     | 0.45                  | 0.63      |
| MOS6020-104ML_           | 100                                  | 0.800             | 13                            | 0.35                  | 0.40     | 0.44     | 0.40                  | 0.56      |
| MOS6020-154ML_           | 150                                  | 1.28              | 10                            | 0.26                  | 0.30     | 0.33     | 0.35                  | 0.49      |
| MOS6020-224ML_           | 220                                  | 2.00              | 8                             | 0.22                  | 0.26     | 0.28     | 0.30                  | 0.42      |
| MOS6020-334ML_           | 330                                  | 2.84              | 7                             | 0.18                  | 0.22     | 0.24     | 0.25                  | 0.35      |
| MOS6020-474ML_           | 470                                  | 4.40              | 5                             | 0.15                  | 0.17     | 0.19     | 0.22                  | 0.29      |

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

**MOS6020-104MLC**

**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 (500 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. Factory order only, not stocked (2000 parts per full reel).

2. Inductance tested at 100 kHz, 0.1 Vrms, 0 Adc using an Agilent/HP 4263B LCR meter or equivalent.

3. SRF measured using Agilent/HP 8753D network analyzer.

4. DC current at 25°C that causes the specified inductance drop from its value without current. [Click for temperature derating information](#).

5. 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](#).

6. Electrical specifications at 25°C.

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



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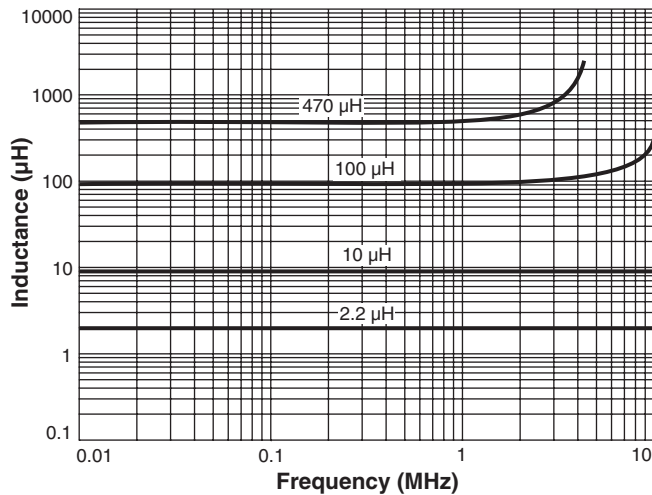
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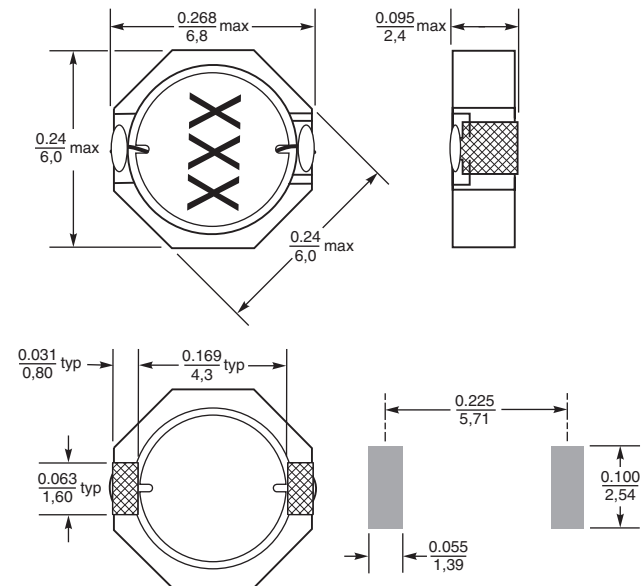
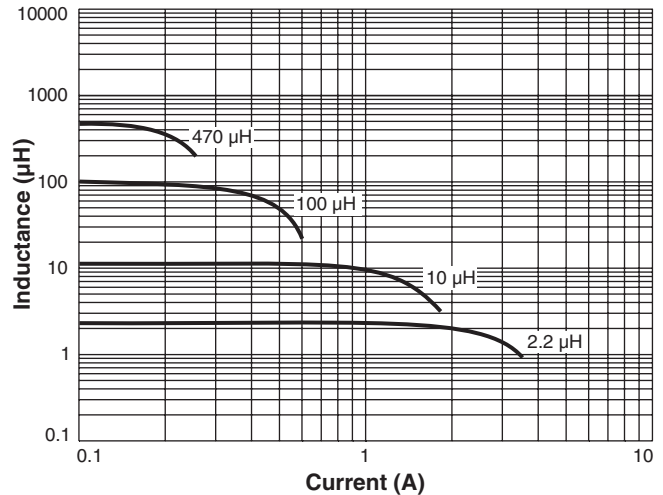


# Shielded Power Inductors – MOS6020

## Typical L vs Frequency



## Typical L vs Current



**Recommended  
Land Pattern**

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

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

## Coilcraft:

[MOS6020-472MLC](#) [MOS6020-682MLC](#) [MOS6020-153MLB](#) [MOS6020-334MLB](#) [MOS6020-223MLB](#) [MOS6020-103MLC](#) [MOS6020-332MLB](#) [MOS6020-332MLC](#) [MOS6020-104MLC](#) [MOS6020-103MLB](#) [MOS6020-154MLB](#) [MOS6020-222MLB](#) [MOS6020-222MLC](#) [MOS6020-474MLC](#) [MOS6020-153MLC](#) [MOS6020-822MLC](#) [MOS6020-333MLB](#) [MOS6020-224MLB](#) [MOS6020-154MLC](#) [MOS6020-682MLB](#) [MOS6020-334MLC](#) [MOS6020-473MLB](#) [MOS6020-472MLB](#) [MOS6020-822MLB](#) [MOS6020-333MLC](#) [MOS6020-223MLC](#) [MOS6020-474MLB](#) [MOS6020-224MLC](#) [MOS6020-683MLC](#) [MOS6020-683MLB](#) [MOS6020-104MLB](#) [MOS6020-473MLC](#)