# High-Reliability Power Inductors MS563PKA

- High temperature materials allow operation in ambient temperatures up to 155°C.
- Tin-lead (Sn-Pb) soldered self-leaded construction for excellent solderability.
- Very low DCR values and excellent current handling

**Core material** Ferrite

**Terminations** Tin-lead (63/37) over copper

**Weight** 0.95 – 1.25 g

**Ambient temperature** –55°C to +105°C with Irms current

**Maximum part temperature** +155°C (ambient + temp rise).

**Storage temperature** Component: –55°C to +155°C. Packaging: –55°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)

**Enhanced crush-resistant packaging** 750 per 13″ reel
Plastic tape: 24 mm wide, 0.35 mm thick, 12 mm pocket spacing, 6.4 mm pocket depth

| Part number[1] | Inductance[2] ±20% (µH) | DCR (mOhm) typ | DCR (mOhm) max | SRF (MHz)[3] min | SRF (MHz)[3] typ | Isat (A)[4] 10% drop | Isat (A)[4] 20% drop | Isat (A)[4] 30% drop | Irms (A)[5] 20°C rise | Irms (A)[5] 40°C rise |
|---|---|---|---|---|---|---|---|---|---|---|
| MS563PKA301MSZ | 0.3 | 2.6 | 3.0 | 200 | 238 | 14.0 | 16.0 | 17.0 | 8.0 | 12.0 |
| MS563PKA901MSZ | 0.9 | 5.1 | 6.0 | 122 | 153 | 8.6 | 10.2 | 10.9 | 6.1 | 8.8 |
| MS563PKA122MSZ | 1.2 | 5.1 | 7.0 | 100 | 125 | 7.0 | 8.4 | 9.3 | 3.4 | 5.6 |
| MS563PKA182MSZ | 1.8 | 7.7 | 9.0 | 86 | 108 | 6.2 | 7.4 | 8.1 | 3.2 | 5.0 |
| MS563PKA222MSZ | 2.2 | 6.8 | 10 | 74 | 92 | 6.0 | 6.7 | 7.2 | 2.9 | 4.5 |
| MS563PKA272MSZ | 2.7 | 9.4 | 11 | 63 | 79 | 5.1 | 6.0 | 6.4 | 2.7 | 4.2 |
| MS563PKA332MSZ | 3.3 | 11.1 | 13 | 57 | 71 | 4.7 | 5.5 | 6.0 | 2.4 | 4.0 |
| MS563PKA392MSZ | 3.9 | 15.3 | 18 | 54 | 68 | 4.3 | 5.2 | 5.5 | 2.4 | 4.0 |
| MS563PKA472MSZ | 4.7 | 20.4 | 24 | 46 | 57 | 4.0 | 4.4 | 4.8 | 2.4 | 3.7 |
| MS563PKA562MSZ | 5.6 | 21.3 | 25 | 43 | 53 | 3.6 | 4.1 | 4.4 | 2.2 | 3.3 |
| MS563PKA682MSZ | 6.8 | 25.5 | 30 | 38 | 48 | 3.3 | 3.7 | 4.0 | 2.2 | 3.3 |
| MS563PKA822MSZ | 8.2 | 29.8 | 35 | 35 | 44 | 2.9 | 3.4 | 3.7 | 2.2 | 3.2 |
| MS563PKA103MSZ | 10 | 32.3 | 38 | 30 | 38 | 2.7 | 3.1 | 3.4 | 2.1 | 3.1 |
| MS563PKA123MSZ | 12 | 40.8 | 48 | 26 | 33 | 2.5 | 2.9 | 3.1 | 1.7 | 2.7 |
| MS563PKA153MSZ | 15 | 49.3 | 58 | 25 | 31 | 2.2 | 2.5 | 2.8 | 1.9 | 2.6 |
| MS563PKA183MSZ | 18 | 59.5 | 70 | 21 | 27 | 2.1 | 2.4 | 2.6 | 1.9 | 2.5 |
| MS563PKA223MSZ | 22 | 72.3 | 85 | 20 | 25 | 1.9 | 2.1 | 2.3 | 1.8 | 2.4 |
| MS563PKA273MSZ | 27 | 85 | 100 | 19 | 24 | 1.7 | 1.9 | 2.1 | 1.3 | 1.9 |
| MS563PKA333MSZ | 33 | 109 | 128 | 16 | 20 | 1.5 | 1.7 | 1.9 | 1.3 | 1.8 |
| MS563PKA393MSZ | 39 | 116 | 136 | 14 | 18 | 1.3 | 1.5 | 1.7 | 1.3 | 1.8 |
| MS563PKA473MSZ | 47 | 146 | 172 | 12 | 15 | 1.2 | 1.4 | 1.5 | 1.1 | 1.5 |
| MS563PKA563MSZ | 56 | 170 | 200 | 11 | 14 | 1.1 | 1.3 | 1.4 | 0.9 | 1.3 |
| MS563PKA683MSZ | 68 | 221 | 260 | 10 | 13 | 0.85 | 1.2 | 1.3 | 0.82 | 1.2 |
| MS563PKA823MSZ | 82 | 264 | 310 | 9.5 | 12 | 0.82 | 1.1 | 1.2 | 0.81 | 1.2 |
| MS563PKA104MSZ | 100 | 306 | 360 | 8.3 | 10 | 0.80 | 0.96 | 1.1 | 0.80 | 1.1 |
| MS563PKA124MSZ | 120 | 384 | 452 | 8.3 | 10 | 0.70 | 0.85 | 0.98 | 0.68 | 0.90 |
| MS563PKA154MSZ | 150 | 432 | 508 | 7.0 | 8.7 | 0.65 | 0.80 | 0.86 | 0.63 | 0.87 |
| MS563PKA184MSZ | 180 | 525 | 618 | 6.0 | 7.5 | 0.62 | 0.70 | 0.80 | 0.54 | 0.76 |
| MS563PKA224MSZ | 220 | 618 | 727 | 5.3 | 6.6 | 0.50 | 0.70 | 0.65 | 0.53 | 0.73 |
| MS563PKA274MSZ | 270 | 819 | 963 | 4.6 | 5.8 | 0.44 | 0.54 | 0.62 | 0.43 | 0.62 |
| MS563PKA334MSZ | 330 | 935 | 1100 | 4.4 | 5.5 | 0.42 | 0.48 | 0.58 | 0.41 | 0.57 |
| MS563PKA394MSZ | 390 | 1105 | 1300 | 3.9 | 4.8 | 0.41 | 0.46 | 0.53 | 0.38 | 0.53 |
| MS563PKA474MSZ | 470 | 1360 | 1600 | 3.6 | 4.3 | 0.35 | 0.44 | 0.48 | 0.34 | 0.47 |

1. When ordering, specify **testing** code:
**MS563PKA474MSZ**

**Testing:** **Z** = Unscreened
**Y** = Unscreened (SLDC Option A)
**W** = Unscreened (SLDC Option B)
**H** = Group A screening per Coilcraft CP-SA-10001
**G** = Coilcraft CP-SA-10001 Group A (SLDC Option A)
**D** = Coilcraft CP-SA-10001 Group A (SLDC Option B)
**N** = Group A screening per Coilcraft CP-SA-10004
All screening performed to the document's latest revision

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 or equivalent..
4. DC current at 25°C that causes the specified inductance drop from its value without current.
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.
6. Electrical specifications at 25°C.

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

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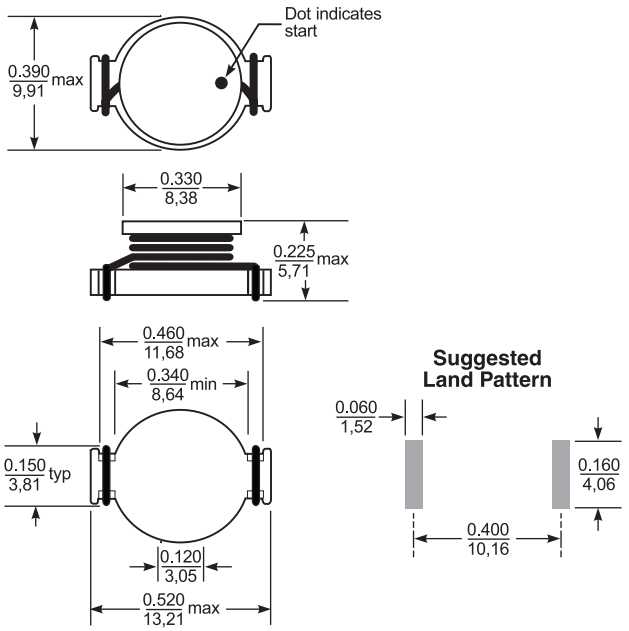
# MS563PKA Series (3316)




Dimensions are in inches / mm

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