

# High-Reliability Power Inductors ML563PKA



- High temperature materials allow operation in ambient temperatures up to 155°C.
- Soldered self-leaded construction for excellent solderability.
- Very low DCR values and excellent current handling

**Core material** Ferrite

**Terminations** Tin-silver-copper 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.  
Tape and reel 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 <sup>1</sup>	Inductance <sup>2</sup> ±20% (µH)	DCR (mOhm)		SRF (MHz) <sup>3</sup>		Isat (A) <sup>4</sup>			Irms (A) <sup>5</sup>	
		typ	max	min	typ	10% drop	20% drop	30% drop	20°C rise	40°C rise
ML563PKA301MLZ	0.3	2.6	3.0	200	238	14	16.0	17.0	8.0	12.0
ML563PKA901MLZ	0.9	5.1	6.0	122	153	8.6	10.2	10.9	6.1	8.8
ML563PKA122MLZ	1.2	5.1	7.0	100	125	7.0	8.4	9.3	3.4	5.6
ML563PKA182MLZ	1.8	7.7	9.0	86	108	6.2	7.4	8.1	3.2	5.0
ML563PKA222MLZ	2.2	6.8	10	74	92	6.0	6.7	7.2	2.9	4.5
ML563PKA272MLZ	2.7	9.4	11	63	79	5.1	6.0	6.4	2.7	4.2
ML563PKA332MLZ	3.3	11.1	13	57	71	4.7	5.5	6.0	2.4	4.0
ML563PKA392MLZ	3.9	15.3	18	54	68	4.3	5.2	5.5	2.4	4.0
ML563PKA472MLZ	4.7	20.4	24	46	57	4.0	4.4	4.8	2.4	3.7
ML563PKA562MLZ	5.6	21.3	25	43	53	3.6	4.1	4.4	2.2	3.3
ML563PKA682MLZ	6.8	25.5	30	38	48	3.3	3.7	4.0	2.2	3.3
ML563PKA822MLZ	8.2	29.8	35	35	44	2.9	3.4	3.7	2.2	3.2
ML563PKA103MLZ	10	32.3	38	30	38	2.7	3.1	3.4	2.1	3.1
ML563PKA123MLZ	12	40.8	48	26	33	2.5	2.9	3.1	1.7	2.7
ML563PKA153MLZ	15	49.3	58	25	31	2.2	2.5	2.8	1.9	2.6

Continued on next page

1. When ordering, specify **screening** code:

**ML563PKA153MLZ**

**Screening:** Z = Unscreened

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)

1/2/3 = EEE-INST-002 (Family 1) Level 1/2/3

4/5 = MIL-STD-981 (Family 04) Class B=4, Class S=5

F = Screening per ESCC 3201

• Screening performed to the document's latest revision.

• Lot qualification (Group B) available.

• Testing T and U have been replaced with more detailed codes 4, 5, and 1, 2, 3, respectively. Codes T and U can still be used, if necessary. Custom testing also available.

• Country of origin restrictions available; prefix options G or F.

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. Typical DC current at which the inductance drops 10% (typ) from its value without current.

5. Typical Current that causes a 40°C temperature rise from 25°C ambient.

6. Electrical specifications at 25°C.

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

**Coilcraft CPS**  
CRITICAL PRODUCTS & SERVICES

1102 Silver Lake Road  
Cary, IL 60013  
Phone 800-981-0363

Fax 847-639-1508  
Email cps@coilcraft.com  
www.coilcraft-cps.com

Document ML196-1 Revised 09/14/22

This product may not be used in medical or high risk applications without prior Coilcraft approval. Specifications subject to change without notice. Please check our web site for latest information.

# ML563PKA Series (3316)

Part number <sup>1</sup>	Inductance <sup>2</sup> ±20% (µH)	DCR (mOhm)		SRF (MHz) <sup>3</sup>		Isat (A) <sup>4</sup>			Irms (A) <sup>5</sup>	
		typ	max	min	typ	10% drop	20% drop	30% drop	20°C rise	40°C rise
ML563PKA183MLZ	18	59.5	70	21	27	2.1	2.4	2.6	1.9	2.5
ML563PKA223MLZ	22	72.3	85	20	25	1.9	2.1	2.3	1.8	2.4
ML563PKA273MLZ	27	85	100	19	24	1.7	1.9	2.1	1.3	1.9
ML563PKA333MLZ	33	109	128	16	20	1.5	1.7	1.9	1.3	1.8
ML563PKA393MLZ	39	116	136	14	18	1.3	1.5	1.7	1.3	1.8
ML563PKA473MLZ	47	146	172	12	15	1.2	1.4	1.5	1.1	1.5
ML563PKA563MLZ	56	170	200	11	14	1.1	1.3	1.4	0.9	1.3
ML563PKA683MLZ	68	221	260	10	13	0.85	1.2	1.3	0.82	1.2
ML563PKA823MLZ	82	264	310	9.5	12	0.82	1.1	1.2	0.81	1.2
ML563PKA104MLZ	100	306	360	8.3	10	0.80	0.96	1.1	0.80	1.1
ML563PKA124MLZ	120	384	452	8.3	10	0.70	0.85	0.98	0.68	0.90
ML563PKA154MLZ	150	432	508	7.0	8.7	0.65	0.80	0.86	0.63	0.87
ML563PKA184MLZ	180	525	618	6.0	7.5	0.62	0.70	0.80	0.54	0.76
ML563PKA224MLZ	220	618	727	5.3	6.6	0.50	0.70	0.65	0.53	0.73
ML563PKA274MLZ	270	819	963	4.6	5.8	0.44	0.54	0.62	0.43	0.62
ML563PKA334MLZ	330	935	1100	4.4	5.5	0.42	0.48	0.58	0.41	0.57
ML563PKA394MLZ	390	1105	1300	3.9	4.8	0.41	0.46	0.53	0.38	0.53
ML563PKA474MLZ	470	1360	1600	3.6	4.3	0.35	0.44	0.48	0.34	0.47

1. When ordering, specify **screening** code:

**ML563PKA474MLZ**

**Screening:** Z = Unscreened

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)

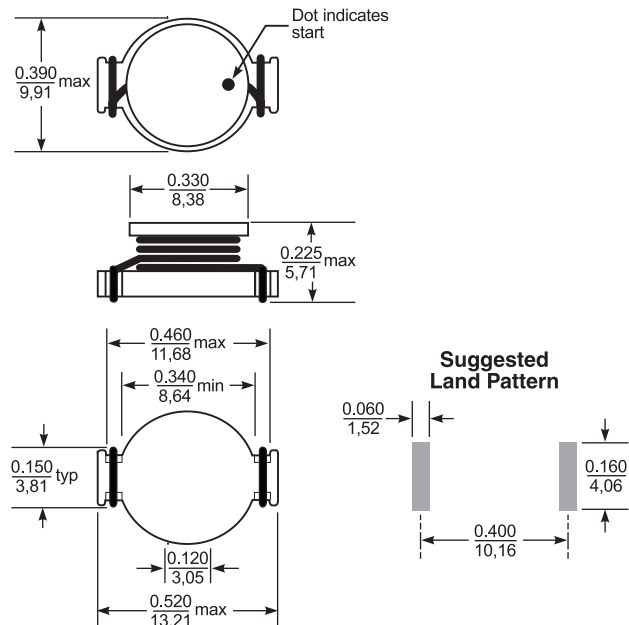
1/2/3 = EEE-INST-002 (Family 1) Level 1/2/3

4/5 = MIL-STD-981 (Family 04) Class B=4, Class S=5

F = Screening per ESCC 3201

- Screening performed to the document's latest revision.
- Lot qualification (Group B) available.
- Testing T and U have been replaced with more detailed codes 4, 5, and 1, 2, 3, respectively. Codes T and U can still be used, if necessary. Custom testing also available.
- Country of origin restrictions available; prefix options G or F.

- Inductance tested at 100 kHz, 0.1 Vrms, 0 Adc using an Agilent/HP 4263B LCR meter or equivalent.
  - SRF measured using Agilent/HP 8753D network analyzer or equivalent.
  - Typical DC current at which the inductance drops 10% (typ) from its value without current.
  - Typical Current that causes a 40°C temperature rise from 25°C ambient.
  - Electrical specifications at 25°C.
- Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



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