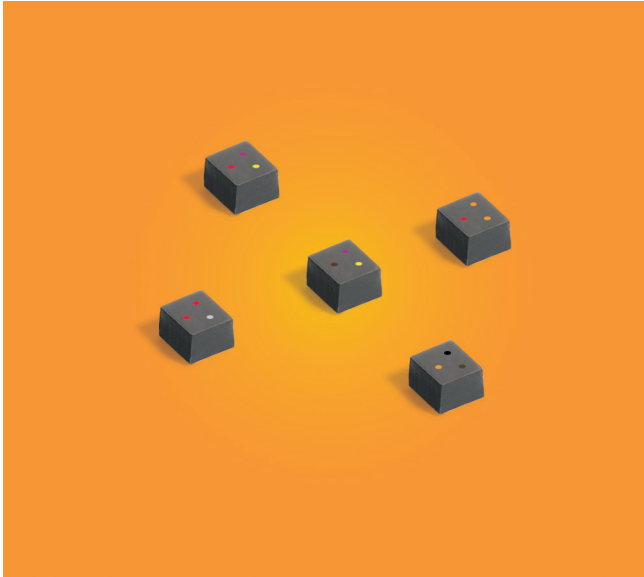


Power Inductor for Critical Applications ST358PWA



- Miniature shielded power inductors; 2.0 × 2.0 mm footprint
- Extremely low DCR and very high SRF ratings
- Isat ratings as high as 2.8 A

Core material Ferrite

Terminations Tin-silver-copper over tin over nickel over silver.

Weight 20 – 25 mg

Ambient temperature –40°C to +85°C with Irms current

Maximum part temperature +125°C (ambient + temp rise).

Storage temperature Component: –55°C to +125°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)

Packaging 2000/7" reel; 7500/13" reel Plastic tape: 8 mm wide, 0.28 mm thick, 4 mm pocket spacing, 1.65 mm pocket depth

Part number ¹	Inductance ² ±20% (µH)	DCR nom ³ (Ohms)	DCR max ³ (Ohms)	SRF typ ⁴ (MHz)	Isat (A) ⁵			Irms (A) ⁶	
					10% drop	20% drop	30% drop	20°C rise	40°C rise
ST358PWA271MLZ	0.27	0.030	0.036	570	1.50	2.30	2.80	2.04	2.73
ST358PWA421MLZ	0.42	0.037	0.044	438	1.40	2.00	2.40	1.93	2.57
ST358PWA601MLZ	0.60	0.043	0.052	290	1.20	1.80	2.25	1.83	2.43
ST358PWA821MLZ	0.82	0.051	0.061	163	0.950	1.40	1.75	1.49	2.03
ST358PWA102MLZ	1.0	0.059	0.071	153	0.900	1.30	1.68	1.43	1.94
ST358PWA152MLZ	1.5	0.075	0.086	109	0.720	1.20	1.60	1.34	1.86
ST358PWA222MLZ	2.2	0.120	0.132	80	0.600	0.980	1.30	1.07	1.42
ST358PWA332MLZ	3.3	0.152	0.167	62	0.540	0.800	1.10	0.923	1.23
ST358PWA472MLZ	4.7	0.231	0.254	46	0.380	0.650	0.880	0.788	1.06
ST358PWA682MLZ	6.8	0.287	0.316	44	0.350	0.590	0.800	0.676	0.915
ST358PWA822MLZ	8.2	0.378	0.416	39	0.290	0.500	0.680	0.640	0.849
ST358PWA103MLZ	10	0.440	0.459	33	0.250	0.450	0.600	0.564	0.729

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

ST358PWA103MLZ

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)

All screening performed to the document's latest revision

Custom screening also available

2. Inductance tested at 100 kHz, 0.1 Vrms, 0 Adc.

3. DCR measured on a micro-ohmmeter.

4. SRF measured using Agilent/HP 4395A network analyzer or equivalent.

5. DC current at which the inductance drops from its value without current.

6. Current that causes the specified temperature rise from 25°C ambient.

7. Electrical specifications at 25°C.

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

SPICE models
ON OUR WEB SITE

Document ST583-1 Revised 11/22/22

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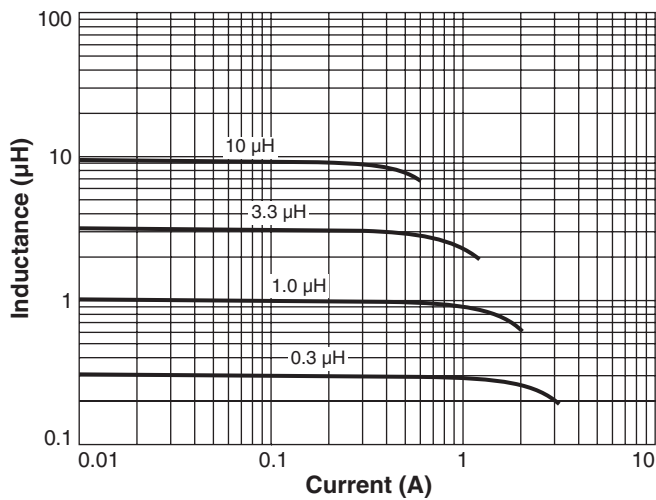
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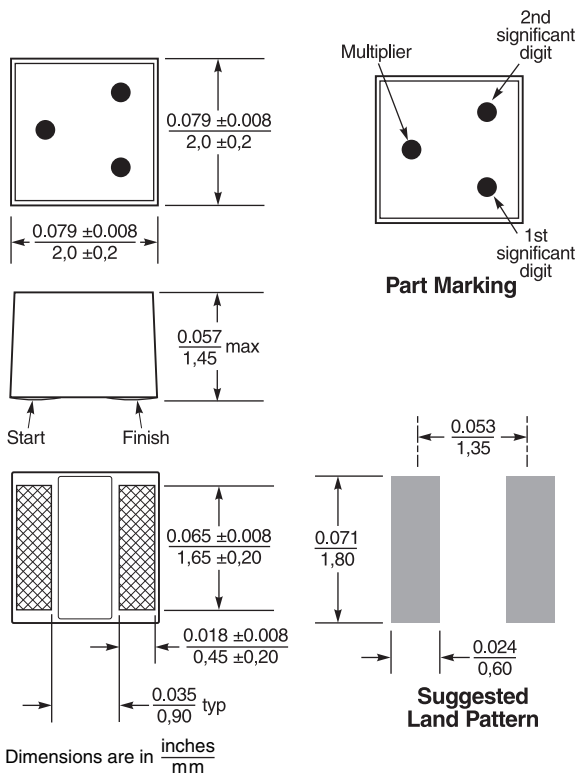
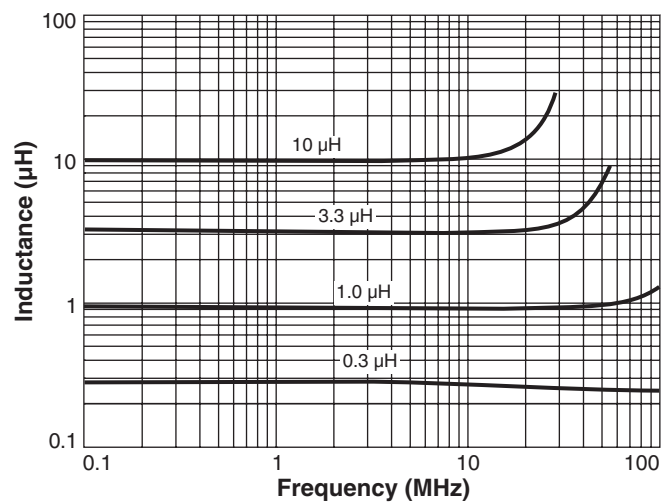
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Power Inductor for Critical Applications – ST358PWA

Typical L vs Current



Typical L vs Frequency



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

Small surface blemishes are not unusual and do not adversely affect performance. Wire may be visible inside the voids.

Acceptable void sizes:

Top: 0.01 in / 0,254 mm × 0.01 in / 0,254 mm
 Sides: 0.02 in / 0,5 mm × 0.047 in / 1,2 mm

Part Marking

Part number	Value	1st digit	2nd digit	Multiplier
ST358PWA-271	0.27 µH	Red	Violet	Brown
ST358PWA-421	0.42 µH	Yellow	Red	Brown
ST358PWA-601	0.60 µH	Blue	Black	Brown
ST358PWA-821	0.82 µH	Gray	Red	Brown
ST358PWA-102	1.0 µH	Brown	Black	Red
ST358PWA-152	1.5 µH	Brown	Green	Red
ST358PWA-222	2.2 µH	Red	Red	Red
ST358PWA-332	3.3 µH	Orange	Orange	Red
ST358PWA-472	4.7 µH	Yellow	Violet	Red
ST358PWA-682	6.8 µH	Blue	Gray	Red
ST358PWA-822	8.2 µH	Gray	Red	Red
ST358PWA-103	10 µH	Brown	Black	Orange

Note: All marked parts have three dots. Black dot, used only on -601, -102 and -103 as second significant digit, may be very difficult to see.



CRITICAL PRODUCTS & SERVICES

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Document ST583-2 Revised 11/22/22

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