

# Shielded Power Inductors TL-1278 SERIES

**Footprint:** 12.3 × 12.3 mm x 8mm

**DCR:** Low DCR and excellent current handling capability

**Ambient temperature:** - 40°C to +85°C with Irms current, +85°C to +125°C with derated current

**Storage temperature:** - 40°C to +125°C.

**Resistance to soldering heat:** Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles

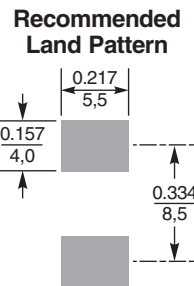
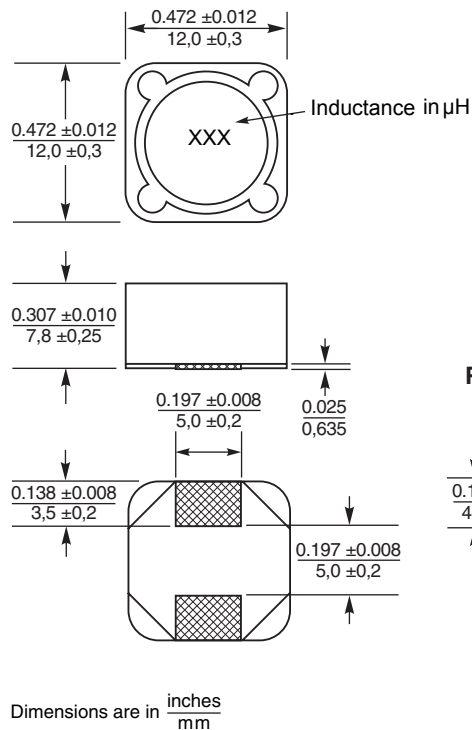
**Core material:** Ferrite

**Terminations:** RoHS compliant matte tin over nickel over phos bronze.

**Packaging:** 500/13' reel; Plastic tape: 24 mm wide, 0.5mm thick, 16 mm pocket spacing, 8.7 mm pocket depth

**T/R Packaging:** - 40°C to +80°C

**Weight:** 3.8 – 4.6 g



## Shielded Power Inductors TL-1278 SERIES

Part number <sup>1</sup>	Inductance <sup>2</sup> ( $\mu$ H)	DCR (mOhms)		SRF typ (MHz)	Isat (A) <sup>3</sup>			Irms (A) <sup>4</sup>	
		typ	max		10% drop	20% drop	30% drop	20°C rise	40°C rise
TL-1278-1R4M_	1.4 $\pm$ 20%	8.8	9.8	80.0	25.2	28.6	30.6	7.00	10.00
TL-1278-4R7M_	4.7 $\pm$ 20%	13.9	15.5	30.0	13.7	15.2	15.9	4.30	6.20
TL-1278-5R6M_	5.6 $\pm$ 20%	15.7	17.5	24.0	12.2	13.7	14.6	4.30	6.20
TL-1278-6R8M_	6.8 $\pm$ 20%	19.1	21.3	21.0	11.3	12.7	13.7	4.20	6.00
TL-1278-8R2M_	8.2 $\pm$ 20%	20.3	22.6	20.0	10.1	11.5	12.3	4.10	5.90
TL-1278-100M_	10 $\pm$ 20%	21.8	24.3	17.0	9.36	10.6	11.2	4.00	5.70
TL-1278-120M_	12 $\pm$ 20%	23.2	25.8	15.0	8.84	10.0	10.7	3.70	5.20
TL-1278-150M_	15 $\pm$ 20%	27.9	31.0	13.0	7.30	8.36	9.00	3.50	4.90
TL-1278-180M_	18 $\pm$ 20%	30.8	34.3	12.0	6.10	7.10	7.74	3.00	4.50
TL-1278-220M_	22 $\pm$ 20%	35.5	39.5	11.0	6.04	6.78	7.24	2.90	4.00
TL-1278-270M_	27 $\pm$ 20%	45.0	50.0	10.0	5.80	6.56	7.02	2.60	3.60
TL-1278-330M_	33 $\pm$ 20%	61.9	68.8	9.5	5.22	5.90	6.30	2.30	3.10
TL-1278-390M_	39 $\pm$ 20%	69.1	76.8	8.5	4.68	5.42	5.80	2.10	3.00
TL-1278-470M_	47 $\pm$ 20%	72.3	80.4	7.5	4.40	5.02	5.32	2.00	2.90
TL-1278-560M_	56 $\pm$ 20%	80.2	89.2	7.0	4.02	4.60	4.90	1.90	2.70
TL-1278-680M_	68 $\pm$ 20%	91.3	101.5	6.5	3.40	3.86	4.26	1.80	2.60
TL-1278-820M_	82 $\pm$ 20%	125.9	139.9	5.0	3.12	3.58	3.80	1.60	2.30
TL-1278-101M_	100 $\pm$ 20%	135.1	150.2	4.5	2.88	3.28	3.52	1.50	2.20
TL-1278-121K_	120 $\pm$ 10%	182.3	202.6	4.3	2.62	3.00	3.24	1.40	1.90
TL-1278-151K_	150 $\pm$ 10%	216.5	240.6	4.1	2.48	2.86	3.02	1.30	1.80
TL-1278-181K_	180 $\pm$ 10%	229.0	254.5	4.0	2.26	2.58	2.74	1.20	1.70
TL-1278-221K_	220 $\pm$ 10%	323.6	359.6	3.4	1.96	2.22	2.36	1.00	1.60
TL-1278-271K_	270 $\pm$ 10%	415.6	461.8	3.1	1.74	2.04	2.18	0.90	1.20
TL-1278-331K_	330 $\pm$ 10%	487.3	541.5	2.9	1.66	1.86	2.00	0.80	1.00
TL-1278-391K_	390 $\pm$ 10%	533.6	592.9	2.7	1.52	1.72	1.88	0.75	1.00
TL-1278-471K_	470 $\pm$ 10%	707.5	786.2	2.2	1.34	1.54	1.64	0.66	0.90
TL-1278-561K_	560 $\pm$ 10%	777.4	863.8	2.0	1.24	1.42	1.50	0.60	0.80
TL-1278-681K_	680 $\pm$ 10%	1045	1162	1.7	1.16	1.28	1.38	0.55	0.75
TL-1278-821K_	820 $\pm$ 10%	1166	1296	1.4	1.04	1.16	1.26	0.50	0.70
TL-1278-102K_	1000 $\pm$ 10%	1334	1483	1.3	0.97	1.10	1.14	0.48	0.68

Tolerance: M =  $\pm$  20%, K= $\pm$ 10%

1. TL-1278SG-151K\_ (See part numbering detail note "5" below)
2. Inductance measured at 100kHz, 01Vrms
3. DC current at which the inductance drops the specified amount from its value without current.
4. Current that causes the specified temperature rise from 25°C ambient.
5. TL-1278SG-151KD  
TL- Inductor code, 1278- Series code, SG-SMD Green, 151- Inductance value, Tolerance - K=  $\pm$  10%, D- Reel packaging

### DWU\_jb[ .

D= 13" machine ready  
EIA-481embossed plastic tape (500 parts)  
B=Less than full reel machine ready

### HYfa jBUjcb.

Matte tin over nickel over phosphor bronze

### AU\_jb[ .

XXX = Inductance in " $\mu$ H"

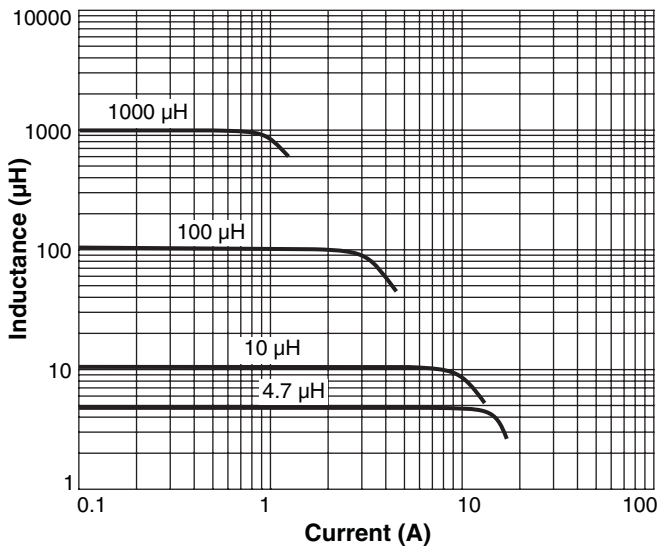
R10 = 0.10  $\mu$ H

1R5 = 1.5  $\mu$ H

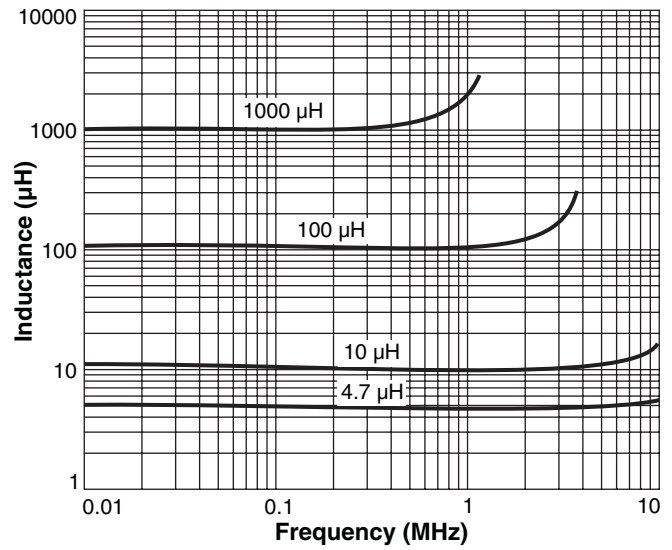
151 = 150  $\mu$ H

# Shielded Power Inductors TL-1278 SERIES

### Typical Inductance vs Current



### Typical Inductance vs Frequency



### Typical Current Derating

