Coiltronics CTX01-19089-R

Dual conductor, high current power inductor

Product description

- Dual conductor, two-turn construction
- 5.0x8.6mm footprint surface mount package in a 6.6mm height
- Ferrite core material
- Halogen free, lead free, RoHS compliant

Applications

- Designed specifically for use with Picor® Cool-Power® ZVS Buck-Boost Regulator Family (Picor part number Series PI37xx)

Environmental data

- Storage temperature range (Component): -55°C to +125°C
- Operating temperature range: -55°C to +125°C (ambient + self-temperature rise)
- Solder reflow temperature: J-STD-020D compliant

Pb HALOGEN HF FREE RoHS

The Coiltronics brand of magnetics (formerly of the Bussmann Division of Cooper Industries) is now part of Eaton's Electrical Group, Electronics Division.

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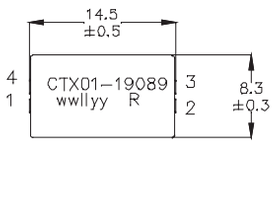
Product specifications

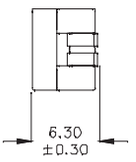
Part Number[5]	OCL[1] (nH)	Irms[2] (Amps)	Isat[3] (Amps)	DCR @ 20°C[4]	Q minimum reference only[6]
CTX01–19089-R	500	20	40	1.15 ± 0.173 (mΩ)	135

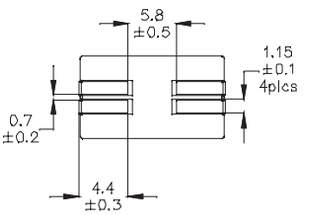
1. Open Circuit Inductance (OCL) Test Parameters: 1MHz, 0.1V_{rms}, 0.0Adc, 25°C ±10% (Pins 1-3, short 2-4)
2. I_{rms}: DC current for an approximate temperature rise of 40°C without core loss. Derating is necessary for AC currents. PCB layout, trace thickness and width, air-flow, and proximity of other heat generating components will affect the temperature rise. It is recommended that the temperature of the part not exceed 125°C under worst case operating conditions verified in the end application.
3. I_{sat}: Peak current for approximately 2% rolloff at +25°C
4. DCR tested from Pins (1-2) and (3-4)
5. Part Number Definition: CTX01-19089-R
   - CTX01-19089 = Part number
   - "-R" suffix = RoHS compliant
6. Q Test Parameters: 1MHz, 0.1V_{rms}, 25°C (Pins 1-3, short 2-4)

Note: Hipot: 200Vdc minimum for 2 seconds, 0.1mA pins (1-2) to (4-3)

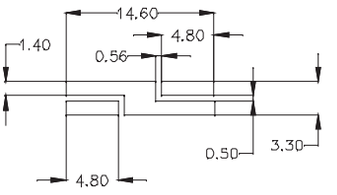
Dimensions - mm



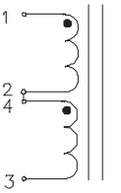


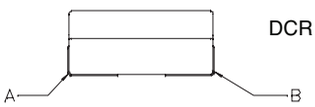


Recommended pad layout



Schematic

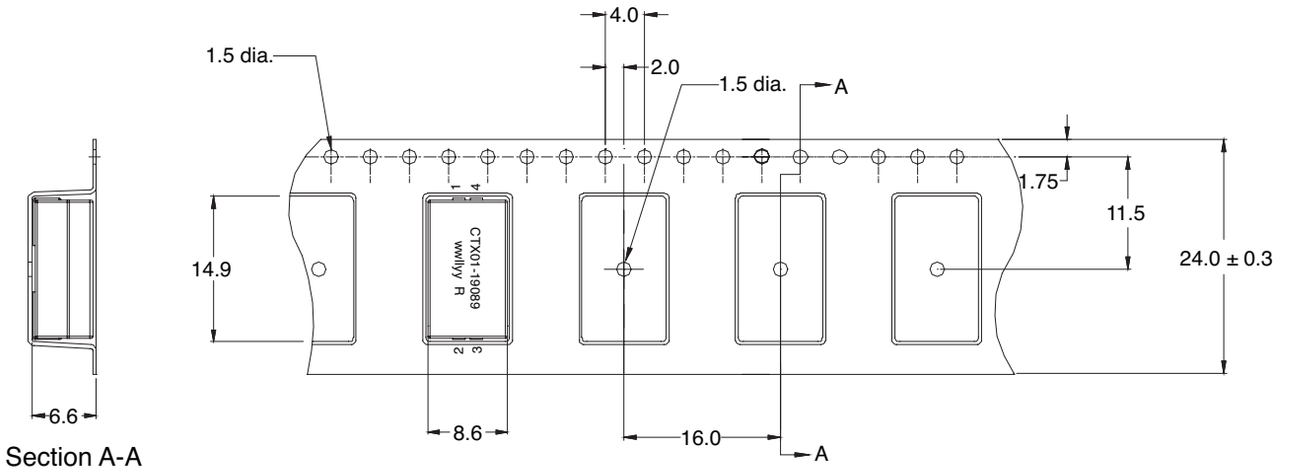




DCR Measured from point "A" to point "B"

Part marking: CTX01-19089, wwllyy = date code, R = revision level.
Soldering surfaces to be coplanar within 0.1 millimeter.
Pins 2 and 4 are connected through the PCB trace.

Packaging information - mm

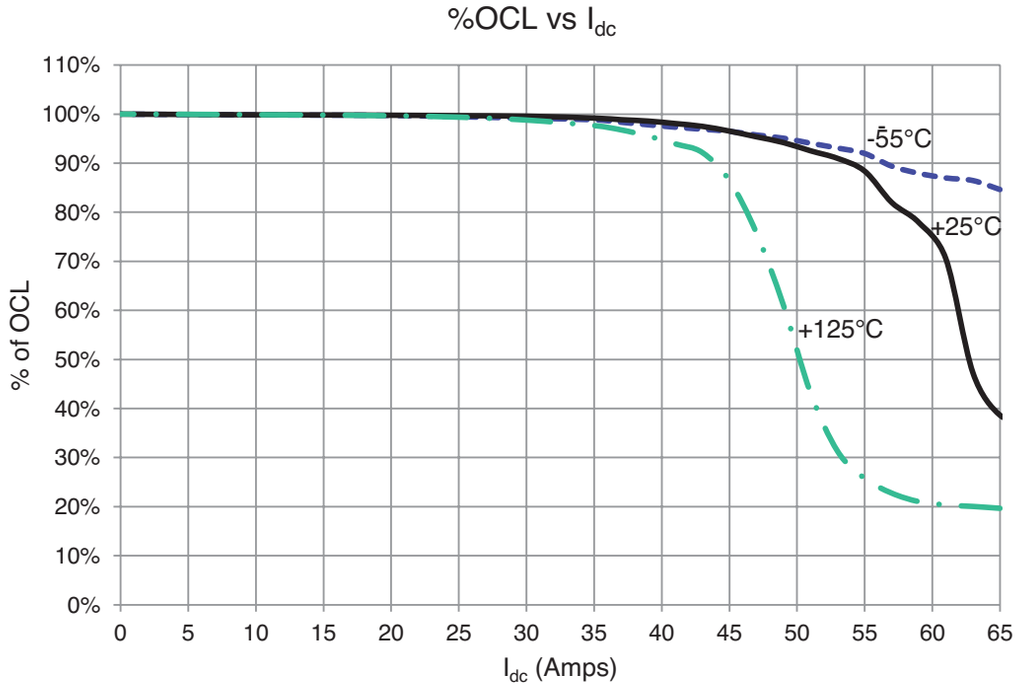


Section A-A

Supplied in tape and reel packaging, 600 parts per 13” diameter reel.

User direction of feed

Inductance characteristics



Solder reflow profile

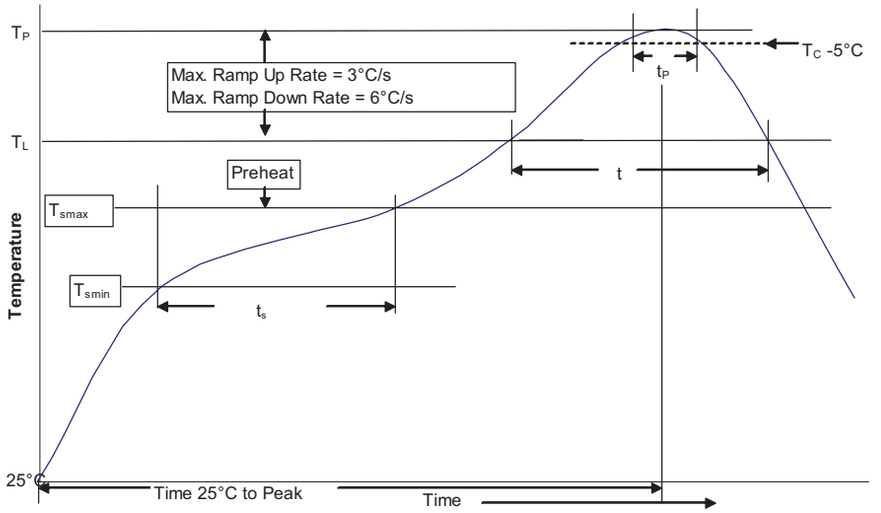


Table 1 - Standard SnPb Solder (T_C)

Package Thickness	Volume mm³ <350	Volume mm³ ≥350
<2.5mm	235°C	220°C
≥2.5mm	220°C	220°C

Table 2 - Lead (Pb) Free Solder (T_C)

Package Thickness	Volume mm³ <350	Volume mm³ 350 - 2000	Volume mm³ >2000
<1.6mm	260°C	260°C	260°C
1.6 – 2.5mm	260°C	250°C	245°C
>2.5mm	250°C	245°C	245°C

Reference JDEC J-STD-020D

Profile Feature		Standard SnPb Solder	Lead (Pb) Free Solder
Preheat and Soak	• Temperature min. (T_{smin})	100°C	150°C
	• Temperature max. (T_{smax})	150°C	200°C
	• Time (T_{smin} to T_{smax}) (t_s)	60-120 Seconds	60-120 Seconds
Average ramp up rate T_{smax} to T_p		3°C/ Second Max.	3°C/ Second Max.
Liquidous temperature (T_L) Time at liquidous (t_L)		183°C 60-150 Seconds	217°C 60-150 Seconds
Peak package body temperature (T_P)*		Table 1	Table 2
Time (t_p)** within 5 °C of the specified classification temperature (T_C)		20 Seconds**	30 Seconds**
Average ramp-down rate (T_p to T_{smax})		6°C/ Second Max.	6°C/ Second Max.
Time 25°C to Peak Temperature		6 Minutes Max.	8 Minutes Max.

* Tolerance for peak profile temperature (T_p) is defined as a supplier minimum and a user maximum.

** Tolerance for time at peak profile temperature (t_p) is defined as a supplier minimum and a user maximum.

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