

Coupled Inductor – JA4590-AL



- Developed for Texas Instruments TPS40210 Current Mode Boost Controller.
- 1 : 1 coupled inductor with a coupling coefficient >0.95.
- Can be used as a transformer or as an inductor in SEPIC and Zeta applications.

Core material Ferrite

Terminations RoHS compliant matte tin over nickel over phos bronze.

Weight 10.8 g

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

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

Tape and reel packaging: -40°C to +80°C

Winding to winding isolation 500 Vrms

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 175/13" reel; Plastic tape: 32 mm wide, 0.5 mm thick, 24 mm pocket spacing, 14.3 mm pocket depth

PCB washing Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787_PCB_Washing.pdf](#).

Part number ¹	Inductance ² ±10% (µH)	DCR max ³ (Ohms)	SRF typ ⁴ (MHz)	Leakage inductance ⁵ max (µH)	Isat ⁶ (A)	Irms (A)	
						both windings ⁷	one winding ⁸
JA4590-AL_	22	0.028	8.0	0.30	7.8	4.20	5.94

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

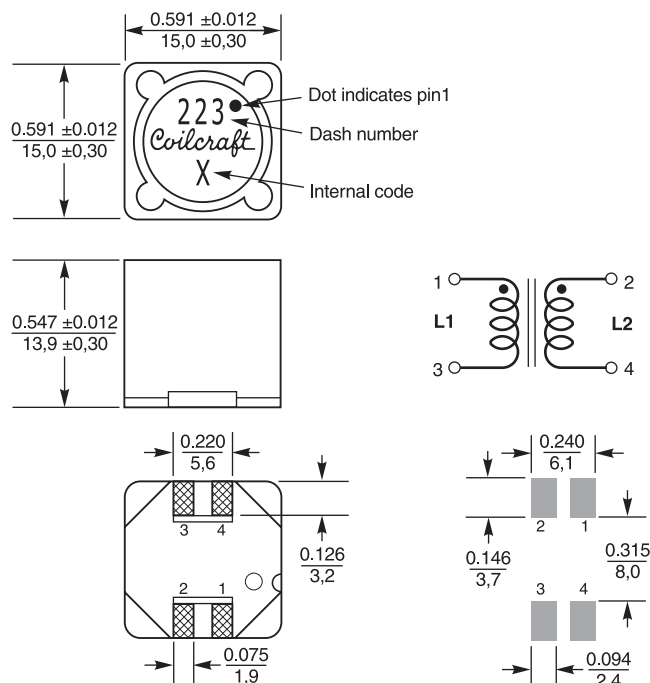
JA4590-ALD

Packaging: **D** = 13" machine-ready reel. EIA-481 embossed plastic tape (175 parts per full reel). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer (\$25 charge).

B = Less than full reel. In an effort to simplify our part numbering system, Coilcraft is eliminating the need for multiple packaging codes. When ordering, simply change the last letter of your part number from B to D.

- Inductance shown for each winding, measured at 100 kHz, 0.1 Vrms, 0 Adc on an Agilent/HP 4284A LCR meter or equivalent. When leads are connected in parallel, inductance is the same value. When leads are connected in series, inductance is four times the value.
- DCR is for each winding. When leads are connected in parallel, DCR is half the value. When leads are connected in series, DCR is twice the value.
- SRF measured using an Agilent/HP 4191A or equivalent. When leads are connected in parallel, SRF is the same value.
- Leakage inductance is for one winding.
- DC current, at which the inductance drops 20% (typ) from its value without current. It is the sum of the current flowing in both windings.
- Equal current when applied to each winding simultaneously that causes a 40°C temperature rise from 25°C ambient.
- Maximum current when applied to one winding that causes a 40°C temperature rise from 25°C ambient.

Refer to Doc 639 "Selecting Coupled Inductors for SEPIC Applications."
Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



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

Recommended Land Pattern