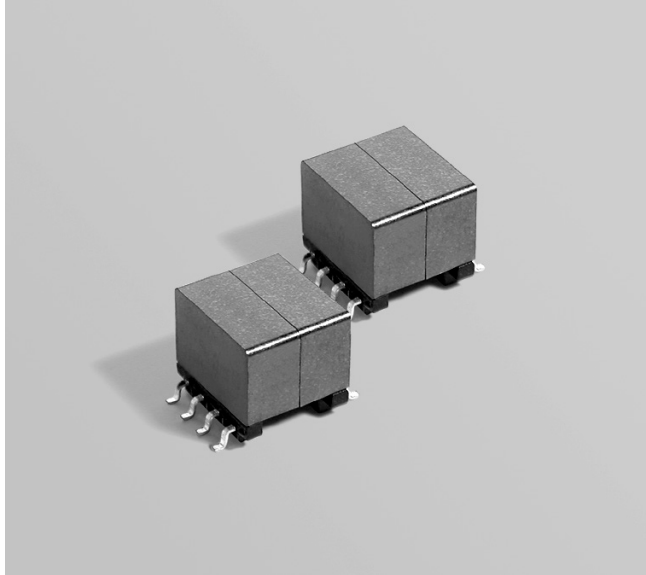




# Flyback Transformers

For National Semiconductor  
LM5070 PoE Interface – 7 Watt



- Flyback transformers for 7 W PoE applications
- Designed to operate in continuous mode at 250 kHz with an input of 36–72 Vdc
- 1500 Vrms isolation from primary and bias to secondary

**Core material** Ferrite

**Terminations** RoHS tin-silver over tin over nickel over phos bronze. Other terminations available at additional cost.

**Weight** 3.85 g

**Ambient temperature** –40°C to +85°C

**Storage temperature** Component: –40°C to +85°C.  
Tape and reel packaging: –40°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)

**PCB washing** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787\\_PCB\\_Washing.pdf](#).

Part number <sup>1</sup>	Inductance at 0 A <sup>2</sup> ±10% (µH)	Inductance at I <sub>pk</sub> <sup>3</sup> min (µH)	DCR max (Ohms) <sup>4</sup>			Leakage inductance max (µH) <sup>5</sup>	Turns ratio <sup>6</sup>		I <sub>pk</sub> <sup>3</sup> (A)	Output <sup>7</sup>
			pri	bias	sec		pri : sec	pri : bias		
C1587-AL	155	139.5	0.414	0.822	0.036	4.00	1 : 0.19	1 : 0.667	0.65	3.3 V, 2.12 A
C1588-AL	155	139.5	0.414	0.822	0.060	3.60	1 : 0.262	1 : 0.667	0.65	5.0 V, 1.4 A
C1589-AL	155	139.5	0.414	0.822	0.343	3.25	1 : 0.667	1 : 0.667	0.65	12 V, 0.6 A

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

**C1589-ALD**

**Packaging:** D = 13" machine-ready reel. EIA-481 embossed plastic tape. 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.

2. Inductance is for the primary, measured at 10 kHz, 0.1 Vrms, 0 Adc.

3. I<sub>pk</sub> is peak primary current drawn at minimum input voltage.

4. DCR for the secondary is per winding.

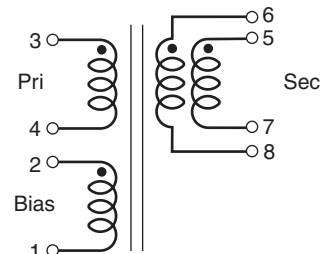
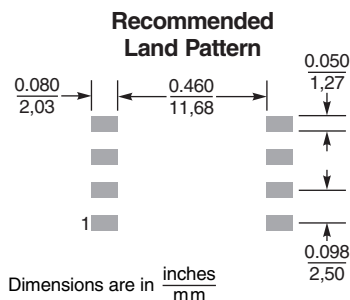
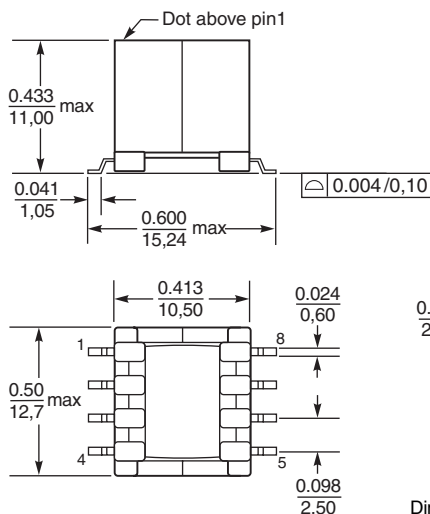
5. Leakage inductance measured between pins 3 and 4 with all other pins shorted.

6. Turns ratio is with the secondary windings connected in parallel.

7. Output of the secondary is with the windings connected in parallel. Bias winding output is 12 V, 20 mA.

8. Electrical specifications at 25°C.

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



Secondary windings to be connected in parallel on the PCB board

**Packaging:**

**C1587-AL** 250 per 13" reel Plastic tape: 32 mm wide, 0.5 mm thick, 20 mm pocket spacing, 11.2 mm pocket depth

**C1588/C1589-AL** 200 per 13" reel Plastic tape: 32 mm wide, 0.5 mm thick, 24 mm pocket spacing, 11.2 mm pocket depth



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