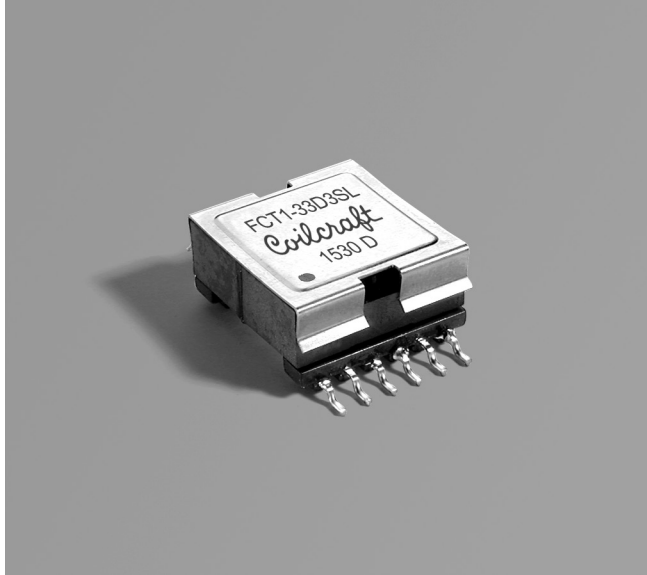




# Forward-Mode Transformers

For 30 Watt  
Telecommunications



- Designed to meet 30 W PoE IEEE 802.3at-2009 standard.
- Operates at 250 kHz with 36–72 Volts input.
- 1500 Vrms, one minute isolation, primary and bias to secondary
- Bias winding output: 12 V; sync winding output: 5 V

**Core material** Ferrite

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

**Weight** 10.1 – 10.7 g

**Ambient temperature** –40°C to +125°C

**Storage temperature** Component: –40°C to +125°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)

**Packaging** 175 per 13" reel Plastic tape: 44 mm wide, 0.4 mm thick, 32 mm pocket spacing, 12.0 mm pocket depth

**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 <sup>2</sup> min (μH)	DCR max (mOhms) <sup>3</sup>				Leakage inductance <sup>4</sup> max (μH)	Turns ratio <sup>5</sup>			Output	Recommended output inductor <sup>6</sup>
		pri	sec	bias	sync		pri : sec	pri : bias	pri : sync		
FCT1-33D3SL_	72.9	27.5	5.0	250	160	0.425	1 : 0.33	1 : 1	1 : 0.56	3.3 V, 9 A	SER2013-472
FCT1-50D3SL_	72.9	27.5	10.0	250	160	0.420	1 : 0.44	1 : 1	1 : 0.56	5 V, 6 A	SER1360-103
FCT1-120D3SL_	72.9	27.5	28.5	250	160	0.175	1 : 1	1 : 1	1 : 0.56	12 V, 2.5 A	MSS1278-563
FCT1-195D3SL_	72.9	27.5	32.0	235	120	0.235	1 : 1.44	1 : 0.88	1 : 0.44	19.5 V, 1.55 A	MSS1278-154
FCT1-240D3SL_	72.9	27.5	72.5	235	120	0.235	1 : 1.78	1 : 0.88	1 : 0.44	24 V, 1.25 A	MSS1278-224

1. When ordering, please specify **termination** and **packaging** codes:

**FCT1-240D3SLD**

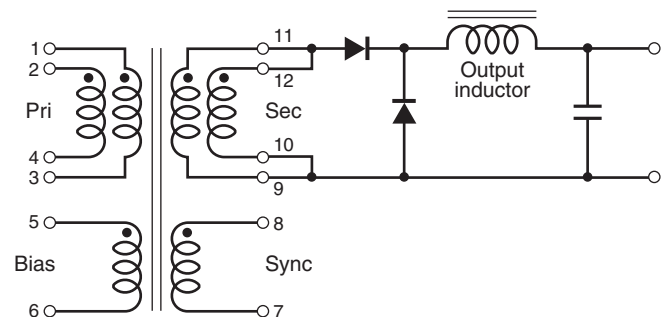
**Termination:** **L** = RoHS tin-silver over tin over nickel over phos bronze. Special order: **T** = RoHS tin-silver-copper (95.5/4/0.5) or **S** = non-RoHS tin-lead (63/37).

**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 is measured at 250 kHz, 0.2 Vrms, 0 Adc.
- DCR for the primary and secondary is with the windings connected in parallel.
- Leakage inductance is for the primary windings with the secondary windings shorted.
- Turns ratio is with the primary windings and the secondary windings connected in parallel.
- These inductors are recommended for 30% ripple current. Ripple less than 30% may require the use of physically larger inductors. Allowing higher ripple current to make use of smaller inductors may create a risk of discontinuous output current.
- Operating temperature range –40°C to +125°C.
- Electrical specifications at 25°C.

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



The primary windings and the secondary windings are to be connected in parallel on the PCB board.



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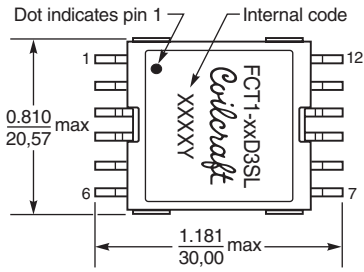
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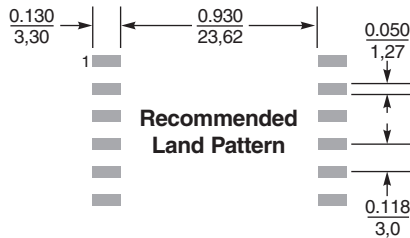
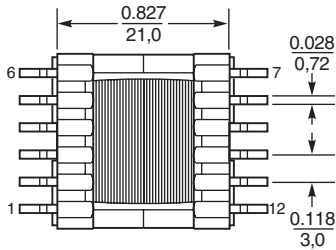
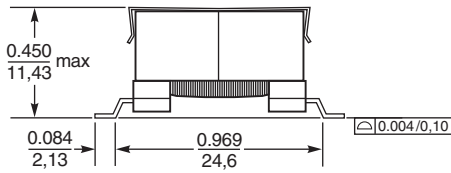
This product may not be used in medical or high risk applications without prior Coilcraft approval. Specification subject to change without notice. Please check web site for latest information.



# Forward-Mode Transformers – 30 Watts



Current production parts have a metal cover. Previous production had a non-metal cover. Dimensions are the same.



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



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