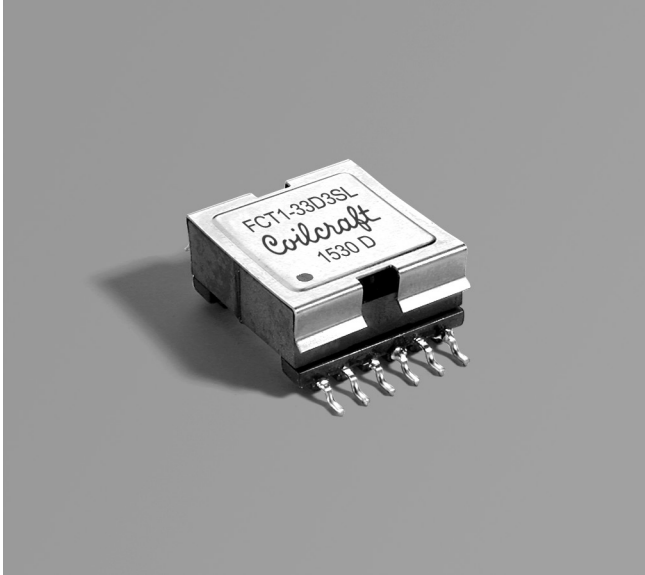




Forward-Mode Transformers

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)

Failures in Time (FIT) / Mean Time Between Failures (MTBF)

38 per billion hours / 26,315,789 hours, calculated per Telcordia SR-332

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 ¹	Inductance ² min (μH)	DCR max (mOhms) ³				Leakage inductance ⁴ max (μH)	Turns ratio ⁵			Output	Recommended output inductor ⁶
		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

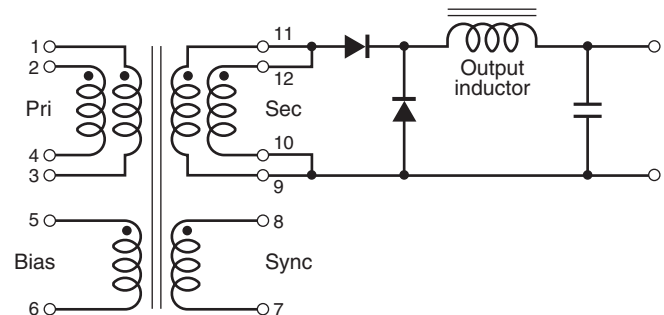
Termination: **L** = RoHS tin-silver over tin over nickel over phos bronze. Special order: **T** = RoHS tin-silver-copper (95.5/4/0.5) or **S** = non-RoHS tin-lead (63/37).

Packaging: **D** = 13" machine-ready reel. EIA-481 embossed plastic tape (175 parts per full reel).

B = Less than full reel. In tape, but not machine ready. To have a leader and trailer added (\$25 charge), use code letter D instead.

- 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.

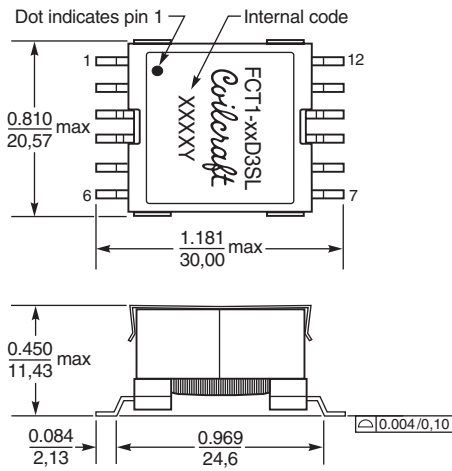
Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



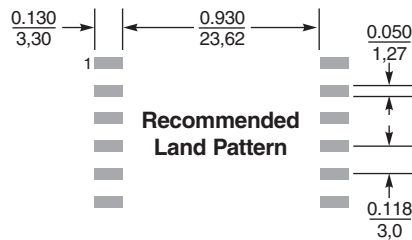
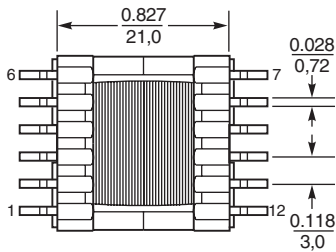
The primary windings and the secondary windings are to be connected in parallel on the PCB board.



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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