## 8 W Forward-Mode Transformers



- Designed for forward topology operating at 250 kHz
- Five outputs from 3.3 V to 15 V ; 18-36 V input
- 1500 Vrms isolation from primary and aux to the secondary
- Specified by National Semiconductor for its LM5015 TwoSwitch Forward Regulator


## Core material Ferrite

Terminations RoHS tin-silver over tin over nickel over phos bronze. Other terminations available at additional cost.
Weight $4.0-4.3 \mathrm{~g}$
Ambient temperature $-40^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$
Storage temperature Component: $-40^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$.
Packaging: $-40^{\circ} \mathrm{C}$ to $+80^{\circ} \mathrm{C}$
Resistance to soldering heat Max three 40 second reflows at $+260^{\circ} \mathrm{C}$, parts cooled to room temperature between cycles
Moisture Sensitivity Level (MSL) 1 (unlimited floor life at $<30^{\circ} \mathrm{C} /$ $85 \%$ 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 200 per $13^{\prime \prime}$ reel Plastic tape: 32 mm wide, 0.5 mm thick, 24 mm pocket spacing, 11.2 mm pocket depth
PCB washing Only pure water or alcohol recommended

| Part number ${ }^{1}$ | Inductance ${ }^{2}$ nom ( $\mu \mathrm{H}$ ) | DCR max (mOhms) ${ }^{3}$ |  |  | Leakage inductance ${ }^{4}$ $\max (\mu \mathrm{H})$ | Input voltage range (V) | Turns ratio ${ }^{5}$ |  | Output ${ }^{6}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | pri | sec | aux |  |  | pri : sec | pri : aux |  |
| FCT1-33L2SL | 324 | 65 | 22.5 | 460 | 0.530 | 18-36 | 1:0.5 | 1:1.39 | $3.3 \mathrm{~V}, 2.4 \mathrm{~A}$ |
| FCT1-50L2SL | 324 | 65 | 31 | 490 | 0.585 | 18-36 | 1:0.72 | 1:1.39 | $5 \mathrm{~V}, 1.6 \mathrm{~A}$ |
| FCT1-90L2SL | 324 | 65 | 105 | 490 | 0.570 | 18-36 | 1:1.17 | 1:1.39 | $9 \mathrm{~V}, 0.89 \mathrm{~A}$ |
| FCT1-120L2SL | 324 | 65 | 150 | 535 | 0.525 | 18-36 | 1:1.56 | 1:1.39 | $12 \mathrm{~V}, 0.67 \mathrm{~A}$ |
| FCT1-150L2SL_ | 324 | 65 | 223 | 470 | 0.600 | 18-36 | 1:1.89 | 1:1.39 | $15 \mathrm{~V}, 0.53 \mathrm{~A}$ |

1. When ordering, please specify a packaging code:

## FCT1-50L2SL $\stackrel{1}{D}$

Packaging: D = $13^{\prime \prime}$ machine ready reel. EIA-481 embossed plastic tape (200 parts per full reel).
$\mathbf{B}=$ Less than full reel. In tape, but not machine ready. To have a leader and trailer added (\$25 charge), use code letter D instead.
2. Inductance is measured at $250 \mathrm{kHz}, 0.3 \mathrm{Vrms}, 0$ Adc.
3. DCR for the secondary is measured with the windings connected in parallel.
4. Leakage inductance is for the primary and is measured with the secondary shorted.
5. Turns ratio is with the secondary windings connected in parallel.
6. Output is with the secondary windings connected in parallel. Auxiliary winding output is $10 \mathrm{~V}, 20 \mathrm{~mA}$.
7. Electrical specifications at $25^{\circ} \mathrm{C}$.

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


Secondary windings to be connected in parallel on PC board.


1102 Silver Lake Road Cary, Illinois 60013 Phone 847/639-6400 Fax 847/639-1469

