Shielded Power Inductor

For TI LM5118 buck-boost regulator

- High current power inductor with an Aux winding.
- Developed for use in high efficiency 4 switch buck-boost regulators with Texas Instruments LM5118

Core material: Ferrite
Environmental: RoHS compliant
Terminations: Matte tin over nickel over phos bronze (L1), Matte tin over nickel over brass (Aux).
Weight: 32 g
Ambient temperature: -40°C to +85°C with I rms current, +85°C to +125°C with derated current
Storage temperature: Component: -40°C to +125°C.
Tray packaging: -40°C to +80°C
Resistance to soldering heat: Max three 40 second refloows 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: 25 pieces per tray
PCB washing: Tested with pure water or alcohol only. For other solvents, see Doc787_PCB_Washing.pdf

<table>
<thead>
<tr>
<th>Part number</th>
<th>Inductance ±20% (µH)</th>
<th>DCR max (mOhms)</th>
<th>SRF typ (MHz)</th>
<th>Isat (A)</th>
<th>Irms (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA5766-AL</td>
<td>10.0</td>
<td>2.12</td>
<td>15</td>
<td>18.0</td>
<td>20</td>
</tr>
</tbody>
</table>

1. Inductance measured at 500 kHz, 0.1 Vrms, 0 Adc on an Agilent/HP 4284A LCR meter or equivalent.
2. DCR measured on a Keithley 580 micro-ohmmeter or equivalent.
3. SRF measured using an Agilent/HP 4395A network analyzer and an Agilent/HP 16193A test fixture.
4. DC current at which the inductance drops the specified amount from its value without current.
5. Current that causes the specified temperature rise from 25°C ambient.
6. Electrical specifications at 25°C.

Refer to Doc 362 “Soldering Surface Mount Components” before soldering.

L vs Current

L vs Frequency

11: For mounting stability only. Do not connect to ground or other circuits.

1: 1

L1

Aux

0.1 1 10 100

Current (A)

Inductance (µH)

10 µH

0.1 1 10 100

Frequency (MHz)

Inductance (µH)

10 µH