

HIGH POWER INDUCTOR

P7600 Family

Features

- * High Current
- * Low Loss, Low DCR
- * Closed magnetic circuit
- * Low Profile
- * Lead-free (Pb-free)
- * RoHS compliant
- * Alloy powder core
- * Helical rectangular wire

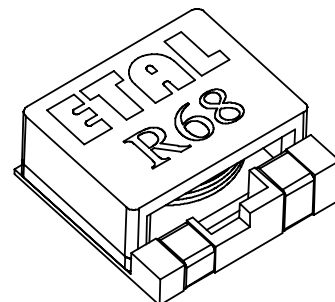
Applications

- * DC-DC Converters
- * Voltage Regulator Modules
- * Distributed Power
- * Servers
- * Workstations
- * Telecom equipment
- * Notebook and handheld equipment

DESCRIPTION

The P7600 family comprises high-energy-density surface mount inductors. The family employs helical windings of rectangular wire, giving excellent DC resistance, thermal efficiency and high frequency performance. A distributed gap powder core is used, yielding stable inductances at very high currents with a closed magnetic current.

Components are supplied with Pb-free terminations in tape and reel packaging, and are compliant with RoHS Directive 2002/95/EC, and suitable for lead-free and conventional placement and reflow.



SPECIFICATIONS

Electrical

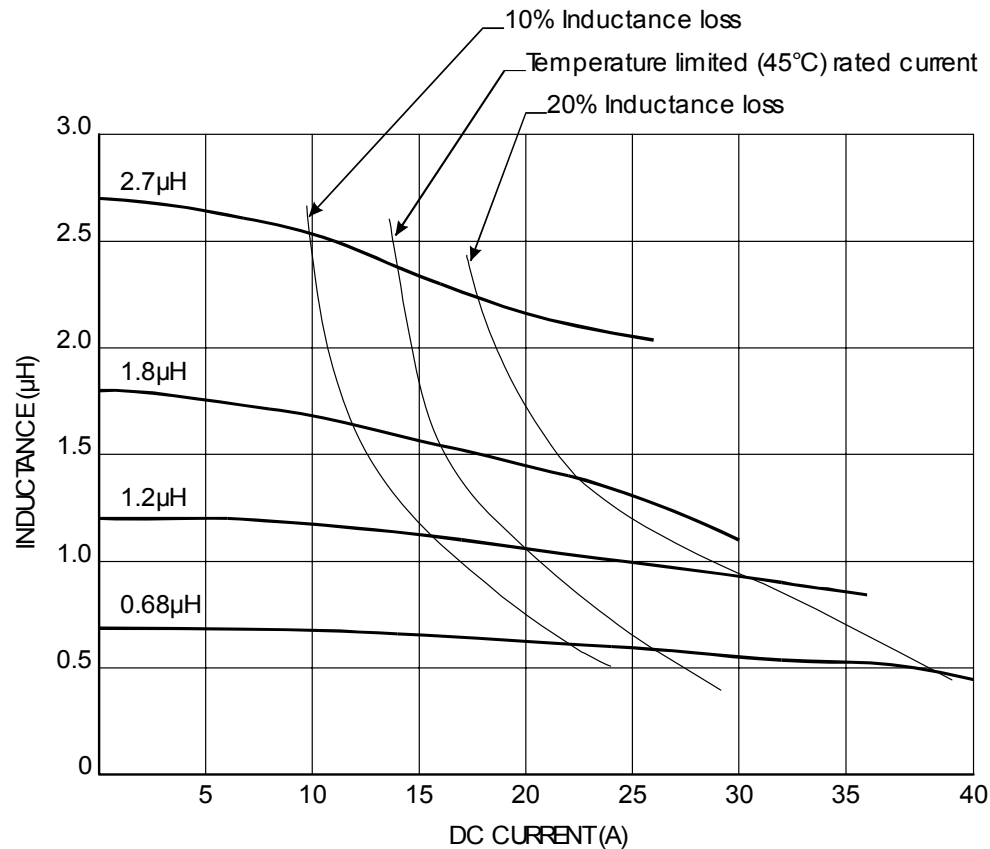
Part Number	Inductance (μH) ⁽¹⁾	DCR ($\text{m}\Omega$) Max	Rated Current I_{RMS} (A) ⁽²⁾	I_{sat} (A) ⁽³⁾
P7600-R68M	$0.68 \pm 20\%$	1.8	26	22
P7600-1R2M	$1.2 \pm 20\%$	2.8	20	16
P7600-1R8M	$1.8 \pm 20\%$	3.9	16	12
P7600-2R7M	$2.7 \pm 20\%$	4.8	14	10

Notes

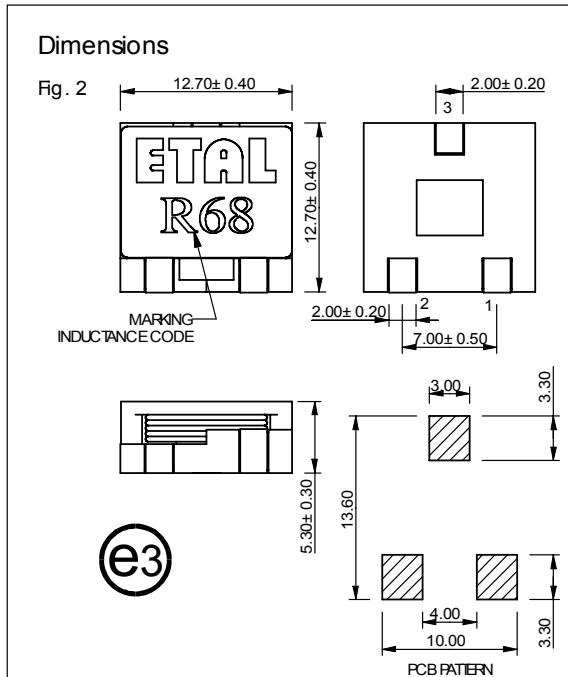
1. Inductance measured at 100kHz, 100mV.
2. Rated current is the current at which the temperature rise is 45°C.
3. Saturation current, I_{sat} , is the DC current at which the zero-current inductance falls by 10%.
For this family, inductance falls by around 25% for a current of $2 \times I_{\text{sat}}$.
4. Operating temperature -25°C to +105°C.
5. For non-standard inductance values, please contact Profec.

Effect of DC Current on Inductance

Fig. 1



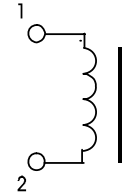
CONSTRUCTION



Connections

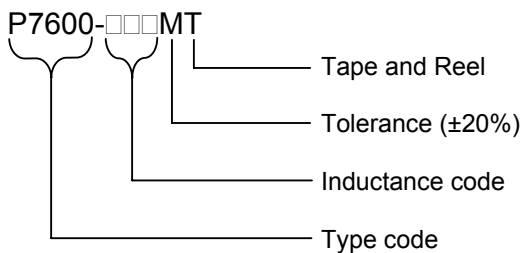
Fig. 3

Schematic



Dimensions shown are in millimetres
Terminal plating JESD97 category = e3.
Recommended reflow solder profile: 2 minutes
@ 150-200°C, 10 seconds @ 260°C; time above
217°C 60 seconds maximum.

ORDERING CODE



ABSOLUTE MAXIMUM RATINGS

Storage temperature	-40°C to +125°C
Operating temperature	-25°C to +105°C
Soldering temperature profile peak	260°C 10s

Handle in accordance with IPC/JEDEC J-STD-033 procedure for components classified as IPC/JEDEC J-STD-020 Moisture Sensitivity Level 2.