

# HIGH POWER INDUCTOR

# P7612 Family

## Features

- \* Lead-free (Pb-free)
- \* RoHS compliant
- \* High Current (to 55A Saturation)
- \* Low DCR (to 0.5mΩ)
- \* Low inductance values 0.1–0.44μH
- \* Wide temperature range -55°C to +125°C
- \* Closed magnetic circuit
- \* Surface mount
- \* Flat top for pick and place
- \*

## Applications

- \* DC-DC Converters
- \* Voltage Regulator Modules
- \* Distributed Power
- \* MPU power supplies
- \* PDA/Notebook/Desktop/Server
- \* Telecom equipment

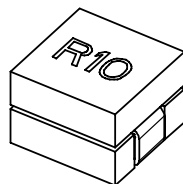
## DESCRIPTION

The P7612 family comprises high-energy-density surface mount inductors for high current power converters operating at up to 1MHz. The family handles large transient current spikes without saturation. Inductance values are available as low as 0.1μH.

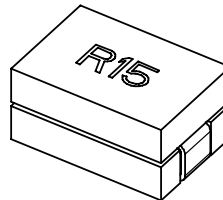
Components are available in three mechanical sizes and offer compact solutions for applications requiring high energy storage.

The ferrite is moulded over the winding and provides a robust, self shielded structure that operates over a wide temperature range.

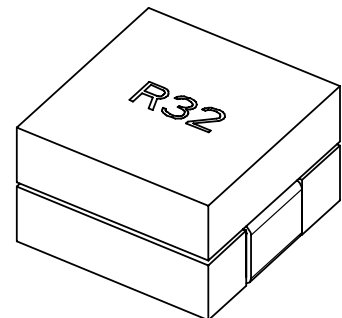
The P7612 family of components is compliant with RoHS Directive 2002/95/EC, and is suitable for Pb-free and conventional placement and reflow.



P7612-0605



P7612-1005



P7612-1208

## SPECIFICATIONS

### Electrical

#### 0605 size

Part Number	Inductance ( $\mu\text{H}$ ) <sup>(1)</sup>	DCR (m $\Omega$ ) Max	I <sub>RMS</sub> (A) <sup>(2)</sup>	I <sub>sat</sub> (A) <sup>(3)</sup>
P7612-0605-R10Y	0.10 $\pm$ 30%	0.5	30	37
P7612-0605-R15Y	0.15 $\pm$ 30%	0.5	24	30
P7612-0605-R20Y	0.20 $\pm$ 30%	0.5	19	24

#### 1005 size

Part Number	Inductance ( $\mu\text{H}$ ) <sup>(1)</sup>	DCR (m $\Omega$ ) Max	I <sub>RMS</sub> (A) <sup>(2)</sup>	I <sub>sat</sub> (A) <sup>(3)</sup>
P7612-1005-R10Y	0.10 $\pm$ 30%	0.65	40	50
P7612-1005-R15M	0.15 $\pm$ 20%	0.65	40	42
P7612-1005-R20M	0.20 $\pm$ 20%	0.65	30	35

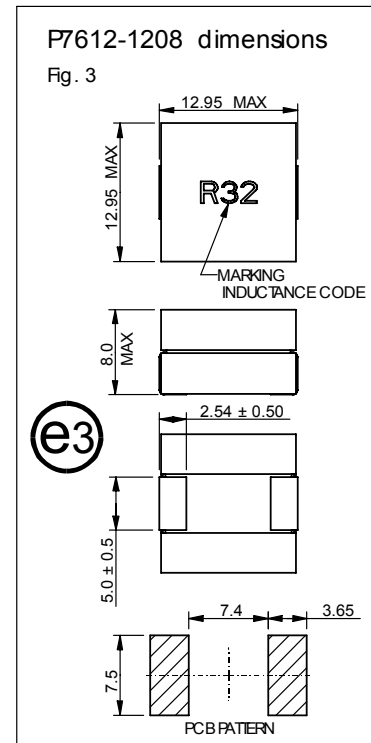
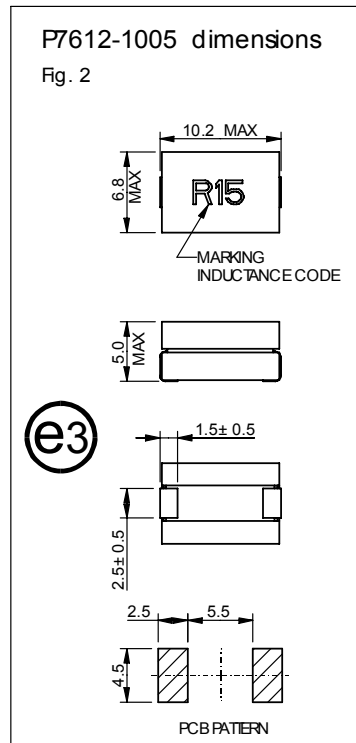
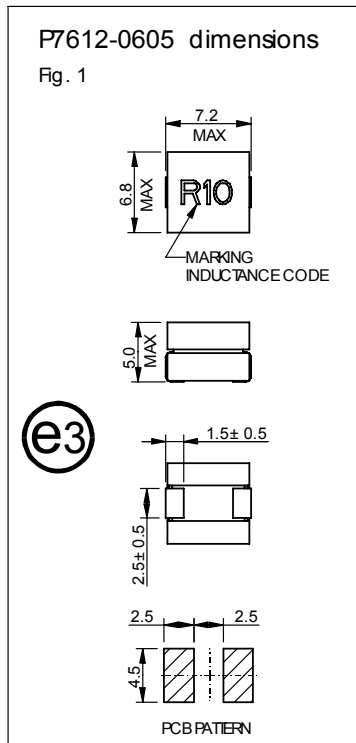
#### 1208 size

Part Number	Inductance ( $\mu\text{H}$ ) <sup>(1)</sup>	DCR (m $\Omega$ ) Max	I <sub>RMS</sub> (A) <sup>(2)</sup>	I <sub>sat</sub> (A) <sup>(3)</sup>
P7612-1208-R15Y	0.15 $\pm$ 30%	0.6	50	55
P7612-1208-R21M	0.21 $\pm$ 20%	0.6	45	50
P7612-1208-R26M	0.26 $\pm$ 20%	0.6	40	45
P7612-1208-R32M	0.32 $\pm$ 20%	0.6	40	41
P7612-1208-R44M	0.44 $\pm$ 20%	0.6	28	30

### Notes

1. Inductance measured at 1MHz, 250mV (P7612-1208 500kHz, 100mV).
2. I<sub>RMS</sub> is the current at which the temperature rise is 40°C typical, neglecting core losses.
3. I<sub>sat</sub> is the DC current at which the zero-current inductance drops by 30% (P7612-1208 20%).
4. Operating temperature (part, i.e. ambient + temp rise) -55°C to +125°C.
5. For non-standard inductance values, please contact Profec.

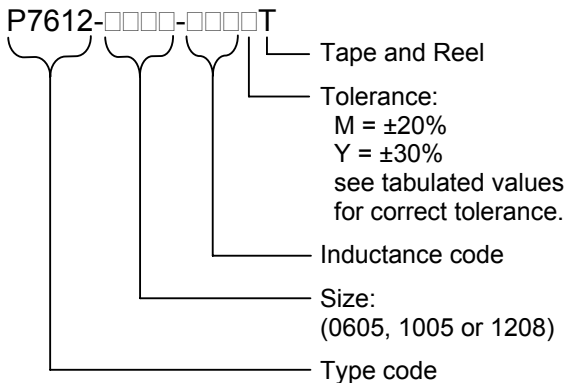
**CONSTRUCTION**



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	-55°C to +125°C
Operating temperature	-55°C to +125°C
Component body temperature	+125°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.