NOT FOR NEW DESIGN

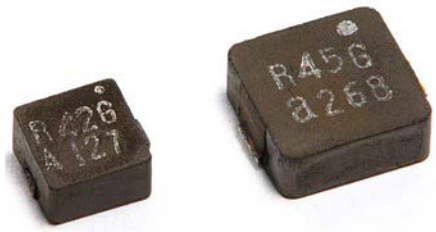
Large-Current Power Inductors MPCG

Overview

The KEMET MPCG metal composite inductors are designed with a very low loss core and flat wire design, which enables very high efficiency at high ripple currents. The core material used is ideal for high switching frequency applications.

Applications

- Switching DC-DC power supplies
- Notebook computers
- Tablets
- Embedded computer systems
- HDTVs
- DVD and BluRay players



Part Number System

MPCG	1040	L	R45
Series	Size Code	Inductor	Inductance Code µH
MPCG	0730 0740 1040		R = decimal point Example: R45 = 0.45 µH

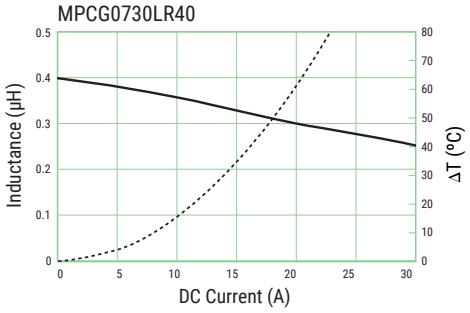
Table 1 – Ratings & Part Number Reference

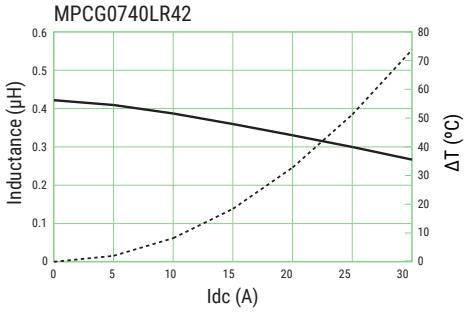
Part Number	Inductance (µH) at 100 kHz	Inductance Tolerance	DC Resistance (mΩ) ±10%	Rated Current (A)	
				Irms[1] (Ref.)	Isat[2] (Ref.)
MPCG0730LR40	0.40	±20%	2.60	16.0	16.0
MPCG0740LR42	0.42	±20%	1.55	22.0	20.0
MPCG1040LR36	0.36	±20%	1.05	25.0	30.0
MPCG1040LR45	0.45	±20%	1.10	25.0	27.0
MPCG1040LR56	0.56	±20%	1.30	23.0	23.0
MPCG1040LR88	0.88	±20%	2.30	17.0	19.0

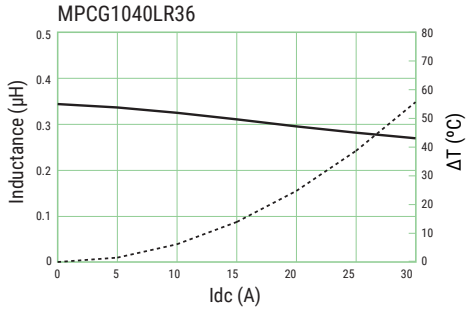
[1] *T = 40 K rise at rated current.*

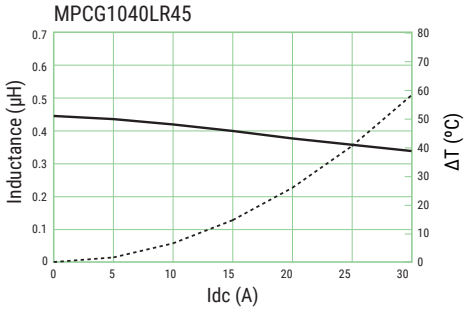
[2] *Inductance drop 20% at rated current.*

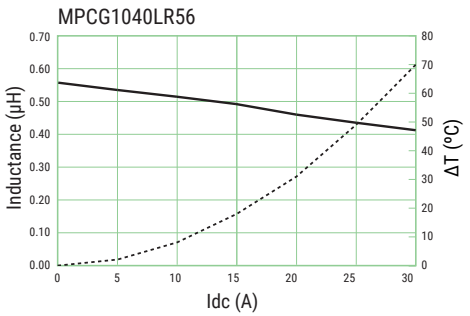
DC-Superposed Characteristics

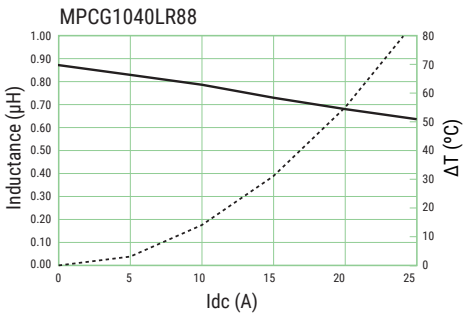




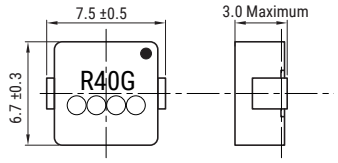
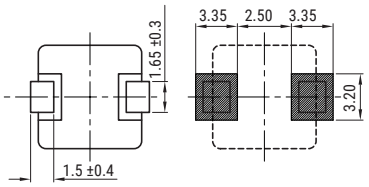
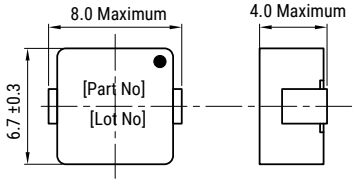
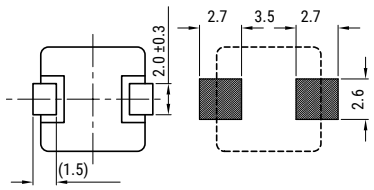
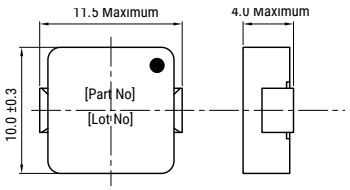
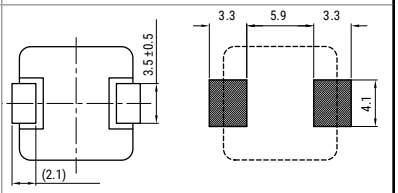








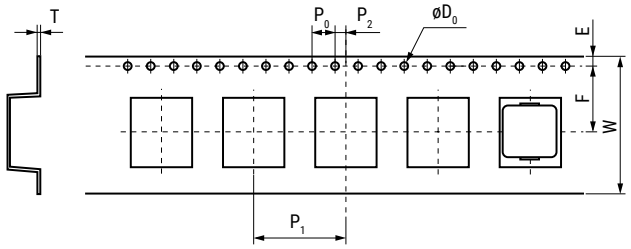
Dimensions

Part Number	Dimensions (mm)	Land Pattern
MPCG0730LR40		
MPCG0740LR42		
MPCG1040LR36 MPCG1040LR45 MPCG1040LR56 MPCG1040LR88		

Operating temperature range: –20°C to +120°C (Include self temperature rise)

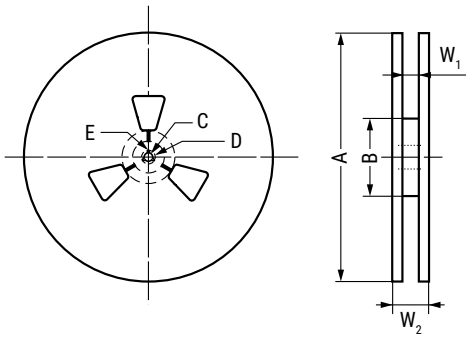
Taping Specification

Dimensions of indented square hole plastic tape



Case Size	Reel Quantity		W	F	E	P_1	P_2	P_0	$øD_0$	T
MPCG0730 MPCG0740	1,000	Tolerance	±0.2	±0.1	±0.1	±0.1	±0.1	±0.1	±0.05	±0.05
		Nominal	16.0	7.5	1.75	12.0	2.0	4.0	1.55	0.4
MPCG1040	500	Tolerance	±0.3	±0.1	±0.1	±0.1	±0.1	±0.1	±0.05	±0.05
		Nominal	24.0	11.5	1.75	16.0	2.0	4.0	1.55	0.4

Reel Specifications



Case Size		Dimensions (mm)							
		A	B	C	D	E	r	W_1	W_2
MPCG0730 MPCG0740	Tolerance	±2.0	±1.0	±0.2	±0.8	±0.5		±1.0	±1.0
	Nominal	ø330	ø80	ø13.0	ø21.0	2.0	R1.0	17.5	21.5
MPCG1040	Tolerance	±5.0	±5.0	±0.5	±1.0	±0.5		±2.0	±3.0
	Nominal	ø330	ø80	ø13.5	ø21.0	2.0	R1.0	24.4	30.4

Handling Precautions

Inductors should be stored in normal working environments. While the inductors themselves are quite robust in other environments, solderability will be degraded by exposure to high temperatures, high humidity, corrosive atmospheres, and long term storage.

KEMET recommends that maximum storage temperature not exceed 40°C and maximum storage humidity not exceed 70% relative humidity. Atmospheres should be free of chlorine and sulfur bearing compounds. Temperature fluctuations should be minimized to avoid condensation on the parts. For optimized solderability, inductors' stock should be used promptly, preferably within six months of receipt.

Export Control

For customers in Japan
For products which are controlled items subject to the "Foreign Exchange and Foreign Trade Law" of Japan, the export license specified by the law is required for export.

For customers outside Japan
Inductors should not be used or sold for use in the development, production, stockpiling or utilization of any conventional weapons or mass-destruction weapons (nuclear, chemical, biological weapons or missiles), or any other weapons.

KEMET Electronics Corporation Sales Offices

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Although KEMET designs and manufactures its products to the most stringent quality and safety standards, given the current state of the art, isolated component failures may still occur. Accordingly, customer applications which require a high degree of reliability or safety should employ suitable designs or other safeguards (such as installation of protective circuitry or redundancies) in order to ensure that the failure of an electrical component does not result in a risk of personal injury or property damage.

Although all product–related warnings, cautions and notes must be observed, the customer should not assume that all safety measures are indicted or that other measures may not be required.