

SERIES:

MGDQ5

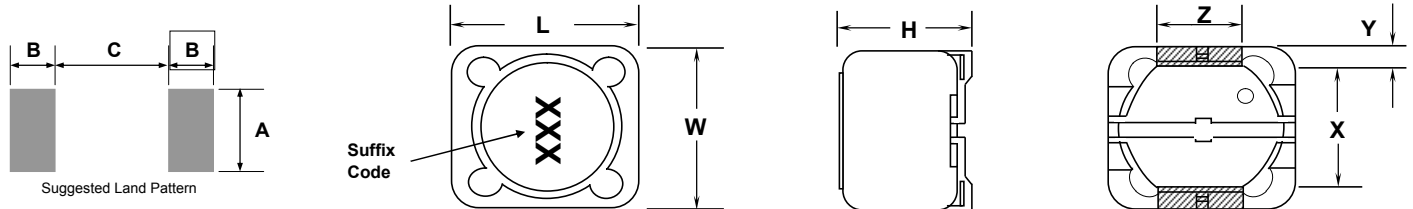
COEV
MAGNETICS

tyco Electronics

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Low Profile, High Current Power Inductors



Series Number	Maximum Dimensions				Reference Dimensions					
	Units	L	W	H	X	Y	Z	A	B	C
MGDQ5	inches	0.504"	0.504"	0.236"	0.315"	0.087"	0.197"	0.202"	0.084"	0.307"
	[mm]	[12.80]	[12.80]	[6.00]	[8.00]	[2.20]	[5.00]	[5.13]	[2.13]	[7.80]

Features:

- High energy storage and low resistance
- Reliable surface mounting, flat top for pick and place.
- Smaller real estate than other common inductors.
- Robust temperature deflection to prevent damage during solder reflow.
- Tape and Reel mechanical specifications available upon request.
- Operating Temperature -40°C to +85°C.
- Highly resistive core for EMI suppression applications.

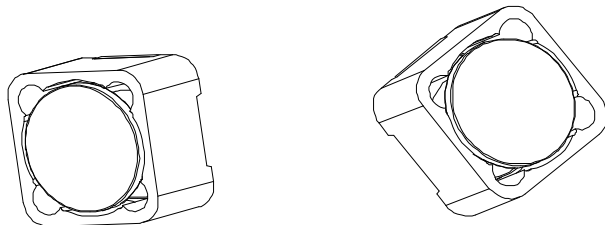
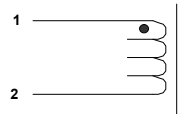
Notes:

- Inductance measured at 100kHz and 250mVrms.
- Isat is a maximum applied AC + DC current.
- Isat current is applied to produce a typical 35% drop in nominal inductance.
- Tolerance suffix of M = ±20%.
- DCR is a maximum at 20°C.



260°C Maximum reflow temperature per J-STD020
Terminal Plating is Gold Flash over Ni

Schematic Diagram

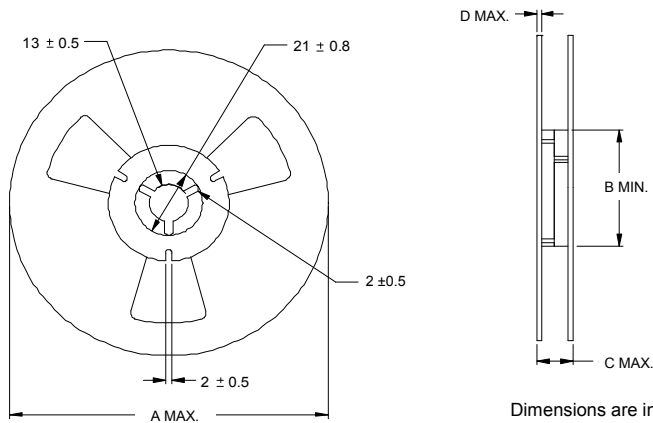


Contact CoEv for additional inductance values

MGDQ5				
Lead Free Part Number	L μ H	DCR Ω	I _{SAT} A	Tolerance Suffix
MGDQ5-00001	1.5	0.003	16.00	M
MGDQ5-00002	2.4	0.009	13.50	M
MGDQ5-00003	3.3	0.007	12.70	M
MGDQ5-00004	4.7	0.018	10.00	M
MGDQ5-00005	10	0.025	4.00	M
MGDQ5-00006	12	0.027	3.50	M
MGDQ5-00007	15	0.030	3.30	M
MGDQ5-00008	18	0.034	3.00	M
MGDQ5-00009	22	0.036	2.80	M
MGDQ5-00010	27	0.051	2.30	M
MGDQ5-00011	33	0.057	2.10	M
MGDQ5-00012	39	0.068	2.00	M
MGDQ5-00013	47	0.075	1.80	M
MGDQ5-00014	56	0.110	1.70	M
MGDQ5-00015	68	0.120	1.50	M
MGDQ5-00016	82	0.140	1.40	M
MGDQ5-00017	100	0.160	1.30	M
MGDQ5-00018	120	0.170	1.10	M
MGDQ5-00019	150	0.230	1.00	M
MGDQ5-00020	180	0.290	0.90	M
MGDQ5-00021	220	0.400	0.80	M
MGDQ5-00022	270	0.460	0.75	M
MGDQ5-00023	330	0.510	0.68	M
MGDQ5-00024	390	0.690	0.65	M
MGDQ5-00025	470	0.770	0.58	M
MGDQ5-00026	560	0.860	0.54	M
MGDQ5-00027	680	1.200	0.48	M
MGDQ5-00028	820	1.340	0.43	M
MGDQ5-00029	1000	1.530	0.40	M

Specifications subject to change

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Dimensions are in millimeters unless specified.

Series Number	Reel dimensions					Reel Qty	Carton (Box) Qty.	Packaging Specification
	Units	A	B	C	D			
MGDQ5	in.	12.99"	3.94"	1.16"	0.098"	650	3250	90-0053
	[mm]	[330]	[100.0]	[29.5]	[2.50]			

PACKAGING NOTE: Only pressure sensitive cover tape is to be used.

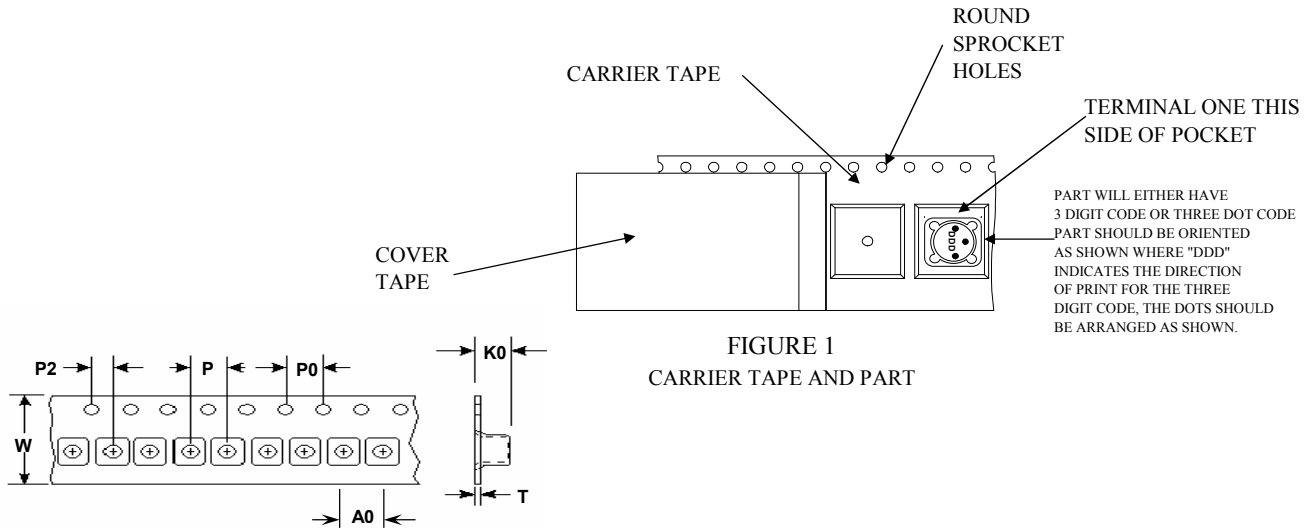


FIGURE 1
CARRIER TAPE AND PART

Series	W ±0.3	P ±0.1	P0 ±0.1	P2 ±0.1	K0 ±0.05	T ±0.05	A0 ±0.1
MGDQ5	24.0	16.0	4.00	2.00	6.30	0.35	12.6



Customer Packaging Specifications
For Print Distribution to Customers

Series	Revision
MGDQ5	A0
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Item	Specification	Test Method/Condition
Environmental		
Static Humidity	After exposure part remains within specified electrical parameters for L, Q and DCR.	Precondition at 25°C for 60 minutes. Expose parts to an environment of +40°C with 90 to 95% R.H. for 240 hours.
Storage Life	After exposure part remains within specified electrical parameters for L, Q and DCR.	Subject parts to an environment of 85°C 85% R.H. for 168 hours. After exposure allow parts to dry for 4 hours before measurements are taken.
Temperature Cycle	After exposure part remains within specified electrical parameters for L, Q and DCR.	10 cycles (Air to Air) 1 cycle shall consist of: 30 minutes exposure to +85°C 30 minutes exposure to -40°C Allow 20 minutes transition between extremes.
Temperature Shock	After exposure part remains within specified electrical parameters for L, Q and DCR.	10 cycles (Air to Air) 1 cycle shall consist of: 30 minutes exposure to -55°C 30 minutes exposure to +125°C 15 seconds maximum transition between temperatures
IR Reflow	10 seconds at 260°C max.	Post test parts shall pass all electrical specifications after reflow. There shall be no visible signs of solder flow or leakage from the part.
General		
Storage Temperature Range	-40°C to +85°C	
Operating Temperature Range	-40°C to +85°C	
Flammability	IEC 695-2-2	Withstands needle-flame test
Other		
Vibration	After exposure part remains within specified electrical parameters for L, Q and DCR.	1 cycle of 30 minutes of the following: 5 - 7 Hz constant displacement of 0.75 inches, 5 minutes 7 - 30 Hz constant acceleration of 1.5 Gs, 10 minutes 31 - 50 Hz constant displacement of 0.33 inches, 5 minutes 50 - 500 Hz constant acceleration of 1.2 Gs, 10 minutes
Mechanical Shock	After exposure part remains within specified electrical parameters for L, Q and DCR.	MGDQ1 Series - 500 Gs per axis, 2 directions MGDQ2 Series - 500 Gs per axis, 2 directions MGDQ3 Series - 500 Gs per axis, 2 directions MGDQ4 Series - 500 Gs per axis, 2 directions MGDQ5 Series - 500 Gs per axis, 2 directions MGDQ6 Series - 500 Gs per axis, 2 directions
Solderability	Wetting shall cover 90% minimum of each termination	Dip pads in RMA flux, 63/37 solder (Sn/Pb) at 232°C for 5 seconds ±2 seconds.
Component Adhesion (Push Test)	Component shall withstand 6 lb. push force minimum without delaminating from mounting surface.	Apply and measure force with a digital force gauge set.
Resistance to Solvent		Withstands 6 minutes of alcohol. Withstands 3 minutes forced spray Freon TMS
Chemical		
Ionic Contamination	Conductivity: pH: Chlorides: Sodium: Potassium:	11 µOhms/cm maximum 5.5 to 9 65 ppm maximum 20 ppm maximum 10 ppm maximum
For Print Distribution to Customers		
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		Revision
		MGDQ5
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