

SERIES:

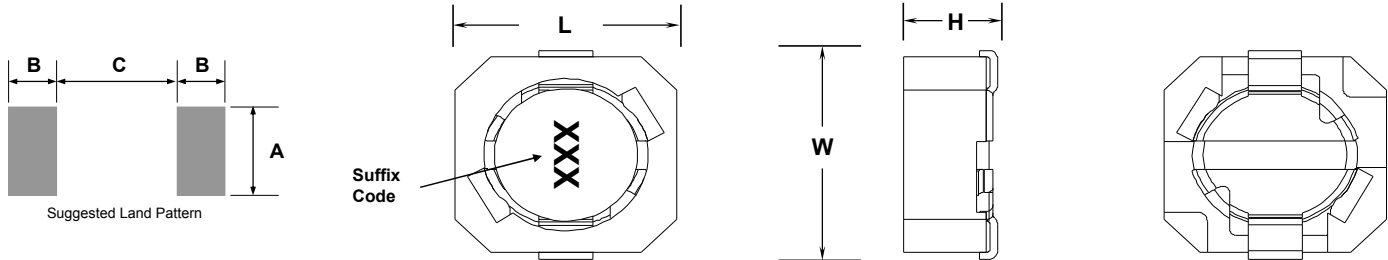
MGDQ1



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 Toll free: 888-978-2638  
 Ph: 605-886-3326  
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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
MGDQ1	inches	0.256"	0.272"	0.118"	0.181"	0.043"	0.063"	0.069"	0.049"	0.171"
	[mm]	[6.50]	[6.90]	[3.00]	[4.60]	[1.10]	[1.60]	[1.75]	[1.25]	[4.35]

**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.

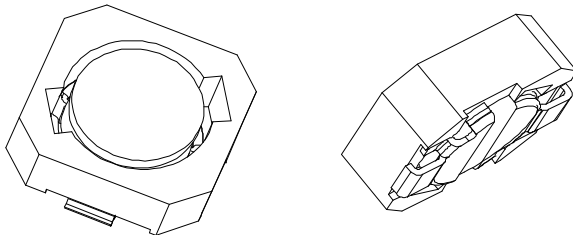
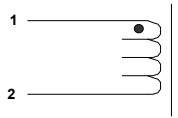
**Notes:**

- 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

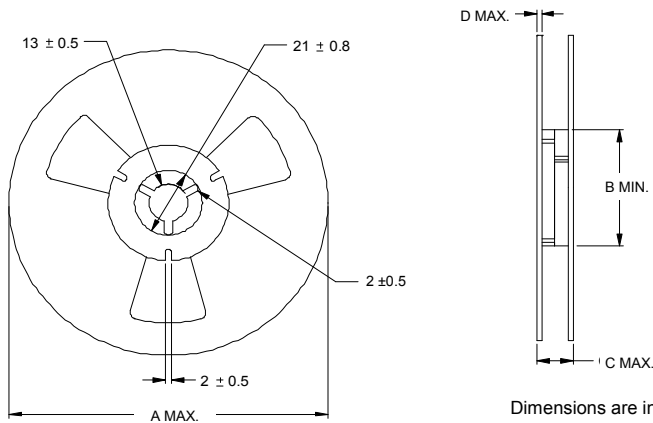


Contact CoEv for additional inductance values

Lead Free Part Number	MGDQ1			
	L $\mu$ H	DCR $\Omega$	I <sub>SAT</sub> A	Tolerance Suffix
MGDQ1-00001	3.3	0.068	1.940	M
MGDQ1-00002	4.7	0.080	1.630	M
MGDQ1-00003	5.5	0.096	1.400	M
MGDQ1-00004	10.0	0.15	1.10	M
MGDQ1-00005	12.0	0.20	1.00	M
MGDQ1-00006	15.0	0.23	0.90	M
MGDQ1-00007	18.0	0.27	0.80	M
MGDQ1-00008	22.0	0.34	0.74	M
MGDQ1-00009	27.0	0.38	0.66	M
MGDQ1-00010	33.0	0.45	0.59	M
MGDQ1-00011	39.0	0.49	0.54	M
MGDQ1-00012	47.0	0.69	0.50	M
MGDQ1-00013	56.0	0.78	0.46	M
MGDQ1-00014	68.0	1.07	0.42	M
MGDQ1-00015	82.0	1.21	0.38	M
MGDQ1-00016	100.0	1.39	0.34	M
MGDQ1-00017	120.0	1.90	0.31	M
MGDQ1-00018	150.0	2.18	0.28	M
MGDQ1-00019	180.0	2.77	0.26	M
MGDQ1-00020	220.0	3.12	0.23	M
MGDQ1-00021	270.0	4.38	0.22	M
MGDQ1-00022	330.0	4.94	0.19	M

Specifications subject to change

Call Toll Free: 888-978-2638 Website: [www.tycopowercomponents.com](http://www.tycopowercomponents.com)



Dimensions are in millimeters unless specified.

Series Number	Reel dimensions				Reel Qty	Carton (Box) Qty.	Packaging Specification
	Units	A	B	C			
MGDQ1	in.	14.17"	3.94"	0.88"	1500	9000	90-0043
	[mm]	[360]	[100.0]	[22.4]			

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

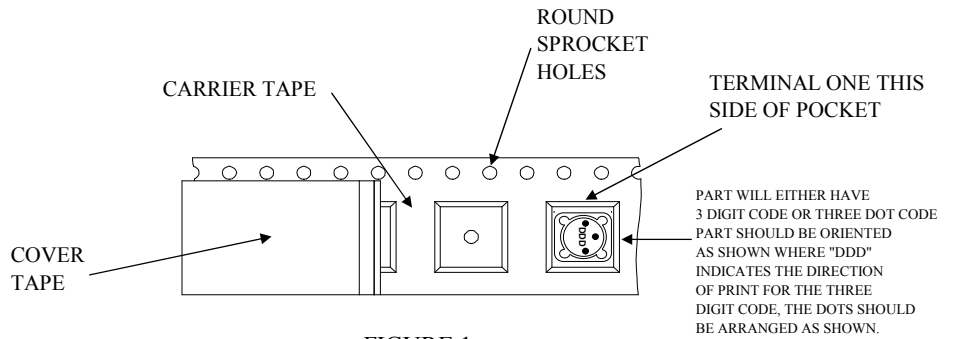
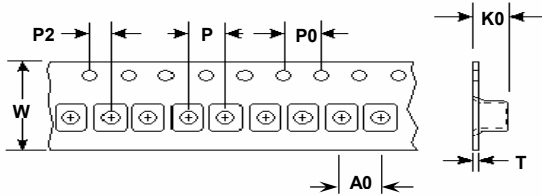


FIGURE 1  
CARRIER TAPE AND PART



Series	W ±0.3	P ±0.1	P0 ±0.1	P2 ±0.1	K0 ±0.05	T ±0.05	A0 ±0.1
MGDQ1	16.0	12.0	4.00	2.00	3.40	0.35	6.6



**Customer Packaging Specifications**  
For Print Distribution to Customers

Series	Revision
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Item	Specification	Test Method/Condition
<b>Environmental</b>		
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	(B0) 10 seconds at 260°C max.	(B0) Post test parts shall pass all electrical specifications after reflow. There shall be no visible signs of solder flow or leakage from the part.
<b>General</b>		
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
<b>Other</b>		
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
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
<b>Chemical</b>		
Ionic Contamination	Conductivity: pH: Chlorides: Sodium: Potassium:	11 µOhms/cm maximum 5.5 to 9 65 ppm maximum 20 ppm maximum 10 ppm maximum



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