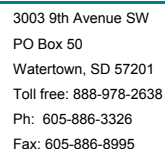
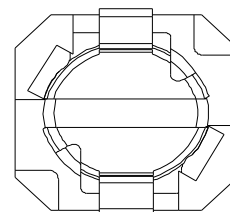
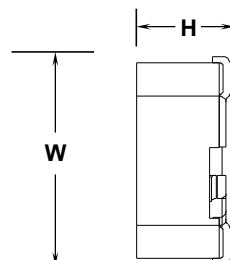
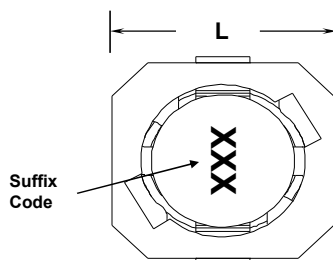
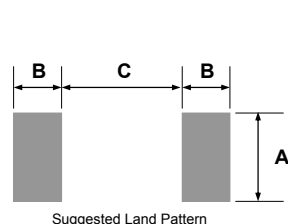


MGDQ1



Low Profile, High Current Power Inductors

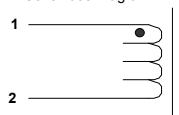


Series Number	Maximum Dimensions				Reference Dimensions					
	Units	L	W	H	X	Y	Z	A	B	C
	inches	0.256"	0.272"	0.118"	0.181"	0.043"	0.063"	0.069"	0.049"	0.171"
MGDQ1	[mm]	[6.50]	[6.90]	[3.00]	[4.60]	[1.10]	[1.60]	[1.75]	[1.25]	[4.35]

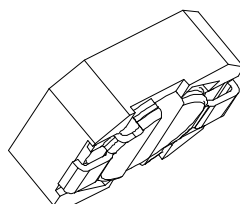
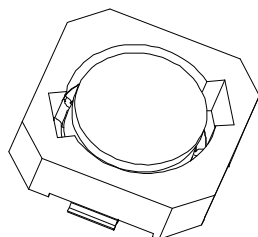
- **Advantages:**
- High energy storage and low resistance
- Reliable surface mounting, flat top for pick and place.
- Smaller real estate than other common inductors.
- Robust temperature deflection to prevent damage during solder reflow.
- Tape and Reel mechanical specifications available upon request.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



Schematic Diagram



- 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 = $\pm 20\%$.
- DCR is a maximum at 20°C.

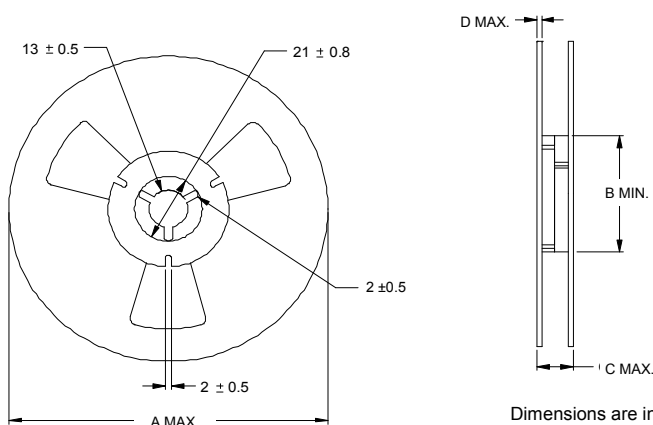


Contact CoEv for additional inductance values

[illegible]

Specifications subject to change

Call Toll Free: 888-978-2638 Website: www.tycopowercomponents.com



Dimensions are in millimeters unless specified.

Series Number	Reel dimensions					Reel Qty	Carton (Box) Qty.	Packaging Specification
	Units	A	B	C	D			
MGDQ1	in.	14.17"	3.94"	0.88"	0.098"	1500	9000	90-0043
	[mm]	[360]	[100.0]	[22.4]	[2.50]			

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

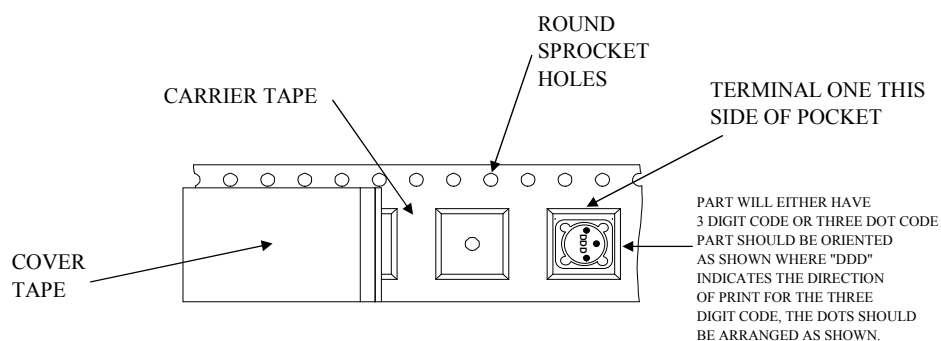
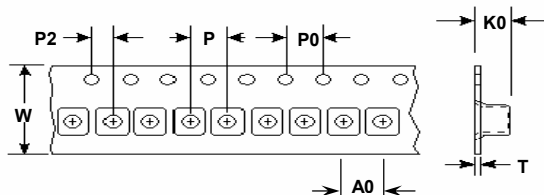


FIGURE 1
CARRIER TAPE AND PART




Series	W ±0.3	P ±0.1	P0 ±0.1	P2 ±0.1	K0 ±0.05	T ±0.05	A0 ±0.1
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
MGDQ1	B0
Sheet 2 of 3	

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	(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.
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
Solderability		Dip pads in RMA flux, 63/37 solder (Sn/Pb) at 232°C for 5 seconds ±2 seconds.
	Wetting shall cover 90% minimum of each termination	
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		
		Series
		MGDQ1
		Revision
		B0
Sheet 3 of 3		