

Shielded, Low Profile, High Current Power Inductors



Series Number	Maximum Dimensions				Reference Dimensions				
	Units	L	W	H	Y	Z	A	B	C
MGDS2	inches	0.421"	0.323"	0.146"	0.236"	0.079"	0.087"	0.094"	0.224"
	[mm]	[10.70]	[8.20]	[3.70]	[6.00]	[2.00]	[2.20]	[2.40]	[5.70]

Features:

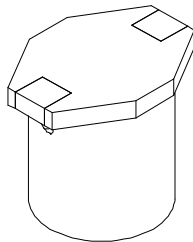
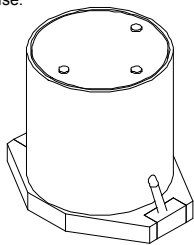
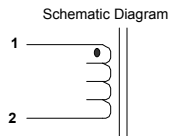
- High energy storage and low resistance
- Reliable surface mounting, flat top for pick and place.
- Smaller real estate than other common inductors.
- Robust temperature deflection to prevent damage during solder reflow.
- Tape and Reel mechanical specifications available upon request.
- Operating Temperature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



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

Notes:

- Inductance measured at 100kHz and 250mVrms.
- Isat is a maximum applied AC + DC current.
- Isat current is applied to produce a typical 10% drop in nominal inductance.
- Irms current is applied to produce a typical 40°C temperature rise.
- Tolerance suffix of M = $\pm 20\%$.
- DCR is a maximum at 20°C.
- Irms is applied current to produce a typical 40° temp. rise.

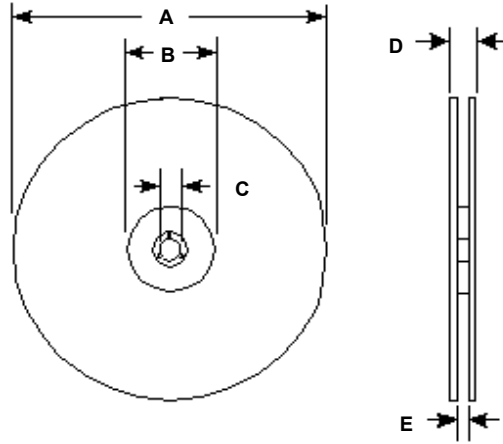


Contact CoEv for additional inductance values

Lead Free Part Number	L μH	MGDS2			
		DCR	I _{SAT}	I _{RMS}	Tolerance
		Ω	A	A	Suffix
MGDS2-00001	5.0	0.080	1.70	1.70	M
MGDS2-00002	7.5	0.100	1.40	1.40	M
MGDS2-00003	10	0.165	1.20	1.20	M
MGDS2-00004	12	0.172	1.10	1.10	M
MGDS2-00005	15	0.181	1.00	1.00	M
MGDS2-00006	18	0.190	0.90	0.90	M
MGDS2-00007	22	0.250	0.80	0.80	M
MGDS2-00008	27	0.270	0.70	0.70	M
MGDS2-00009	33	0.300	0.65	0.65	M
MGDS2-00010	39	0.380	0.60	0.60	M
MGDS2-00011	47	0.580	0.55	0.55	M
MGDS2-00012	56	0.620	0.50	0.50	M
MGDS2-00013	68	0.920	0.45	0.45	M
MGDS2-00014	82	0.980	0.40	0.40	M

Specifications subject to change

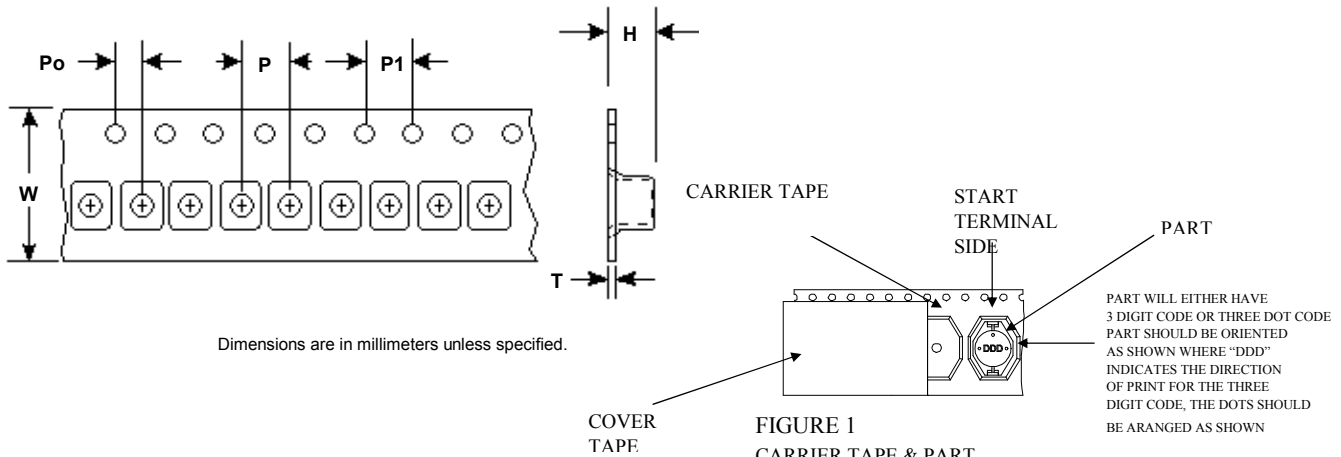
Call Toll Free: 888-978-2638 Website: www.tycopowercomponents.com



Dimensions are in millimeters unless specified.

Series Number	Reel dimensions					Reel Qty	Carton (Box) Qty.	Packaging Specification
	Units	A MAX	B MIN	C ± 0.5	D MAX	E MAX		
MGDS2	in.	14.17"	3.94"	0.51"	1.20"	1.08"	1000	5000
	[mm]	[360]	[100.0]	[13.0]	[30.40]	[27.40]		

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



Series	W ± 0.3	P ± 0.1	Po ± 0.1	P1 ± 0.1	H ± 0.05	T ± 0.05
MGDS2	24.0	12.0	2.0	4.0	3.8	0.35

Customer Packaging Specifications
For Print Distribution to Customers

Series
MGDS2

Revision
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.	Expose parts to an environment of +50°C with 90 to 95% R.H. for 100 hours. After exposure, allow parts to dry for 2 hours before measurements are taken.	
Storage Life	After exposure part remains within specified electrical parameters for L, Q and DCR.	Subject parts to an environment of +50°C 90 to 100% R.H. for 46 to 50 hours. After exposure, allow parts to dry for 2 hours before measurements are taken.	
Moisture Resistance	After exposure, part shall not have a shorted or open winding.	Per MIL-STD 202 Method 106, ten 24 hour cycles at +25°C to +65°C at 80 to 95% R.H. During any of the first 9 cycles, inductors are revolved from the chamber and exposed to -10°C for 3 hours. Allow parts to dry for 2 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 -45°C 30 minutes exposure to +125°C 15 seconds maximum transition between temperatures	
General			
Range	-40°C to +85°C		
Operating	-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.	Inductors shall be randomly vibrated per NAVMAT P9492 profile. Samples shall be subjected to 0.04G/Hz for a minimum of 15 minutes per axis, for each of the three axes.	
Mechanical Shock	After exposure part remains within specified electrical parameters for L, Q and DCR.	Test per MIL-STD 202 method 213 test condition A, test mounted samples 3 axes, 6 times, totaling 18 shocks. (50Gs, 11ms, half-sine).	
Solderability	Wetting shall cover 90% minimum of	Dip pads in RMA flux, 63/37 solder (Sn/Pb) at 232°C for 5 seconds	
Component Adhesion	4 pounds	Apply and measure force with a digital force gauge set.	
Resistance to Solvent	No sign of degradation in appearance or marking detail.	Withstands 6 minutes of alcohol. Withstands 3 minutes forced spray Freon TMS	
Load Life	After exposure, part shall not have a shorted or open winding.	Parts to be stored at 110°C for 1000 hours with rated current applied. Parts to be tested at: start, 500 and 1000 hours. Allow 2 hours at room temperature before testing.	
For Print Distribution to Customers		Pb RoHS Compliant	
		Series	Revision
		MGDS2	A0
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