

SERIES:

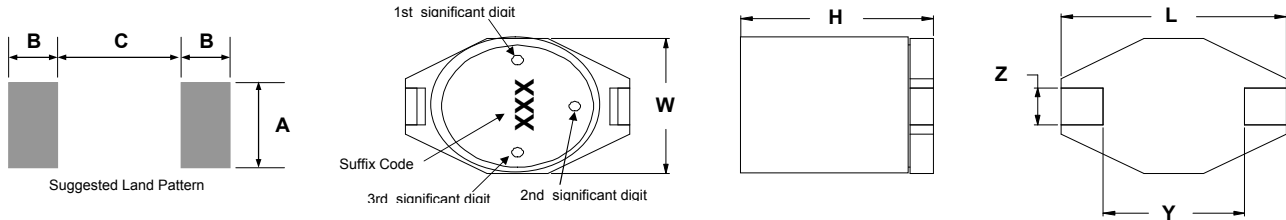
MGDS3



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Shielded, Low Profile, High Current Power Inductors



Parts will be marked with Significant Diat Dots OR Suffix code

Series Number	Maximum Dimensions			Reference Dimensions					
	Units	L	W	H	Y	Z	A	B	C
MGDS3	inches	0.421"	0.323"	0.177"	0.236"	0.079"	0.087"	0.094"	0.224"
	[mm]	[10.70]	[8.20]	[4.50]	[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.

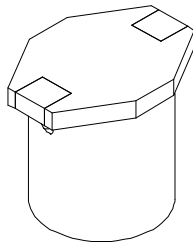
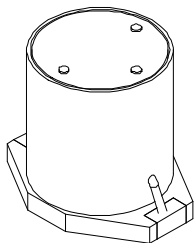
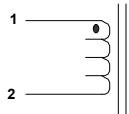


Terminal Plating is Gold Flash over Ni
 260°C Maximum reflow temperature per J-STD020

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 = ±20%.
- DCR is a maximum at 20°C.

Schematic Diagram

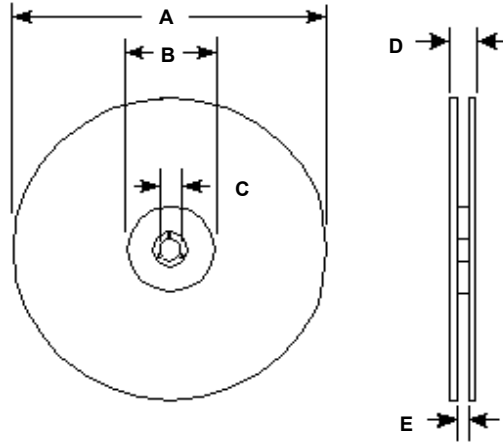


Contact CoEv for additional inductance values

Lead Free Part Number	L μH	MGDS3			Tolerance Suffix
		DCR Ω	Isat A	Irms A	
MGDS3-00001	2.2	0.04	2.5	2.5	M
MGDS3-00002	3.9	0.055	2.1	2.1	M
MGDS3-00003	5.6	0.065	1.95	1.95	M
MGDS3-00004	8.2	0.08	1.75	1.75	M
MGDS3-00005	10	0.100	1.50	1.50	M
MGDS3-00006	12	0.120	1.40	1.40	M
MGDS3-00007	15	0.140	1.30	1.30	M
MGDS3-00008	18	0.160	1.20	1.20	M
MGDS3-00009	22	0.180	1.10	1.10	M
MGDS3-00010	27	0.200	1.00	1.00	M
MGDS3-00011	33	0.240	0.92	0.92	M
MGDS3-00012	39	0.350	0.84	0.84	M
MGDS3-00013	47	0.425	0.75	0.75	M
MGDS3-00014	56	0.530	0.68	0.68	M
MGDS3-00015	68	0.668	0.60	0.60	M
MGDS3-00016	82	0.730	0.54	0.54	M
MGDS3-00017	100	1.05	0.5	0.5	M
MGDS3-00018	120.0	1.1	0.45	0.45	M

Specifications subject to change

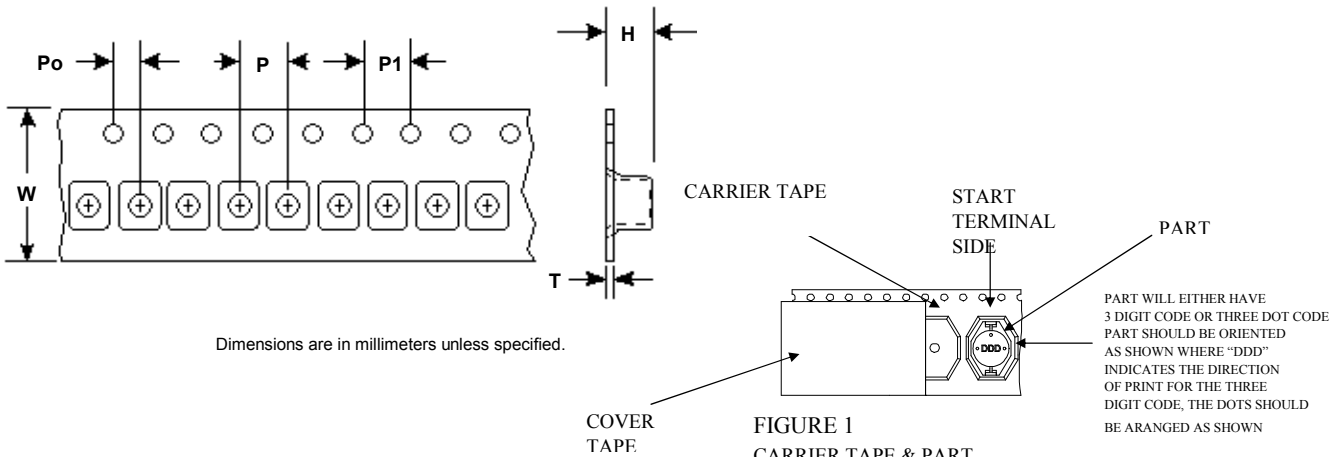
Call Toll Free: 888-978-2638 Website: www.tycopowercomponents.com



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
MGDS3	in.	14.17"	3.94"	0.51"	1.20"	1.08"	1000	5000	90-0063
	[mm]	[360]	[100.0]	[13.0]	[30.40]	[27.40]			

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



Dimensions are in millimeters unless specified.

FIGURE 1
CARRIER TAPE & PART

Series	W ± 0.3	P ± 0.1	Po ± 0.1	P1 ± 0.1	H ± 0.05	T ± 0.05
MGDS3	24.0	12.0	2.0	4.0	4.6	0.35



Customer Packaging Specifications
For Print Distribution to Customers

Series	Revision
MGDS3	A0
Sheet 2 of 7	

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.



RoHS Compliant

For Print Distribution to Customers

Series	Revision
MGDS3	A0
Sheet 3 of 3	