

SERIES:

MGDS4

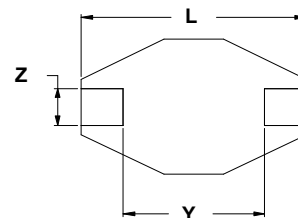
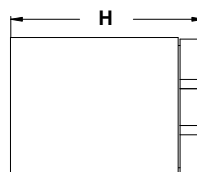
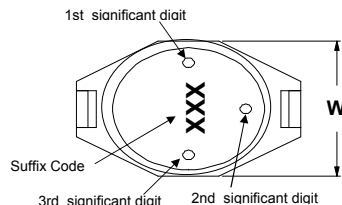
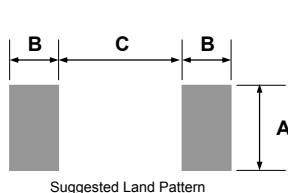


tyco Electronics

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Shielded, Low Profile, High Current Power Inductors



Parts will be marked with Significant Digit Dots OR Suffix code

Series Number	Maximum Dimensions				Reference Dimensions				
	Units	L	W	H	Y	Z	A	B	C
MGDS4	inches	0.510"	0.398"	0.201"	0.300"	0.100"	0.110"	0.118"	0.290"
	[mm]	[12.95]	[10.10]	[5.10]	[7.62]	[2.54]	[2.80]	[3.00]	[7.37]

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.

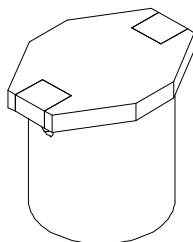
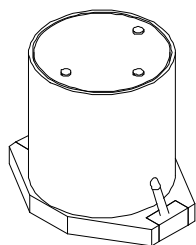
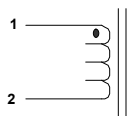


Terminal Plating is Gold Flash over Ni
260°C Maximum reflow temperature per J-STD020

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

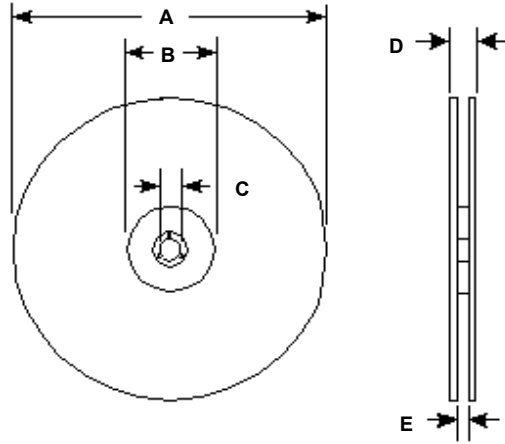


Contact CoEv for additional inductance values

Lead Free Part Number	L μH	MGDS4			
		DCR Ω	I _{SAT} A	I _{RMS} A	Tolerance Suffix
MGDS4-00001	1.0	0.021	5.80	5.00	M
MGDS4-00002	1.5	0.022	5.20	4.50	M
MGDS4-00003	2.2	0.032	5.00	3.80	M
MGDS4-00004	3.3	0.039	3.90	3.30	M
MGDS4-00005	4.7	0.054	2.80	2.70	M
MGDS4-00006	6.8	0.075	2.80	2.20	M
MGDS4-00007	10	0.101	2.40	2.00	M
MGDS4-00012	15	0.150	2.00	1.50	M
MGDS4-00008	22	0.207	1.50	1.30	M
MGDS4-00009	33	0.334	1.40	1.10	M
MGDS4-00010	47	0.472	1.00	0.80	M
MGDS4-00011	100	1.00	0.9	0.70	M
MGDS4-00013	150	1.68	0.5	0.39	M
MGDS4-00014	220	2.55	0.4	0.30	M
MGDS4-00015	390	4.51	0.3	0.23	M

Specifications subject to change

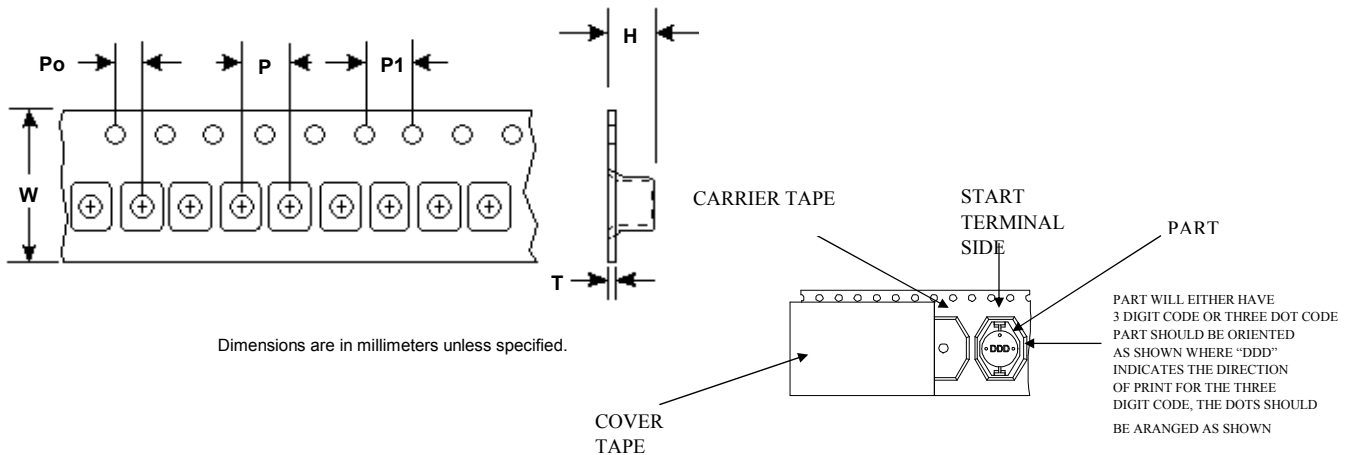
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Dimensions are in millimeters unless specified.

Series Number	Reel dimensions					Reel Qty	Carton (Box) Qty.	Packaging Specification
	Units	A MAX	B MIN	C ± 0.5	D MAX E MAX			
MGDS4	in.	14.17"	3.94"	0.51"	1.20" 1.08"	700	3500	90-0055
	[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
DS1351	24.0	16.0	2.0	4.0	5.7	0.35

Customer Packaging Specifications

For Print Distribution to Customers

Series
MGDS4

Revision
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.	
For Print Distribution to Customers		Pb RoHS Compliant	
		Series	Revision
		MGDS4	A0
Sheet 3 of 3			