SERIES:

MGDS2

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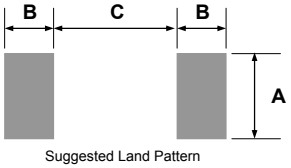
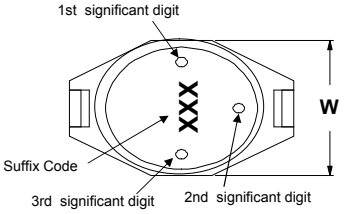
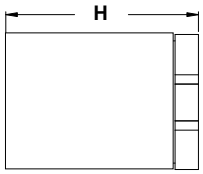
BABT certified ISO 9001

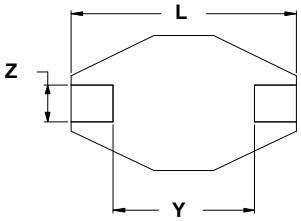
Shielded, Low Profile, High Current Power Inductors



Suggested Land Pattern







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
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.

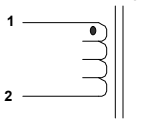
Pb RoHS Compliant

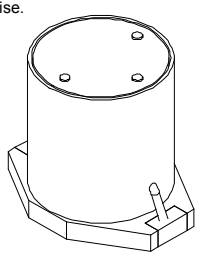
Terminal Plating is Gold Flash over Ni
260°C Maximum reflow temperature per J-STD020

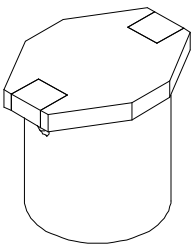
Notes:

- 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.
- Irms is applied current to produce a typical 40° temp. rise.

Schematic Diagram



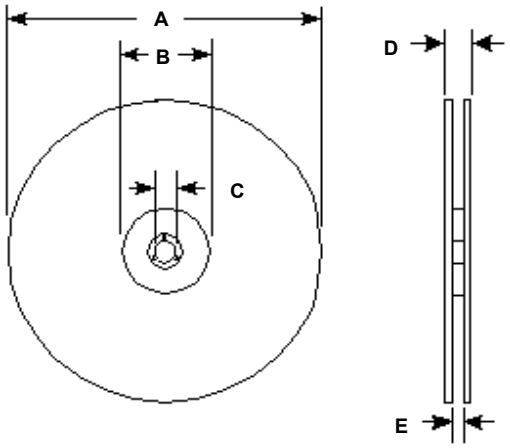




Contact CoEv for additional inductance values

Lead Free Part Number	L µH	MGDS2 DCR Ω	I_{SAT} A	I_{RMS} A	Tolerance 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

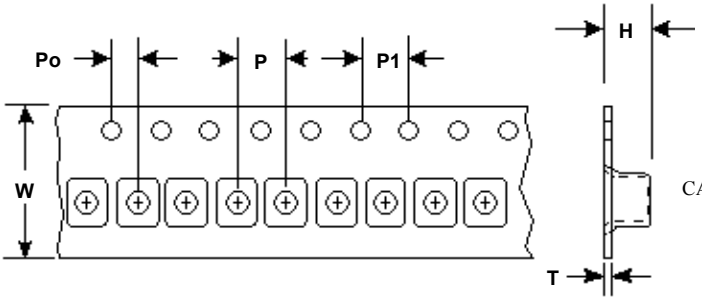
Specifications subject to change



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	90-0062
	[mm]	[360]	[100.0]	[13.0]	[30.40]	[27.40]			

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



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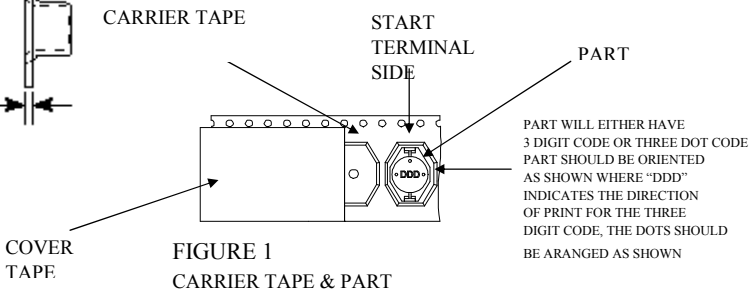

FIGURE 1
CARRIER TAPE & PART

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

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.