SERIES:	
MGDS5	

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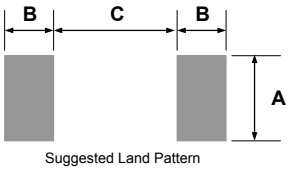
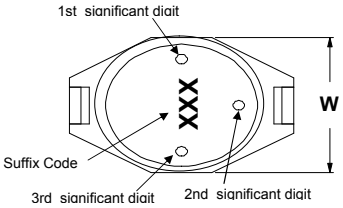
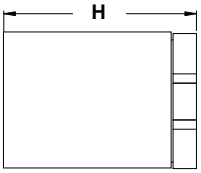
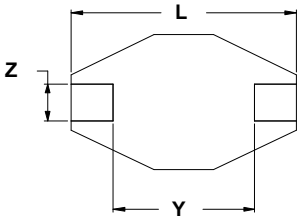
BABT certified ISO 9001

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
MGDS5	inches	0.730"	0.600"	0.300"	0.500"	0.100"	0.110"	0.115"	0.490"
	[mm]	[18.54]	[15.25]	[7.62]	[12.70]	[2.54]	[2.79]	[2.92]	[12.45]

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

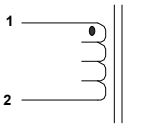
Terminal Plating is Gold Flash over Ni

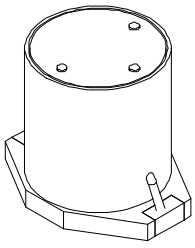
260°C Maximum reflow temperature per J-STD020

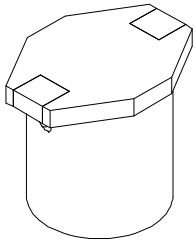
Notes:

- 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.

Schematic Diagram



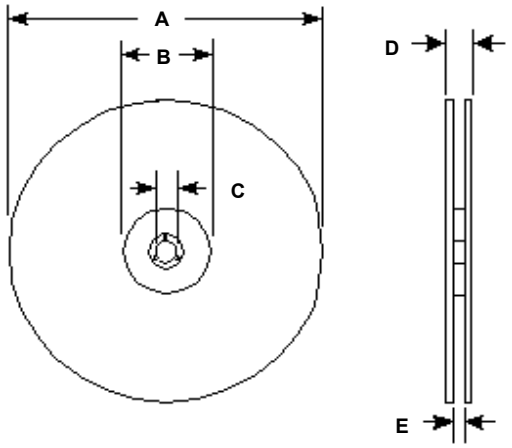




Contact CoEv for additional inductance values

		MGDS5			
Lead Free Part Number	L µH	DCR Ω	I_{SAT} A	I_{RMS} A	Tolerance Suffix
MGDS5-00014	1.2	0.0045	20	10	M
MGDS5-00015	10	0.040	7.00	3.60	M
MGDS5-00002	15	0.048	5.60	3.20	M
MGDS5-00003	22	0.059	5.00	2.80	M
MGDS5-00004	33	0.075	4.50	2.60	M
MGDS5-00005	47	0.097	4.00	2.40	M
MGDS5-00006	68	0.138	3.00	2.00	M
MGDS5-00007	100	0.207	2.40	1.70	M
MGDS5-00008	150	0.293	2.10	1.30	M
MGDS5-00009	220	0.470	1.90	1.10	M
MGDS5-00010	330	0.780	1.10	0.86	M
MGDS5-00011	470	1.080	1.10	0.73	M
MGDS5-00012	680.0	1.400	0.96	0.64	M
MGDS5-00013	1000.0	2.010	0.80	0.53	M

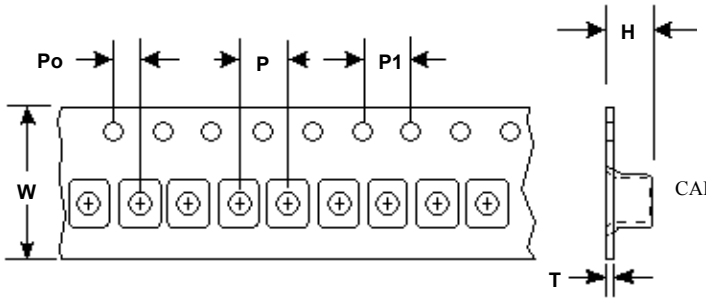
Specifications subject to change



Dimensions are in millimeters unless specified.

Series Number	Reel dimensions						Reel Qty	Carton (Box0 Qty.	Packaging Specification
	Units	A MAX	B MIN	C ±0.5	D MAX	E MAX			
MGDS5	in.	14.17"	3.94"	0.51"	1.98"	1.87"	250	1000	90-0065
	[mm]	[360]	[100.0]	[13.0]	[50.40]	[47.40]			

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



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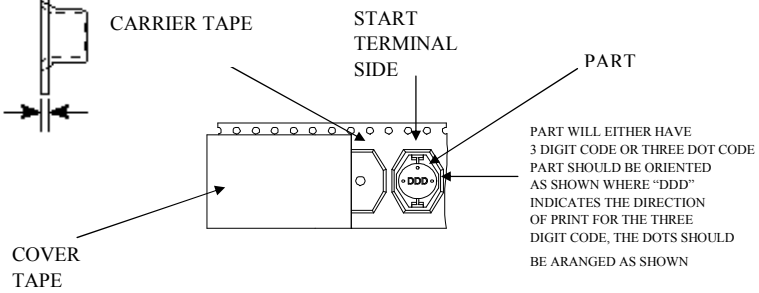

Series	W ± 0.3	P ± 0.1	Po ± 0.1	P1 ± 0.1	H ± 0.05	T ± 0.05
DS1145	44.0	24.0	2.0	4.0	6.9	0.35

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.

Pb RoHS Compliant

For Print Distribution to Customers

Series	Revision
MGDS5	B0