

SERIES:

MGDU1

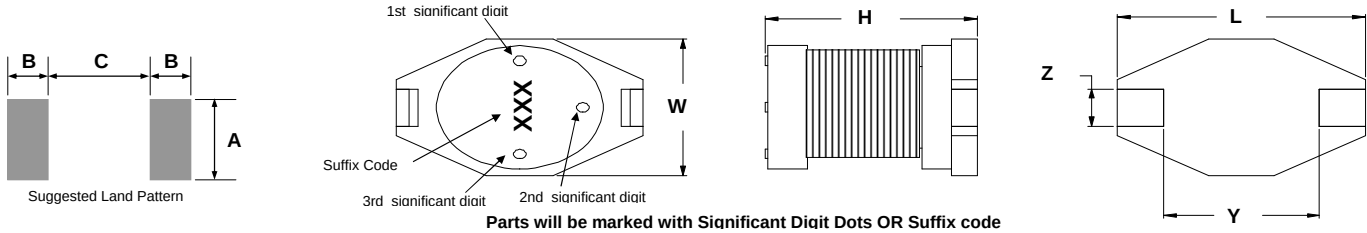
COEV
MAGNETICS

tyco Electronics

3003 9th Avenue SW
PO Box 50
Watertown, SD 57201
Toll free: 888-978-2638
Ph: 605-886-3326
Fax: 605-886-8995



Low Profile, High Current Power Inductors



Series Number	Maximum Dimensions				Reference Dimensions				
	Units	L	W	H	Y	Z	A	B	C
MGDU1	inches	0.260"	0.177"	0.115"	0.190"	0.050"	0.140"	0.055"	0.160"
	[mm]	[6.60]	[4.50]	[2.92]	[4.83]	[1.27]	[3.56]	[1.40]	[4.06]

Features:

- High energy storage and low resistance
- Ideal for DC-DC step-up or step-down conversion.
- Reliable surface mounting, flat top for pick and place mounting
- Robust temperature deflection to prevent damage during solder reflow.
- Operating Temperature -40°C to +85°C.

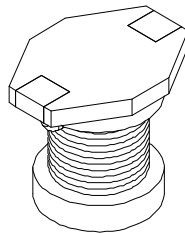
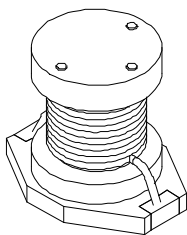
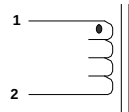


Terminal Plating is Gold Flash over Ni
260°C Maximum reflow temperature per J-STD020

Notes:

- Inductance measured at 100kHz, 100mVrms at 20°C.
- DCR (DC resistance) are maximum @ 20°C.
- Irms is the current applied to produce a typical 30°C temperature rise from nominal inductance.
- Isat is a maximum applied AC + DC current.
- Isat is the current applied to produce a typical 10% drop in nominal inductance
- Tolerance suffix of M = ±20%.

Schematic Diagram

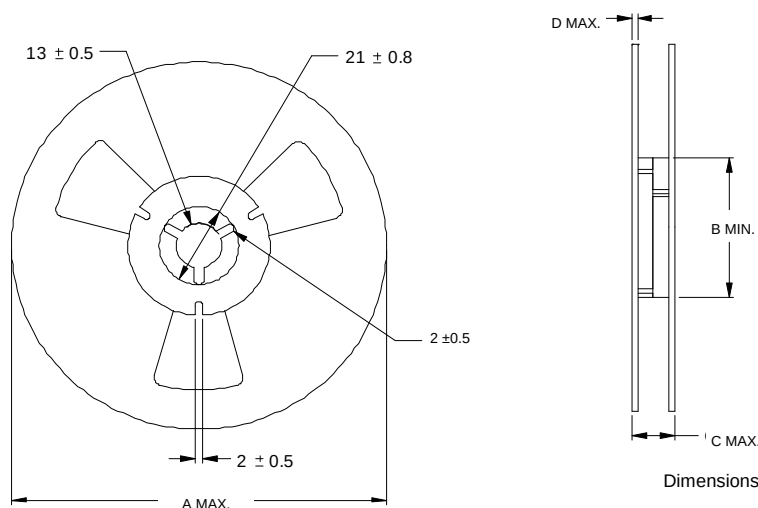


Contact CoEv for additional inductance values

MGDU1					
Lead Free Part Number	L μH	DCR	I _{SAT}	I _{RMS}	Tolerance
		W	A	A	Suffix
MGDU1-00001	1.0	0.050	2.90	2.90	M
MGDU1-00002	1.5	0.050	2.60	2.80	M
MGDU1-00003	2.2	0.070	2.30	2.40	M
MGDU1-00004	3.3	0.080	2.00	2.00	M
MGDU1-00005	4.7	0.090	1.50	1.50	M
	5.6				
MGDU1-00006	6.8	0.130	1.20	1.40	M
	8.0				
MGDU1-00007	10	0.160	1.10	1.30	M
MGDU1-00008	15	0.230	0.90	1.20	M
MGDU1-00009	22	0.370	0.70	0.80	M
MGDU1-00010	33	0.510	0.58	0.60	M
MGDU1-00011	47	0.640	0.50	0.50	M
MGDU1-00012	68	0.860	0.40	0.40	M
MGDU1-00013	100	1.270	0.31	0.30	M
MGDU1-00014	150	2.000	0.27	0.25	M
MGDU1-00015	220	3.110	0.22	0.20	M
MGDU1-00016	330	4.800	0.18	0.16	M
MGDU1-00017	470	6.600	0.16	0.15	M
MGDU1-00018	680	9.200	0.10	0.12	M
MGDU1-00019	1000	13.800	0.10	0.07	M

Specifications subject to change

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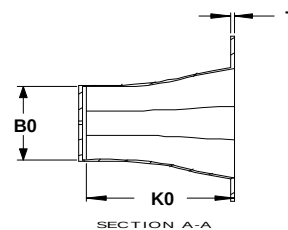
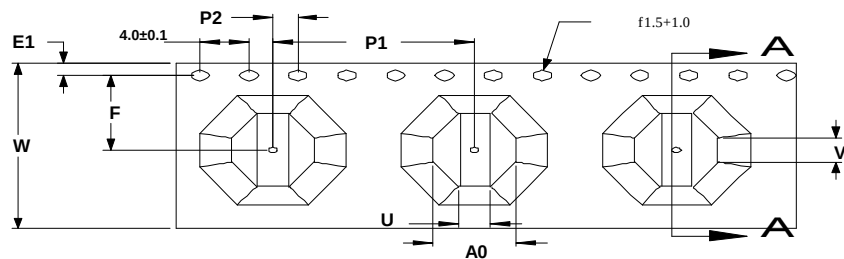
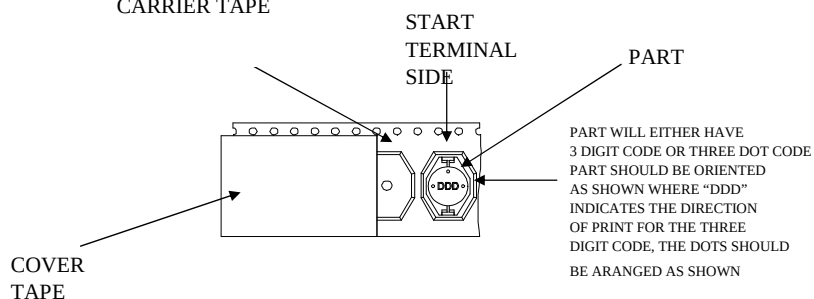


Dimensions are in millimeters unless specified.

Series Number	Reel dimensions					Reel Qty	Carton (Box) Qty.	Packaging Specification
	Units	A	B	C	D			
MGDU1	in.	12.99"	3.94"	0.88"	0.094"	2500	15000	90-0057
	[mm]	[360]	[100.0]	[22.4]	[2.40]			

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

CARRIER TAPE



Series	A0 ± 0.1	U ± 0.1	V ± 0.1	P1 ± 0.1	P2 ± 0.1	W ± 0.3	F ± 0.1	E1 MIN.	B0 ± 0.1	K0 ± 0.05		T ± 0.05
MGDU1	4.55	1.45	2.70	8.00	2.00	16.00	5.5 ± 0.05	1.75	6.70	3.45		0.35



Customer Packaging Specifications For Print Distribution to Customers

Series	Revision
MGDU1	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		
Storage Temperature Range	-40°C to +85°C	
Operating Temperature Range	-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 each termination	Dip pads in RMA flux, 63/37 solder (Sn/Pb) at 232°C for 5 seconds ±2 seconds.
Component Adhesion (Push Test)	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		 RoHS Compliant
		Series
		Revision
		MGDU1
		A0
		Sheet 3 of 7