

SERIES:

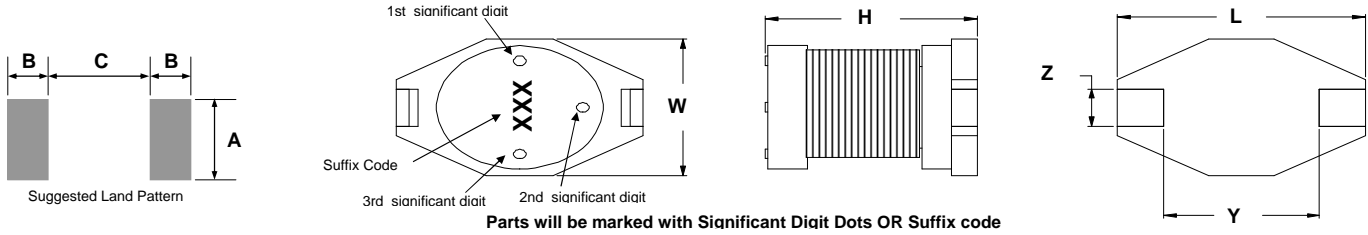
MGDU1



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 Toll free: 888-978-2638  
 Ph: 605-886-3326  
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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.

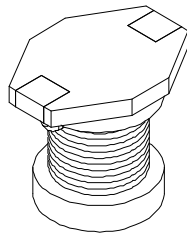
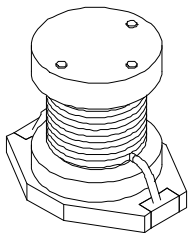
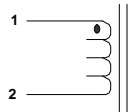


Terminal Plating is Gold Flash over Ni  
 260°C Maximum reflow temperature per J-STD020

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

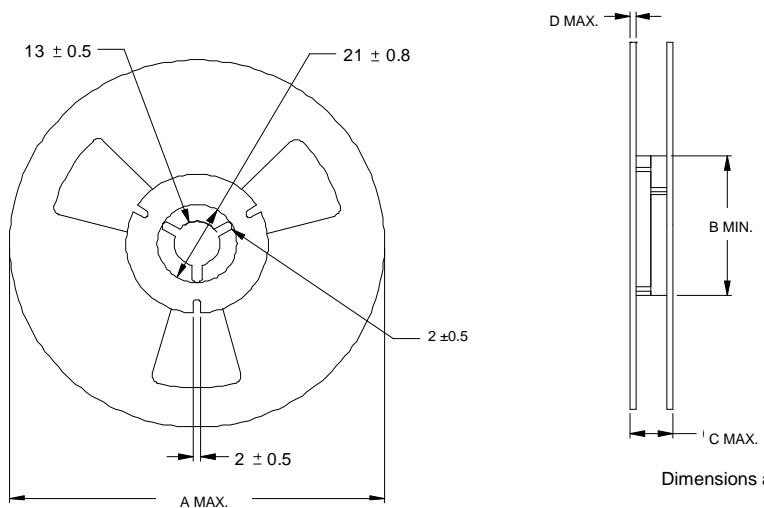


Contact CoEv for additional inductance values

Lead Free Part Number	L $\mu$ H	DCR		I <sub>SAT</sub> A	I <sub>RMS</sub> A	Tolerance Suffix
		W	A			
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	
MGDU1-00006	5.6					
MGDU1-00006	6.8	0.130	1.20	1.40	M	
MGDU1-00007	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

Call Toll Free: 888-978-2638 Website: [www.tycopowercomponents.com](http://www.tycopowercomponents.com)



Dimensions are in millimeters unless specified.

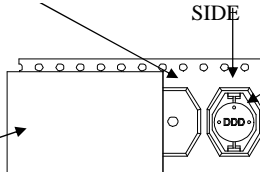
Series Number	Reel dimensions				Reel Qty	Carton (Box) Qty.	Packaging Specification
	Units	A	B	C			
MGDU1	in.	12.99"	3.94"	0.88"	2500	15000	90-0057
	[mm]	[360]	[100.0]	[22.4]			

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

CARRIER TAPE

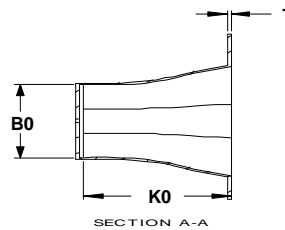
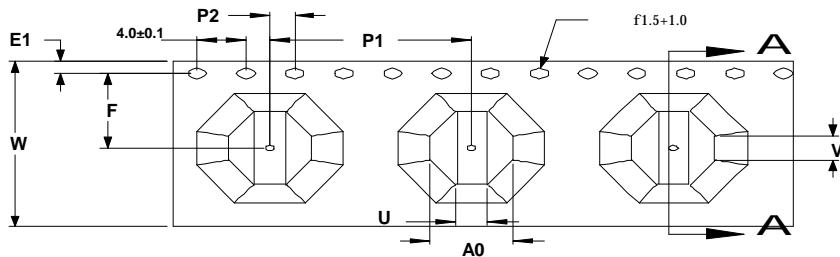
START  
TERMINAL  
SIDE

PART



PART WILL EITHER HAVE 3 DIGIT CODE OR THREE DOT CODE PART SHOULD BE ORIENTED AS SHOWN WHERE "DDD" INDICATES THE DIRECTION OF PRINT FOR THE THREE DIGIT CODE, THE DOTS SHOULD BE ARRANGED AS SHOWN

COVER 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

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Item	Specification	Test Method/Condition
<b>Environmental</b>		
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
<b>General</b>		
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
<b>Other</b>		
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.



**RoHS Compliant**

**For Print Distribution to Customers**

Series	Revision
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