Excellent Integrated System Limited

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TE Connectivity
MGDU5-00008

For any questions, you can email us directly:
sales@integrated-circuit.com

SERIES:

MGDU5

3003 9th Avenue SW
PO Box 50
Watertown, SD 57201
Toll free: 888-978-2638
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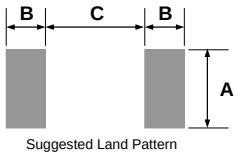
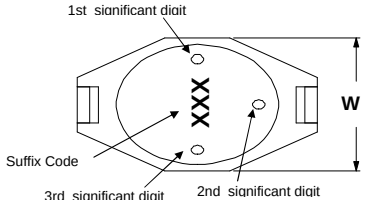
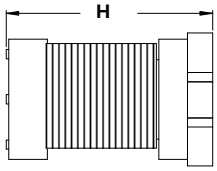
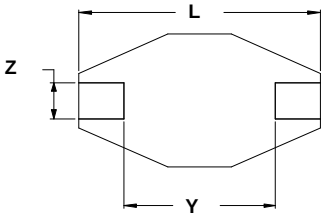
Low Profile, High Current Power Inductors



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
MGDU5	inches	0.730"	0.600"	0.291"	0.500"	0.100"	0.110"	0.115"	0.490"
	[mm]	[18.54]	[15.24]	[7.40]	[12.70]	[2.54]	[2.79]	[2.92]	[12.45]

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.

RoHS Compliant

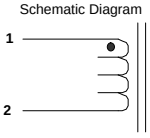
Terminal Plating is Gold Flash over Ni
260°C Maximum reflow temperature per J-STD020

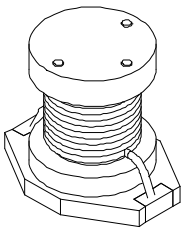
Lead Free Part Number	MGDU5 L µH	DCR Ω	I_{SAT} A	I_{RMS} A	Tolerance Suffix
	1.0				
	1.5				
MGDU5-00004	2.2	0.014	16.00	7.10	M
MGDU5-00005	3.3	0.018	14.00	6.20	M
	4.7				
MGDU5-00006	5.6	0.020	12.00	5.30	M
	6.8				
	8.0				
MGDU5-00008	10	0.031	10.00	4.30	M
MGDU5-00009	15	0.036	8.00	4.00	M
MGDU5-00010	22	0.047	7.00	3.50	M
MGDU5-00011	33	0.066	5.50	3.00	M
MGDU5-00012	47	0.086	4.50	2.60	M
MGDU5-00013	68	0.130	3.50	2.30	M
MGDU5-00014	100	0.190	3.00	1.80	M
MGDU5-00015	150	0.250	2.60	1.50	M
MGDU5-00016	220	0.380	2.40	1.20	M
MGDU5-00017	330	0.560	1.90	1.00	M
MGDU5-00018	470	0.850	1.40	0.82	M
MGDU5-00024	680	1.100	1.20	0.72	M
MGDU5-00025	1000	1.800	1.00	0.56	M

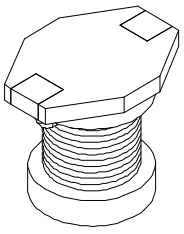
Notes:

- 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 temperaturer rise from nominal inductance.
- Isat is a maximum applied AC + DC current.
- Isat is the current applied to produce a typipcal 10% drop in nominal inductance
- Tolerance suffix of M = ±20%.

Schematic Diagram

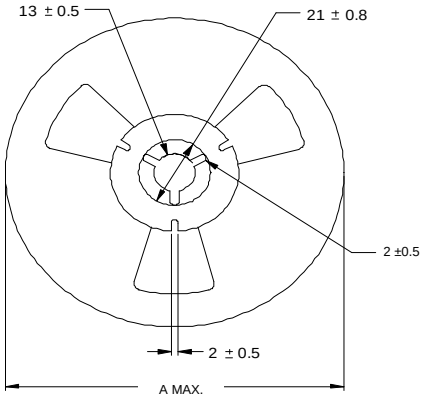


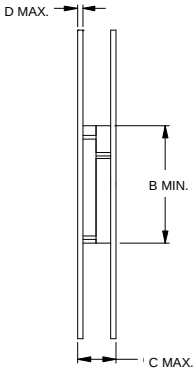




Contact CoEv for additional inductance values

Specifications subject to change

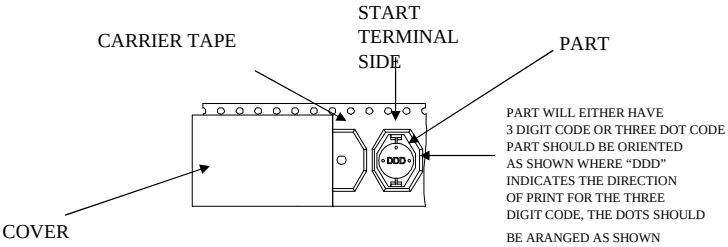


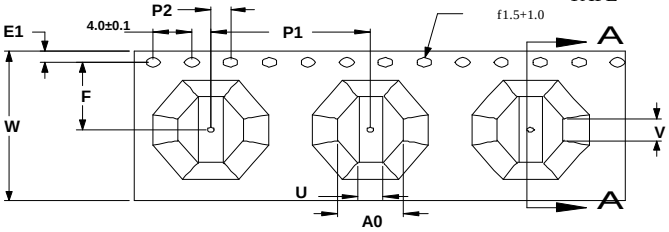


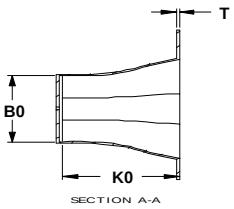
Dimensions are in millimeters unless specified.

Series Number	Reel dimensions					Reel Qty	Carton (Box) Qty.	Packaging Specification
	Units	A	B	C	D			
MGDU5	in.	14.17"	3.94"	0.88"	0.094"	250	1000	90-0065
	[mm]	[360]	[100.0]	[22.4]	[2.40]			

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







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
MGDU5	15.40	5.80	6.00	20.00	2.00	32.00	14.20	1.75	18.84	7.20		0.35

Pb RoHS Compliant

Customer Packaging Specifications For Print Distribution to Customers	Series	Revision
	MGDU5	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.

Pb RoHS Compliant