

Gas Discharge Tube

5.0x7.2mm 3Poles Square End

MGT5-3S series

MERITEK

FEATURE

- Storage and operating temperature: -40°C ~ +85°C
- High Insulation Resistance, High Holdover Voltage
- Stable Breakdown Voltage
- Large Transient Current Capability
- Micro-Gap Design
- Low capacitance ($\leq 2\text{pF}$)
- Large Transient Current Absorbing Capability
- UL Safety Approved: Certification No: E223045



PART NUMBERING SYSTEM

MGT 5 L 075M CB3S
 (1) (2) (3) (4) (5)



No	Item	Digit	Description	
(1)	Product Code	MGT	MGT: Gas Discharge Tube series	
(2)	Size Code	5	Diameter: 5mm	DxT: 5.0x7.2mm
(3)	Discharge Current	L	L: 5KA	8/20 μs , 10times
(4)	Breakage Voltage, Tolerance	075M	075M: 75V $\pm 20\%$	DC Spark Over Voltage, 100V/s
(5)	Series Code	CB3S	3Poles Square End	Internal Control Reference

ELECTRICAL CHARACTERISTICS

Part Number	DC Spark-over Voltage	Impulse Spark-over Voltage max	Impulse Discharge Current	Alternating Discharge Current	Impulse Life	Minimum Insulation Resistance		Maximum Capacitance
	100V/s	1KV/ μs	8/20 μs , 10times	50Hz, 1sec	10/1K μs 100A	VT	IR	1MHz 1V
5.0x7.2mm	(V)	(V)	(KA)	(A)	(Times)	(V _{DC})	(G Ω)	(pF)
MGT5L075MCB3S	75 $\pm 20\%$	700	5	5	300	25	1	2
MGT5L090MCB3S	90 $\pm 20\%$	600	5	5	300	50	1	2
MGT5L120MCB3S	120 $\pm 20\%$	600	5	5	300	50	1	2
MGT5L150MCB3S	150 $\pm 20\%$	600	5	5	300	100	1	2
MGT5L200MCB3S	200 $\pm 20\%$	600	5	5	300	100	1	2
MGT5L230MCB3S	230 $\pm 20\%$	650	5	5	300	100	1	2
MGT5L250MCB3S	250 $\pm 20\%$	650	5	5	300	100	1	2
MGT5L300MCB3S	300 $\pm 20\%$	800	5	5	300	100	1	2
MGT5L350MCB3S	350 $\pm 20\%$	800	5	5	300	100	1	2
MGT5L400MCB3S	400 $\pm 20\%$	900	5	5	300	100	1	2
MGT5L420MCB3S	420 $\pm 20\%$	900	5	5	300	250	1	2
MGT5L470MCB3S	470 $\pm 20\%$	900	5	5	300	250	1	2
MGT5L600MCB3S	600 $\pm 20\%$	1000	5	5	300	250	1	2

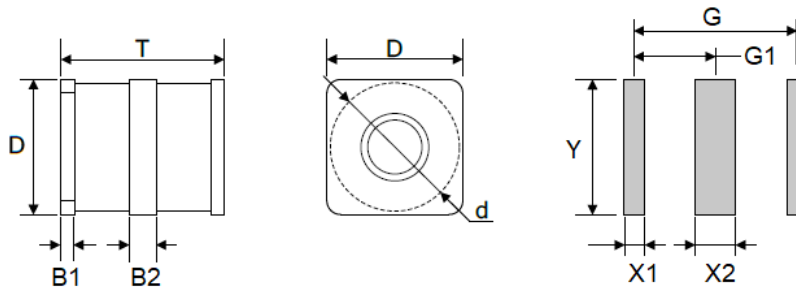
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DIMENSIONS AND PCB LAYOUT



Part Series	D	T	B1	B2	d	X1	X2	Y	G	G1
MGT5-3S	5.0±0.2	7.2±0.3	0.4±0.1	1.5±0.2	4.8±0.1	1.5	2.0	5.6	6.6	3.3

Unit: mm

RELIABILITY AND TEST CONDITON

Item	Test Condition	Requirement
DC Spark-over Voltage	The voltage is measured with voltage ramp $dv/dt = 100V/s$.	To meet the specified value
Maximum Impulse Spark-over Voltage	The voltage is measured with voltage ramp $dv/dt = 1000V/\mu s$.	
Impulse Discharge Current	<p>Maximum 8/20 μs surge current that can be applied between two electrodes, 5 positive and 5 negative surges, with 3 minutes interval time, without causing the DC spark-over voltage to change more than 25% from its initial measured value.</p> <p>Crest Value</p>	To meet the specified value
Alternating Discharge Current	Rated RMS value of AC current at 50Hz, 1 second for 10 times with interval time 3 minutes. DC spark-over voltage shall not be change more than $\pm 25\%$ from its initial value. $IR > 10^8 \Omega$ (-20%, +30% for 70~90V).	To meet the specified value
Insulation Resistance	The resistance of gas tube shall be measured between two electrodes.	To meet the specified value
Capacitance	The capacitance of gas tube shall be measured between two electrodes.	

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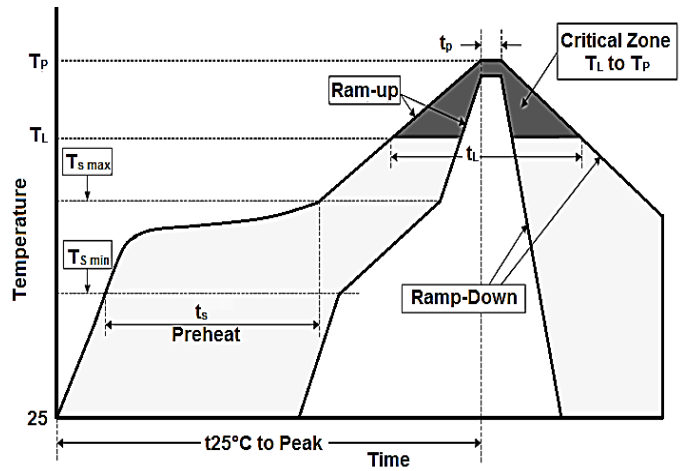
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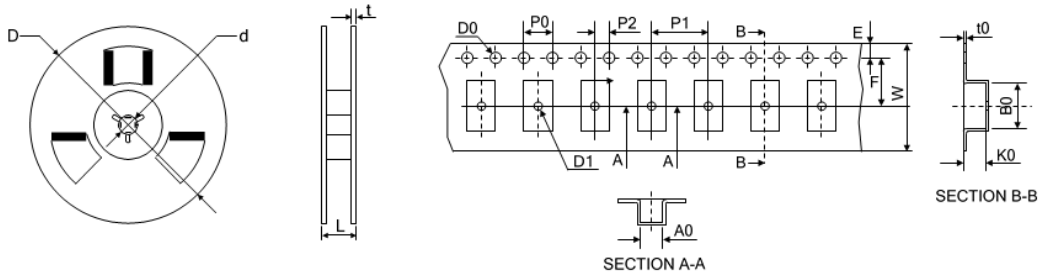
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RECOMMENDED SOLDERING PROFILES

Reflow Soldering Condition		
Pre Heat	Temp. Min $T_{s(min)}$	150°C
	Temp. Max $T_{s(max)}$	200°C
	Time (min. to max.) (t_s)	60~180 sec
Average ramp up rate (T_L) to peak		3°C/sec Max.
$T_{s(max)}$ to T_L (Ramp-up rate)		3°C/sec Max.
Reflow	Temp. (T_L)	217°C
	Time (min. to max.) (t_L)	60~150 sec
Peak Temperature (T_p)		260°C
Time within 5°C of Peak Temp (t_p)		20-40 sec
Ramp-down Rate		6°C/sec Max.
Time (25°C to Peak Temp)		8 mins Max.



PACKAGING SPECIFICATION



Part Series	D±	d±	L±	t±	W±	P0±	P1±	P2±	D0±	E±	F±	A0±	K0±	B0±	t0±	QTY
MGT5-3S	330	13.00	20.00	2.00	16.00	4.00	12.00	2.00	1.55	1.75	7.50	7.40	5.50	5.40	0.50	900

Unit: mm

*Specifications subject to change without notice.