

Gas Discharge Tube

5.0x7.2mm 3Poles Square End

MGT5-3S Series

MERITEK

FEATURE

- Ultra-Fast Surge Response
- High Surge Current Capability
- High Holder Voltage, High Insulation Resistance
- Low capacitance ($\leq 1\text{pF}$), Micro-Gap Design
- Applications: Repeaters, Modems, Telephone Interface, Line Cards, Data Communication Equipment, Line Test Equipment
- UL Safety Approved Certification No: E223045

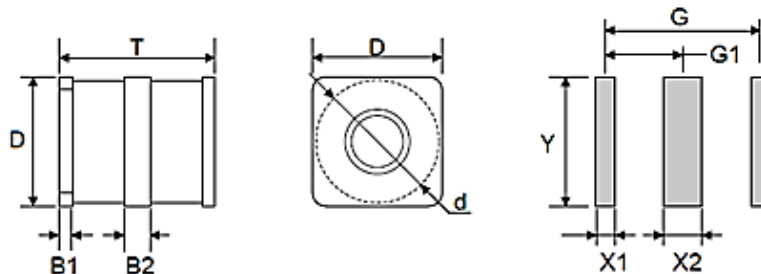


ELECTRICAL CHARACTERISTICS

Part Number	DC Spark-over Voltage	Impulse Spark-over Voltage	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	V_T	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

Note: Operating Temperature: $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$

DIMENSIONS AND RECOMMENDATION PAD



Unit: mm

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

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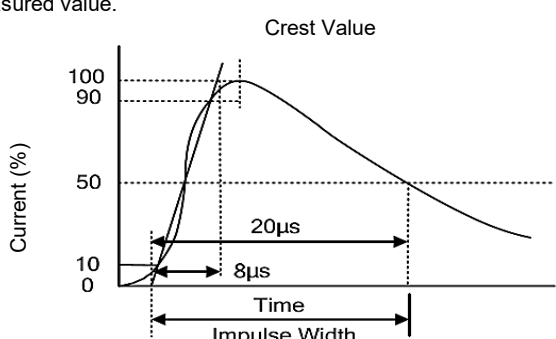
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PART NUMBERING SYSTEM

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

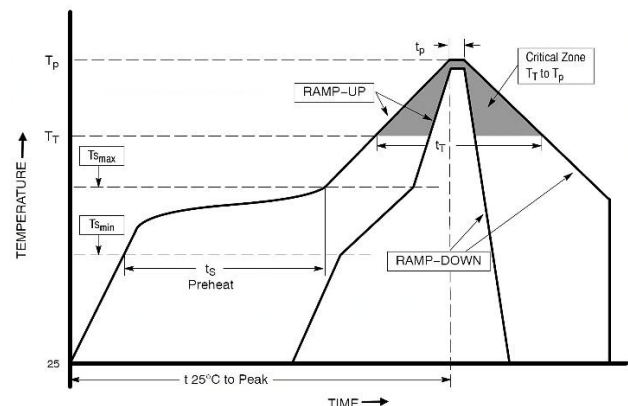
No	Item	Code	Description
(1)	Product Code	MGT	Gas Discharge Tube series
(2)	Size Code	5	5.0mm Diameter
(3)	Discharge Current	L	L: 5KA, 8/20μs, 10 times
(4)	DC Spark Over Voltage	075M	75V ±20%(M)
(5)	Series Code	CB3S	CB3S: 3 Poles Square End

ELECTRICAL RATING

Item	Test Condition	Requirement
DC Spark-over Voltage	The voltage is measured with voltage ramp $dv/dt = 100V/s$. Test is between each side electrode and center electrode.	
Maximum Impulse Spark-over Voltage	The voltage is measured with voltage ramp $dv/dt = 1000V/\mu s$. Test is between each side electrode and center electrode.	
Impulse Discharge Current	Maximum surge current that can be applied through center electrode with 8/20μs waveform, for 10 times with 3min interval time, which will be equally divided between each side electrode to center electrode, without causing the DC breakdown voltage to change more than 25% from its initial measured value. 	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 changed more than ±25% from its initial value. IR >10 ⁸ Ω (-20%, +30% for 70~90V).	
Insulation Resistance	The resistance of gas tube shall be measured between each side electrodes and center electrode	
Capacitance	The capacitance of gas tube shall be measured between each side electrodes and center electrode. Test frequency: 1MHz	

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.



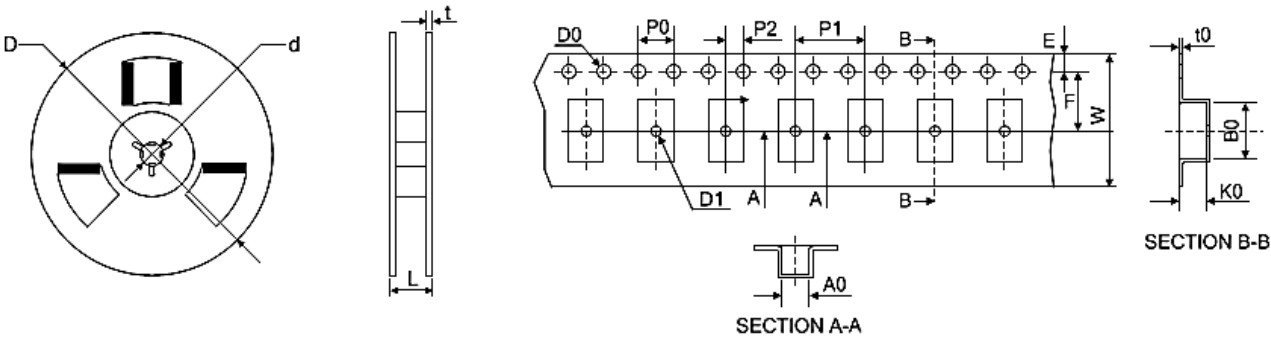
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PACKAGING SPECIFICATION



Unit: mm

Package	D ±2.0	d ±0.5	L ±0.5	t ±0.2	W ±0.2	P0 ±0.1	P1 ±0.2	P2 ±0.1	D0 ±0.05	E ±0.1	F ±0.1	A0 ±0.1	K0 ±0.1	B0 ±0.1	t0 ±0.1	Qty/ Reel
Reel	330	13.0	20.0	2.0	16.0	4.0	12.0	2.0	1.55	1.75	7.5	7.4	5.5	5.4	0.5	900

*Specifications subject to change without notice.