

Gas Discharge Tube

2.8x3.5mm 2 Poles Square End

MGT3-2S Series

MERITEK

FEATURE

- Ultra-Fast Surge Response
- High Surge Current Capability
- High Holder Voltage, High Insulation Resistance
- Low capacitance ($\leq 0.5\text{pF}$), Micro-Gap Design
- Applications: Repeaters, Modems, Telephone Interface, Line Cards, Data Communication Equipment, Line Test Equipment
- UL Safety Approved Certification No: E223045

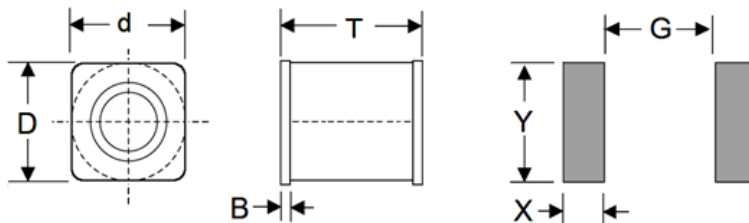


ELECTRICAL CHARACTERISTICS

Part Number	DC Spark-over Voltage	Impulse Spark-over Voltage	Impulse Discharge Current	Impulse Life	Minimum Insulation Resistance		Maximum Capacitance
	100V/s	1KV/ μs	8/20 μs , 10times	10/1K μs , 100A	V_T	IR	1MHz/1V
2.8x3.5mm	(V)	(V)	(KA)	(Times)	(V _{DC})	(G Ω)	(pF)
MGT3E090MCB2S	90 $\pm$ 20%	650	1	300	50	1	0.5
MGT3E200MCB2S	200 $\pm$ 20%	700	1	300	100	1	0.5
MGT3E300MCB2S	300 $\pm$ 20%	900	1	300	100	1	0.5
MGT3E400MCB2S	400 $\pm$ 20%	1100	1	300	100	1	0.5
MGT3E500MCB2S	500 $\pm$ 30%	1300	1	300	100	1	0.5

Note: Operating Temperature: -40°C ~ +85°C

DIMENSIONS AND RECOMMENDATION PAD



Unit: mm

Series	D	d	T	B	G	X	Y
MGT3-2S	2.8 $\pm$ 0.2	2.8 $\pm$ 0.2	3.5 $\pm$ 0.2	0.5 $\pm$ 0.1	2.2 Max	1.3 Max	2.8 Max

PART NUMBERING SYSTEM

MGT **3** **E** **090M** **CB2S**
(1) (2) (3) (4) (5)

No	Item	Code	Description	
(1)	Product Code	MGT	Gas Discharge Tube Series	
(2)	Size Code	3	3.0mm Max. Diameter	DxT: 2.8x3.5mm
(3)	Discharge Current	E	E: 1KA	8/20 μs , 10 times
(4)	DC Spark Over Voltage	090M	90V $\pm$ 20%(M)	DC Spark Over Voltage, 100V/s
(5)	Series Code	CB2S	CB2S: 2 Poles Square End	Internal Control Reference

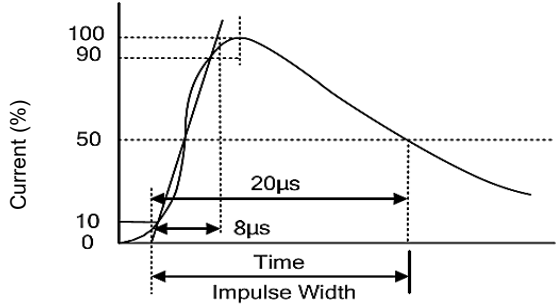
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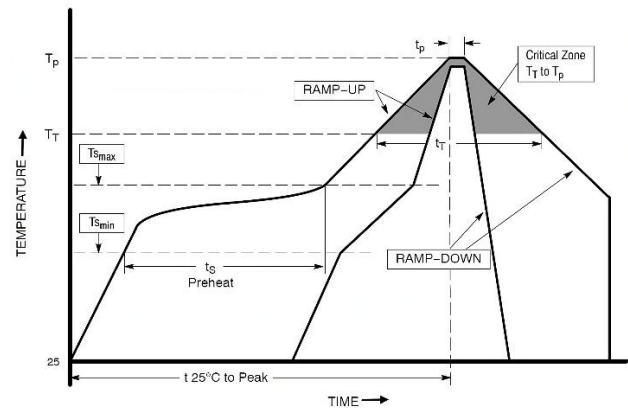
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ELECTRICAL RATING

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	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. Crest Value 	
Insulation Resistance	The resistance of gas tube shall be measured between two electrodes.	
Capacitance	The capacitance of gas tube shall be measured between two electrodes. 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.

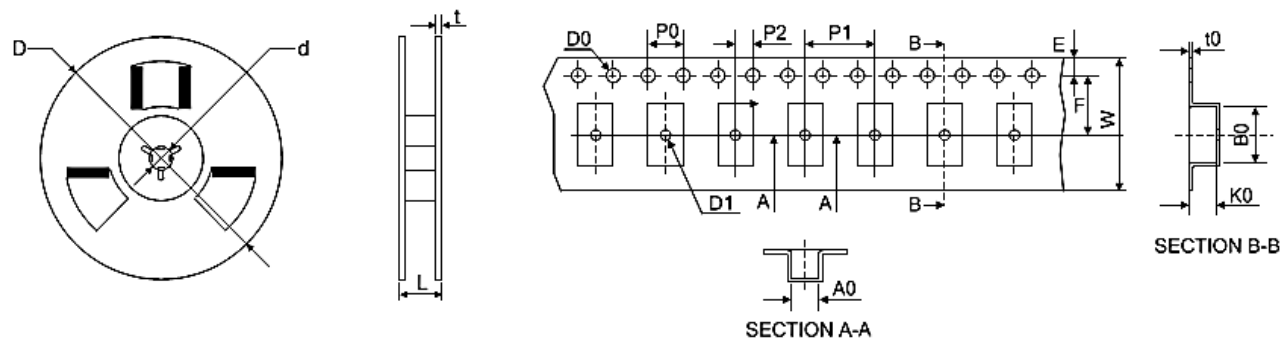


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PACKAGING SPECIFICATION



Unit: mm																
Package	D ±2.0	d ±0.5	L ±2.0	t ±0.2	W ±0.2	P0 ±0.1	P1 ±0.1	P2 ±0.1	D0 ±0.1	E ±0.1	F ±0.1	A0 ±0.1	K0 ±0.1	B0 ±0.1	t0 ±0.1	Qty/ Reel
Reel	330	13	20	2	12	4	8	2	1.50	1.75	5.5	3.2	3.2	3.9	0.4	2500

*Specifications subject to change without notice.