

Gas Discharge Tube

8.0x6.0mm 2 Poles Square End

MGT8-2SR Series

MERITEK

FEATURE

- Ultra-Fast Surge Response
- High Surge Current Capability
- High Holder Voltage, High Insulation Resistance
- Low capacitance ($\leq 1.5\text{pF}$), 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	Single Impulse Discharge Current	Alternating Discharge Current	Impulse Life	Minimum Insulation Resistance		Maximum Capacitance
	100V/s	1KV/ μs	8/20 μs 10times	10/350 μs	50Hz, 1sec	10/1K μs 100A	V _T	IR	1MHz
8.0x6.0mm	(V)	(V)	(KA)	(KA)	(A)	(Times)	(V _{DC})	(G Ω)	(pF)
MGT8M075MCB2SR	75 $\pm 20\%$	600	10	2.5	10	500	25	1	1.5
MGT8M090MCB2SR	90 $\pm 20\%$	600	10	2.5	10	500	50	1	1.5
MGT8M150MCB2SR	150 $\pm 20\%$	600	10	2.5	10	500	100	1	1.5
MGT8M230MCB2SR	230 $\pm 20\%$	700	10	2.5	10	500	100	1	1.5
MGT8M250MCB2SR	250 $\pm 20\%$	700	10	2.5	10	500	100	1	1.5
MGT8M300MCB2SR	300 $\pm 20\%$	900	10	2.5	10	500	100	1	1.5
MGT8M350MCB2SR	350 $\pm 20\%$	900	10	2.5	10	500	100	1	1.5
MGT8M420MCB2SR	420 $\pm 20\%$	1000	10	2.5	10	500	100	1	1.5
MGT8M470MCB2SR	470 $\pm 20\%$	1000	10	2.5	10	500	250	1	1.5
MGT8M600MCB2SR	600 $\pm 20\%$	1200	10	2.5	10	500	250	1	1.5
MGT8M800MCB2SR	800 $\pm 20\%$	1400	10	2.5	10	500	250	1	1.5
MGT8M102MCB2SR	1000 $\pm 20\%$	1700	10	2.5	10	500	250	1	1.5
MGT8P075MCB2SR	75 $\pm 20\%$	600	20	5	20	500	25	1	1.5
MGT8P090MCB2SR	90 $\pm 20\%$	600	20	5	20	500	50	1	1.5
MGT8P150MCB2SR	150 $\pm 20\%$	600	20	5	20	500	100	1	1.5
MGT8P230MCB2SR	230 $\pm 20\%$	700	20	5	20	500	100	1	1.5
MGT8P250MCB2SR	250 $\pm 20\%$	700	20	5	20	500	100	1	1.5
MGT8P300MCB2SR	300 $\pm 20\%$	900	20	5	20	500	100	1	1.5
MGT8P350MCB2SR	350 $\pm 20\%$	900	20	5	20	500	100	1	1.5
MGT8P420MCB2SR	420 $\pm 20\%$	1000	20	5	20	500	100	1	1.5
MGT8P470MCB2SR	470 $\pm 20\%$	1000	20	5	20	500	250	1	1.5
MGT8P600MCB2SR	600 $\pm 20\%$	1200	20	5	20	500	250	1	1.5
MGT8P800MCB2SR	800 $\pm 20\%$	1400	20	5	20	500	250	1	1.5
MGT8P102MCB2SR	1000 $\pm 20\%$	1700	20	5	20	500	250	1	1.5

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

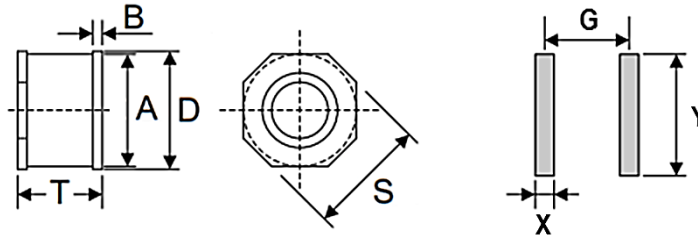
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DIMENSIONS AND RECOMMENDATION PAD



Unit: mm

Series	A	D	T	S	B	G	X	Y
MGT8-2SR	8.0±0.2	8.3±0.2	6.0±0.25	9.0±0.4	0.5±0.1	5.6	1.2	9.0

PART NUMBERING SYSTEM

MGT **8** **M** **075M** **CB2SR**
(1) (2) (3) (4) (5)

No	Item	Code	Description
(1)	Product Code	MGT	Gas Discharge Tube Series
(2)	Size Code	8	8.0mm Max. Diameter DxT: 8.3x6.0mm
(3)	Discharge Current	M	M: 10KA, 8/20μs, 10 times P: 20KA
(4)	DC Spark Over Voltage	075M	75V ±20%(M) DC Spark Over Voltage, 100V/s
(5)	Series Code	CB2SR	CB2SR: 2 Poles Square End Internal Control Reference

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 The graph shows the impulse discharge current waveform. The y-axis is Current (%) from 0 to 100. The x-axis is Time from 0 to 20μs. The curve starts at 0, rises to a peak of 100% at 8μs, and then decays. The 20μs point is at 50% current.	
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 $\pm 25\%$ from its initial value. $IR > 10^8 \Omega$ (-20%, +30% for 70~90V).	
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	

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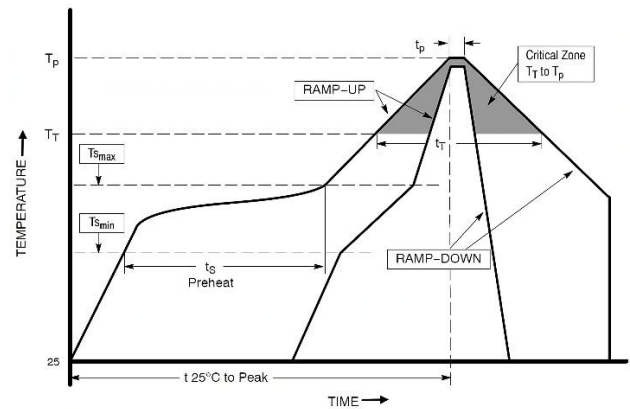
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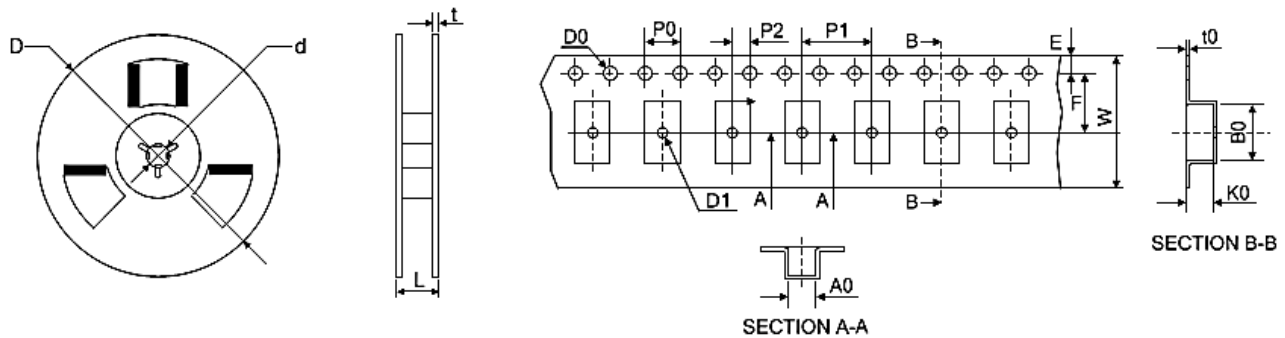
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RECOMMENDED SOLDERING PROFILES

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



Unit: mm

Package	D ±2.0	d ±0.5	L ±2.0	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	6.35	6.55	8.65	0.5	600

*Specifications subject to change without notice.