

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

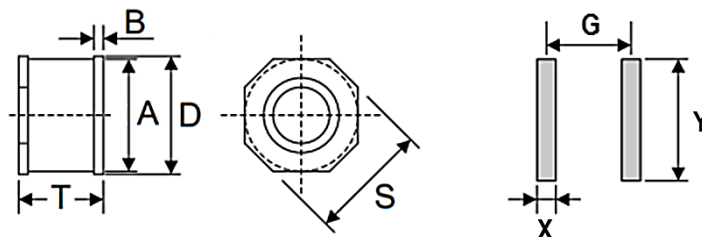
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DIMENSION AND RECOMMENDED PCB LAYOUT



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	Digit	Description
(1)	Product Code	MGT	Gas Discharge Tube Series
(2)	Size Code	8	8.0mm Max. Diameter
(3)	Discharge Current	M	M: 10KA, 8/20μs, 10 times
(4)	DC Spark Over Voltage	075M	75V ±20%(M)
(5)	Series Code	CB2SR	CB2SR: 2 Poles Square End

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	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	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. $IR > 10^8 \Omega$ (-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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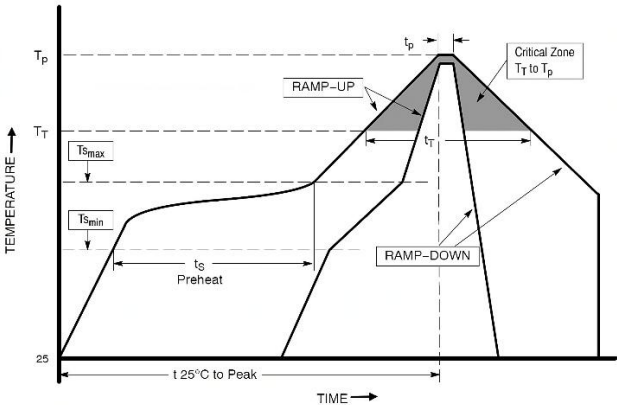
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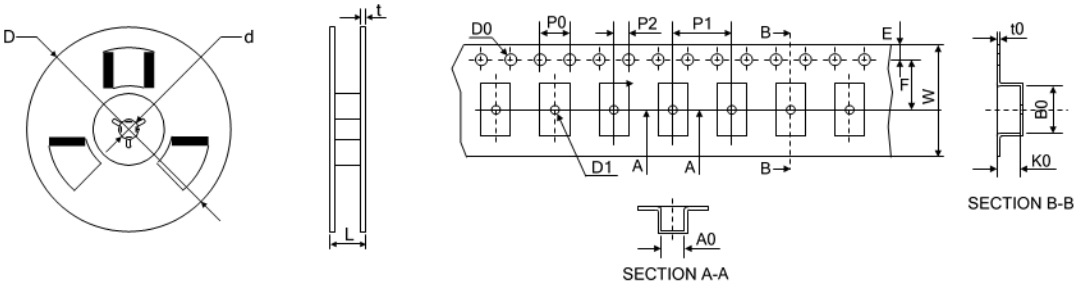
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RECOMMENDED SOLDERING PROFILES

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



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