

Gas Discharge Tube

5.6x6.0mm 2 Poles Square End

MGT5-2S6 series

MERITEK

FEATURE

- Storage and Operating Temperature: -40°C ~ +85°C
- Stable Breakdown Voltage
- Micro-Gap Design
- High Holdover Voltage, High Insulation Resistance
- Low capacitance ($\leq 1.5\text{pF}$)
- Large Transient Current Absorbing Capability
- Meets MSL Level 1, per J-STD-020
- UL Safety Approved Certification No: E223045



PART NUMBERING SYSTEM

MGT **5** **K** **102M** **CBS26**
(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 :5.6x6.0mm
(3)	Discharge Current	K	K: 3KA	8/20 μs , 10times
(4)	Breakage Voltage Tolerance	102M	102M: 1000 $\pm$ 20%	DC Spark Over Voltage, 100V/s
(5)	Series Code	CB2S6	2 Poles, Square End	Internal Control Reference

ELECTRICAL CHARACTERISTICS

Part Number	DC Spark-over Voltage	Impulse Spark-over Voltage max	Impulse Discharge Current	Impulse Life	Minimum Insulation Resistance		Maximum Capacitance
	100V/s	1KV/ μs	8/20 μs , 10times	10/1K μs 100A	VT	IR	1MHz
5.6x6.0mm	(V)	(V)	(KA)	(Times)	(V _{DC})	(G Ω)	(pF)
MGT5K102MCB2S6	1000 $\pm$ 20%	1900	3	300	500	1	1.5
MGT5K122MCB2S6	1200 $\pm$ 20%	2200	3	300	500	1	1.5
MGT5K142MCB2S6	1400 $\pm$ 20%	2600	3	300	500	1	1.5
MGT5K162MCB2S6	1600 $\pm$ 20%	2800	3	300	500	1	1.5
MGT5K202MCB2S6	2000 $\pm$ 20%	3200	3	300	500	1	1.5
MGT5K252MCB2S6**	2500 $\pm$ 20%	3600	3	300	1000	1	1.5

Note: **AC Withstanding Voltage AC1250V, 1min

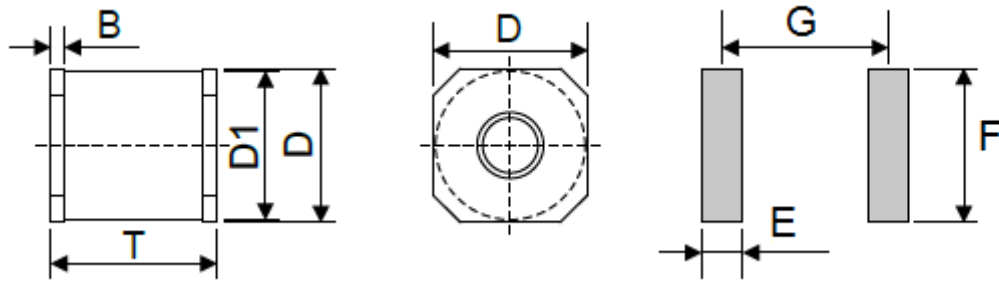
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DIMENSIONS AND RECOMMENDATION PAD



Part Number	D	G	T	B	F	E	D1
MGT5-2S6	5.6±0.2	6.0	6.0±0.2	0.5±0.2	5.6	1.5	5.4±0.2

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	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.	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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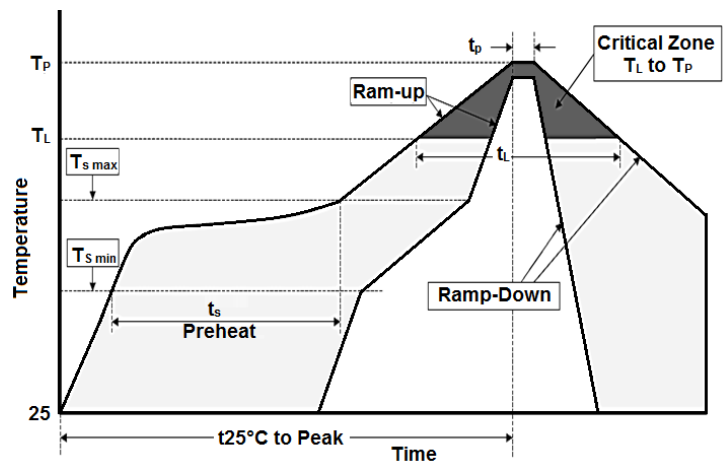
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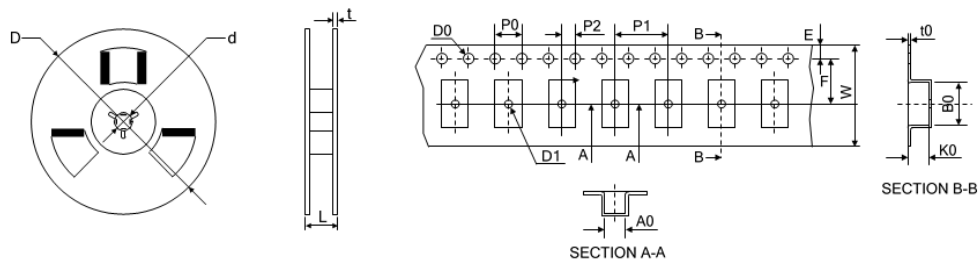
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RECOMMENDED REFLOW SOLDERING PROFILES

Reflow 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 seconds
Average ramp up rate (T_L) to peak		3°C/second Max.
$T_{s(max)}$ to T_L (Ramp-up rate)		3°C/second Max.
Reflow	Temp. (T_L)	217°C
	Time (min. to max.) (t_L)	60~150 seconds
Peak Temperature (T_P)		260°C
Time within 5°C of actual Peak Temperature (t_p)		20-40 seconds
Ramp-down Rate		6°C/second Max.
Time (25°C to Peak Temp.)		8 mins Max.



PACKAGING SPECIFICATION



SMD Type	$D \pm 2.0$	$d \pm 0.50$	$L \pm 2.00$	$t \pm 0.20$	$W \pm 0.20$	$P0 \pm 0.10$	$P1 \pm 0.20$	$P2 \pm 0.10$	$D0 \pm 0.05$	$E \pm 0.10$	$F \pm 0.10$	$A0 \pm 0.10$	$K0 \pm 0.10$	$B0 \pm 0.10$	$t \pm 0.10$	pcs
Size	330	13.00	20.0	2.00	16.00	4.00	12.00	2.00	1.55	1.75	7.50	5.90	5.90	6.30	0.50	800

Unit: mm

*Specifications subject to change without notice.