

Gas Discharge Tube

5.0x4.2mm 2 Poles Square type

MGT5-2S4 series

MERITEK

FEATURE

- Storage and Operating Temperature: -40°C ~ +85°C
- Micro-Gap Design
- Stable Breakdown Voltage
- High Holdover Voltage, High Insulation Resistance
- Low capacitance ($\leq 1.0\text{pF}$)
- Large Transient Current Absorbing Capability
- Meets MSL Level 1, per J-STD-020
- UL Safety Approved Certification No: E223045



PART NUMBERING SYSTEM

MGT 5 L 075M CB2S4
 (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 :5.0x4.2mm
(3)	Discharge Current	L	L: 5KA K:3KA	8/20 μ s, 10times
(4)	Breakage Voltage Tolerance	075M	075M 75 \pm 20%	DC Spark Over Voltage, 100V/s
(5)	Series Code	CB2S4	2 Poles Square Type	Internal Control Reference

ELECTRICAL CHARACTERISTICS

Part Number	DC Spark-over Voltage	Impulse Spark-over Voltage max	Impulse Discharge Current	Minimum Insulation Resistance		Maximum Capacitance
	100V/s	1KV/ μ s	8/20 μ s, 5times	VT	IR	1MHz
5.0x4.2mm	(V)	(V)	(KV)	(V _{DC})	(G Ω)	(pF)
MGT5L075MCB2S4	75 \pm 20%	700	5.0	25	1	1
MGT5L090MCB2S4	90 \pm 20%	650	5.0	50	1	1
MGT5L120MCB2S4	120 \pm 20%	700	5.0	50	1	1
MGT5L150MCB2S4	150 \pm 20%	700	5.0	100	1	1
MGT5L230MCB2S4	230 \pm 20%	700	5.0	100	1	1
MGT5L250MCB2S4	250 \pm 20%	700	5.0	100	1	1
MGT5L300MCB2S4	300 \pm 20%	800	5.0	100	1	1
MGT5L350MCB2S4	350 \pm 20%	850	5.0	100	1	1
MGT5L400MCB2S4	400 \pm 20%	900	5.0	100	1	1
MGT5L470MCB2S4	470 \pm 20%	1000	5.0	250	1	1
MGT5L600MCB2S4	600 \pm 20%	1200	5.0	250	1	1
MGT5K800MCB2S4	800 \pm 20%	1600	3.0	250	1	1
MGT5K1000MCB2S4	1000 \pm 20%	1800	3.0	500	1	1

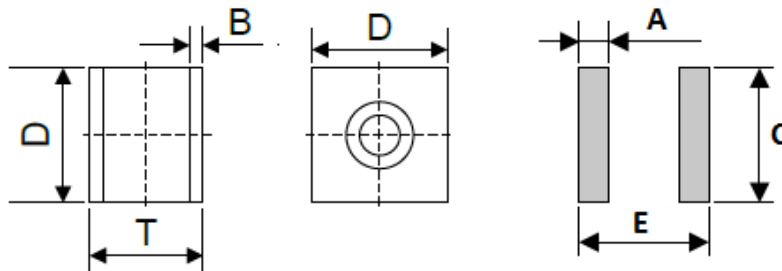
Gas Discharge Tube

5.0x4.2mm 2 Poles Square type

MGT5-2S4 series

MERITEK

DIMENSIONS AND RECOMMENDATION PAD



Part Number	D	T	B	A	C	E
MGT5-2S4	5.0±0.2	4.2±0.3	0.5±0.1	1.1	5	4.8

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	<p>Maximum 8/20 μs surge current that can be applied between two electrodes, 5 positive and 5 negative surges, with 3 minutes interval time.</p> <p>Crest Value</p> <p>The graph shows the current percentage over time for an 8/20 microsecond surge. The y-axis is labeled 'Current (%)' with values 0, 10, 50, 90, and 100. The x-axis is labeled 'Time' with markers for 8 microseconds (to the crest) and 20 microseconds (to the 50% level). The 'Impulse Width' is indicated as the time from the 10% level to the end of the pulse.</p>	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. Test Frequency: 1MHz	

Gas Discharge Tube

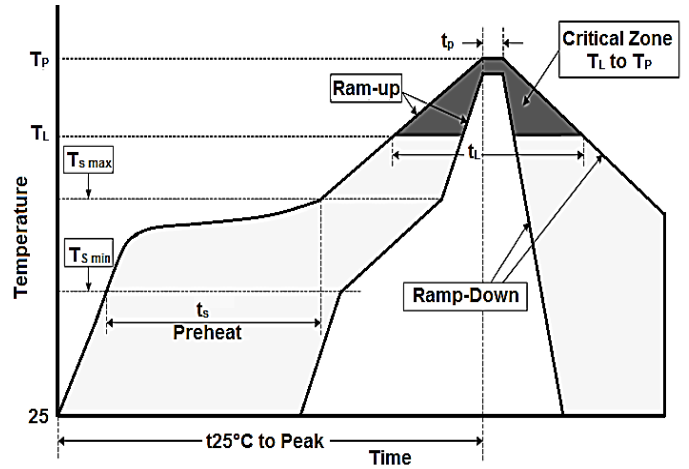
5.0x4.2mm 2 Poles Square type

MGT5-2S4 series

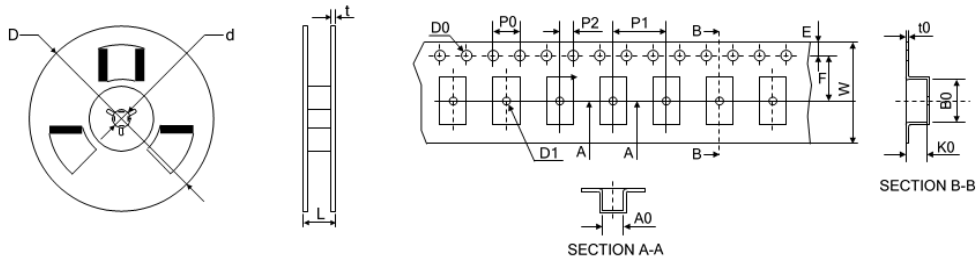
MERITEK

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



Item	D	d	L	t	W	P0	P1	P2	D0	E	F	A0	K0	B0	t0	Pcs/ Reel
Size	330	13	20	2	16	4	12	2	1.55	1.75	7.5	5.3	5.4	4.5	0.4	800

Unit: mm

*Specifications subject to change without notice.