

# Gas Discharge Tube

## 5.4x5.0mm 2 Poles Square Type

MGT5-2UT series

**MERITEK**

### FEATURE

- Storage and Operating Temperature: -40°C ~ +90°C
- Micro-Gap Design
- 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    M    075M    CB2UT  
 (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 :5.4x5.0mm
(3)	Discharge Current	M	M: 10KA	8/20 $\mu$ s, 10times
(4)	Breakage Voltage Tolerance	075M	075: 75 $\pm$ 20%	DC Spark Over Voltage, 100V/s
(5)	Series Code	CB2UT	2 Poles Square type	Internal control Reference

### ELECTRICAL CHARACTERISTICS

Part Number	DC Spark-over Voltage	Impulse Spark-over Voltage max	Impulse Discharge Current 8/20 $\mu$ s, 5times	Alternating Discharge Current	Minimum Insulation Resistance		Maximum Capacitance
	100V/s	1KV/ $\mu$ s		50Hz, 1sec	VT	IR	1MHz 1V
5.4x5.0mm	(V)	(V)	(KA)	(A)	(V <sub>DC</sub> )	(G $\Omega$ )	(pF)
MGT5M075MCB2UT	75 $\pm$ 20%	650	10	5	25	1	1
MGT5M090MCB2UT	90 $\pm$ 20%	700	10	5	50	1	1
MGT5M151MCB2UT	150 $\pm$ 20%	700	10	5	50	1	1
MGT5M231MCB2UT	230 $\pm$ 20%	750	10	5	100	1	1
MGT5M251MCB2UT	250 $\pm$ 20%	750	10	5	100	1	1
MGT5L301MCB2UT	300 $\pm$ 20%	800	5	5	100	1	1
MGT5L351MCB2UT	350 $\pm$ 20%	900	5	5	100	1	1
MGT5L401MCB2UT	400 $\pm$ 20%	1000	5	5	100	1	1
MGT5L471MCB2UT	470 $\pm$ 20%	1100	5	5	250	1	1
MGT5L601MCB2UT	600 $\pm$ 20%	1500	5	5	250	1	1
MGT5L801MCB2UT	800 $\pm$ 20%	1800	5	5	250	1	1
MGT5L102MCB2UT	1000 $\pm$ 20%	2000	5	5	500	1	1
MGT5K122MCB2UT	1200 $\pm$ 20%	2400	3	3	500	1	1
MGT5K152MCB2UT	1500 $\pm$ 20%	2800	3	3	500	1	1

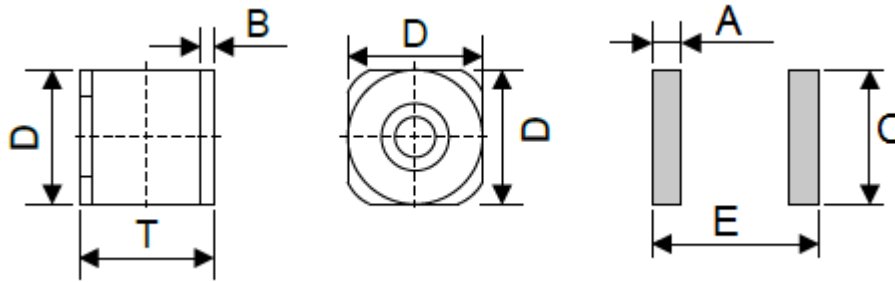
# Gas Discharge Tube

## 5.4x5.0mm 2 Poles Square Type

MGT5-2UT series

**MERITEK**

### DIMENSIONS AND RECOMMENDATION PAD



Part Number	D	T	B	E	A	C
MGT5-2UT	5.4±0.2	5±0.2	0.5±0.2	1.5	5.0	5.4

Unit: mm

### RELIABILITY AND TEST CONDITON

Item	Test Condition	Requirement
<b>DC Spark-over Voltage</b>	The voltage is measured with voltage ramp $dv/dt = 100V/s$ .	To meet the specified value
<b>Maximum Impulse Spark-over Voltage</b>	The voltage is measured with voltage ramp $dv/dt = 1000V/\mu s$ .	
<b>Impulse Discharge Current</b>	<p>Maximum 8/20 <math>\mu s</math> 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.</p> <p>Crest Value</p> <p>The graph shows Current (%) on the y-axis (0, 10, 50, 90, 100) and Time on the x-axis. The curve starts at 0, rises to a peak of 100% at 8 <math>\mu s</math>, and then decays. At 20 <math>\mu s</math>, the current is 50%. The time interval from 0% to 50% is labeled as Impulse Width.</p>	To meet the specified value
<b>Alternating Discharge Current</b>	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
<b>Insulation Resistance</b>	The resistance of gas tube shall be measured between two electrodes.	To meet the specified value
<b>Capacitance</b>	The capacitance of gas tube shall be measured between two electrodes.	

# Gas Discharge Tube

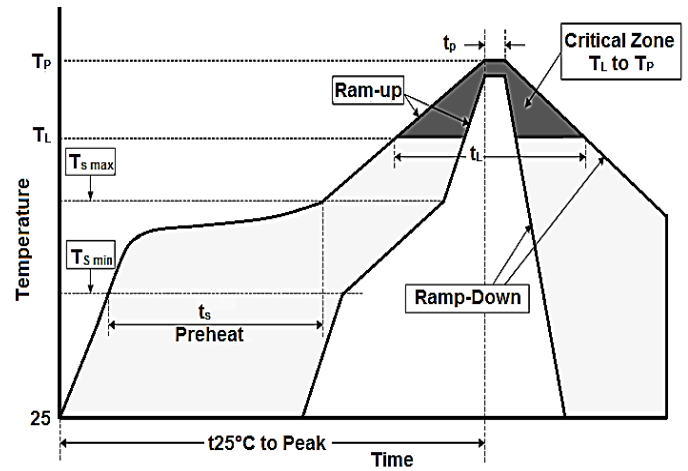
## 5.4x5.0mm 2 Poles Square Type

MGT5-2UT series

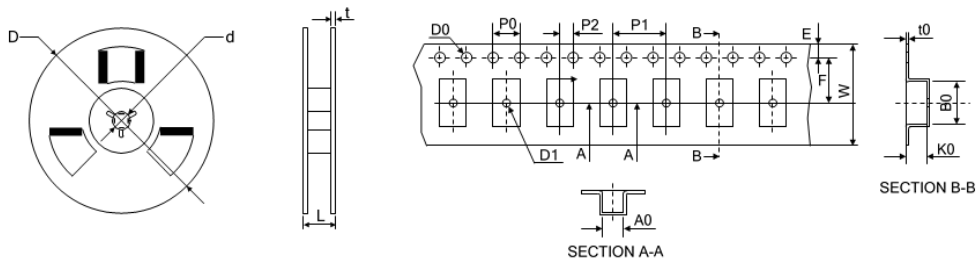
**MERITEK**

### 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
	±1.0	±0.5	±2.0	±0.2	±0.2	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	
Size	330	13	20	2	12	4	12	2	1.55	1.75	5.5	5.8	5.4	5.4	0.5	800

Unit: mm

\*Specifications subject to change without notice.