

Gas Discharge Tube

5.5x6.0mm 2 Poles Round type

MGT5-2 series

MERITEK

FEATURE

- Storage and Operating Temperature: -40°C ~ +85°C
- Micro-Gap Design
- High Holdover Voltage, High Insulation Resistance
- Low capacitance ($\leq 1.5\text{pF}$)
- Large Transient Current Absorbing Capability
- Application: Modems, Telephone Interface, Data Communication
- UL Safety Approved Certification No: E223045



PART NUMBERING SYSTEM



MGT (1) **5** (2) **L** (3) **070M** (4) **CB2** (5)

No	Item	Digit	Description	
(1)	Product Code	MGT	MGT: Gas Discharge Tube series	
(2)	Size Code	5	Diameter: 5mm	DxT : 5.5x6.0mm
(3)	Discharge Current	L	K:3KA, L: 5KA, M:10KA	8/20 μs , 10times
(4)	Breakage Voltage Tolerance	070M	070: 70 $\pm 20\%$	DC Spark Over Voltage, 100V/s
(5)	Series Code	CB2	2 Poles, Round type	Internal Control Reference

ELECTRICAL CHARACTERISTICS

Part Number	DC Spark-over Voltage	Impulse Spark-over Voltage max	Impulse Discharge Current	Alternating Discharge Current	Impulse Life	Minimum Insulation Resistance		Maximum Capacitance
	100V/s	1KV/ μs	8/20 μs , 10times	50Hz 1sec	10/1K μs 100A	VT	IR	1MHz
5.5x6.0mm	(V)	(V)	(KA)	(A)	(Times)	(V _{DC})	(G Ω)	(pF)
MGT5L070MCB2	70 $\pm 20\%$	800	5	5	300	25	1	1.5
MGT5L075MCB2	75 $\pm 20\%$	800	5	5	300	25	1	1.5
MGT5L090MCB2	90 $\pm 20\%$	700	5	5	300	50	1	1.5
MGT5L120MCB2	120 $\pm 20\%$	700	5	5	300	50	1	1.5
MGT5L145MCB2	145 $\pm 20\%$	700	5	5	300	100	1	1.5
MGT5L150MCB2	150 $\pm 20\%$	700	5	5	300	100	1	1.5
MGT5L230MCB2	230 $\pm 20\%$	700	5	5	300	100	1	1.5
MGT5L250MCB2	250 $\pm 20\%$	700	5	5	300	100	1	1.5
MGT5L300MCB2	300 $\pm 20\%$	900	5	5	300	100	1	1.5
MGT5L350MCB2	350 $\pm 20\%$	900	5	5	300	100	1	1.5
MGT5L400MCB2	400 $\pm 20\%$	1000	5	5	300	100	1	1.5
MGT5L470MCB2	470 $\pm 20\%$	1100	5	5	300	250	1	1.5
MGT5L600MCB2	600 $\pm 20\%$	1500	5	5	300	250	1	1.5
MGT5L800MCB2	800 $\pm 20\%$	1700	5	5	300	250	1	1.5
MGT5M070MCB2	70 $\pm 20\%$	600	10	5	500	25	1	1.5
MGT5M075MCB2	75 $\pm 20\%$	600	10	5	500	25	1	1.5
MGT5M090MCB2	90 $\pm 20\%$	600	10	10	500	50	1	1.5
MGT5M120MCB2	120 $\pm 20\%$	600	10	10	500	50	1	1.5
MGT5M145MCB2	145 $\pm 20\%$	700	10	10	500	100	1	1.5
MGT5M150MCB2	150 $\pm 20\%$	700	10	10	500	100	1	1.5
MGT5M230MCB2	230 $\pm 20\%$	700	10	10	500	100	1	1.5
MGT5K362MCB2	3600 $\pm 20\%$	5000	3	-	300	1000	1	1.5

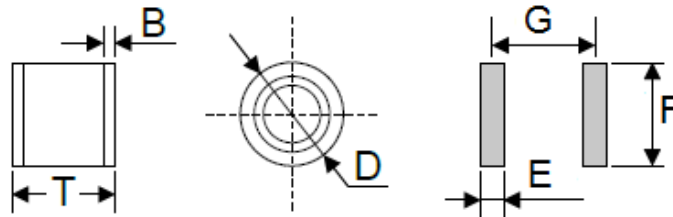
Gas Discharge Tube

5.5x6.0mm 2 Poles Round type

MGT5-2 series

MERITEK

DIMENSION AND RECOMMENDED PCB LAYOUT



Series	D	T	B	G	E	F
MGT5-2	5~5.8	5.5~6.3	0.5±0.1	6.0	1.5	5.5

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. Crest Value Current (%) Time Impulse Width	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. Test frequency: 1MHz	

Gas Discharge Tube

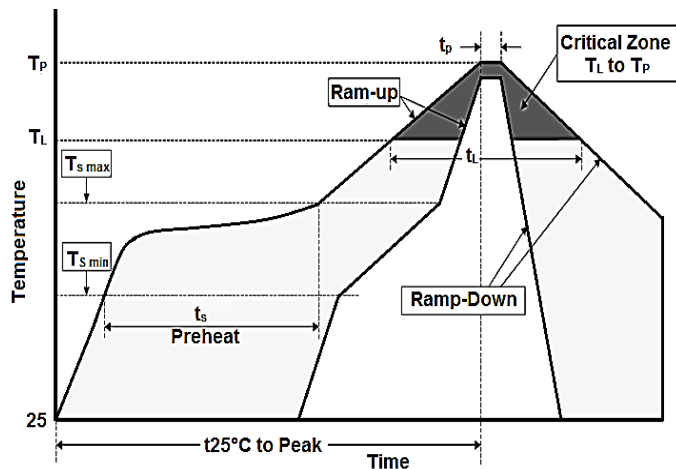
5.5x6.0mm 2 Poles Round type

MGT5-2 series

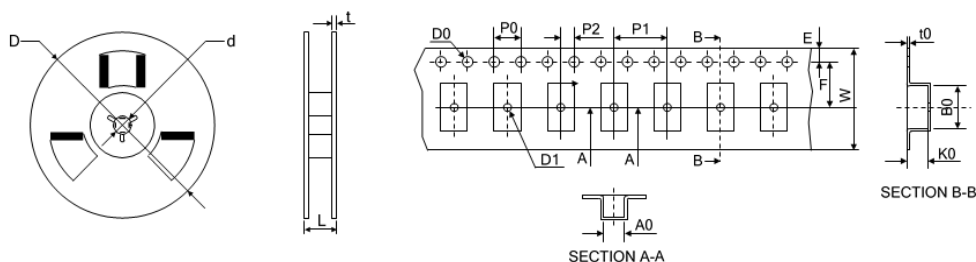
MERITEK

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	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	D ±2.0	d ±0.5	L ±2.0	t ±0.2	pcs
Size	16	4	12	2	1.55	1.75	7.5	5.85	6.20	7.00	0.5	330	13	20	2	800

Unit: mm

*Specifications subject to change without notice.