

Gas Discharge Tube

3.5x6.8mm 3 Poles Square End

MGT3-3S series

MERITEK

FEATURE

- Storage And Operating Temperature: -40°C~+85°C
- Large Absorbing Transient Current Capacity
- Stable Breakdown Voltage
- Micro-Gap Design
- High Insulation Resistance, Low Capacitance ($\leq 1\text{pf}$)
- Meets MSL Level 1, Per J-STD-020
- UL Safety Approved Certification No: E223045



PART NUMBERING SYSTEM



MGT 3 G 090N CB3
 (1) (2) (3) (4) (5)

No	Item	Digit	Description	
(1)	Product Code	MGT	MGT: Gas Discharge Tube Series	
(2)	Size Code	3	Diameter: 3mm	DxT : 3.5x6.8mm
(3)	Discharge Current 8/20 μs	G	G: 2KA	Z For Special Tolerance Code
(4)	Breakage Voltage	090N	90V \pm 30%	DC Spark Over Voltage, 100V/s
(5)	Series Code	CB3S	3 Poles Square End	Internal Control Reference

ELECTRICAL CHARACTERISTICS

Part Number	DC Spark-over Voltage	Impulse Spark-over Voltage max	Impulse Discharge Current	Impulse Discharge Current	Minimum Insulation Resistance		Maximum Capacitance
	100V/s	1KV/ μs	8/20 μs , 10times	8/20 μs , 100A	VT	IR	1MHz 1V
3.5x6.8mm	(V)	(V)	(KA)	(Times)	(V _{DC})	(G Ω)	(pF)
MGT3G090NCB3S	90 \pm 30%	700	2	300	50	1	1
MGT3G150NCB3S	150 \pm 30%	800	2	300	100	1	1
MGT3G200NCB3S	200 \pm 30%	850	2	300	100	1	1
MGT3G230NCB3S	230 \pm 30%	850	2	300	100	1	1
MGT3G300NCB3S	300 \pm 30%	900	2	300	100	1	1
MGT3G350NCB3S	350 \pm 30%	1000	2	300	100	1	1
MGT3G400NCB3S	400 \pm 30%	1200	2	300	100	1	1
MGT3G420ZCB3S	360~560	1200	2	300	100	1	1

Note: Z for special tolerance code

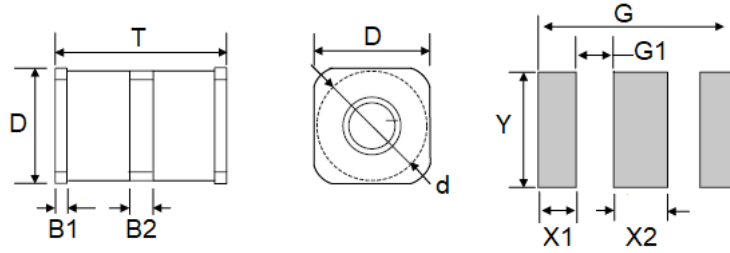
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DIMENSION AND RECOMMENDED PAD SIZE



Part Number	D	T	B1	B2	d	X1	X2	Y	G	G1
MGT3-3S	3.5±0.2	6.8±0.2	0.4±0.2	1.2±0.2	3.5±0.2	1.4	2.4	3.5	7.8	1.4

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 $8/20 \mu s$ 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>	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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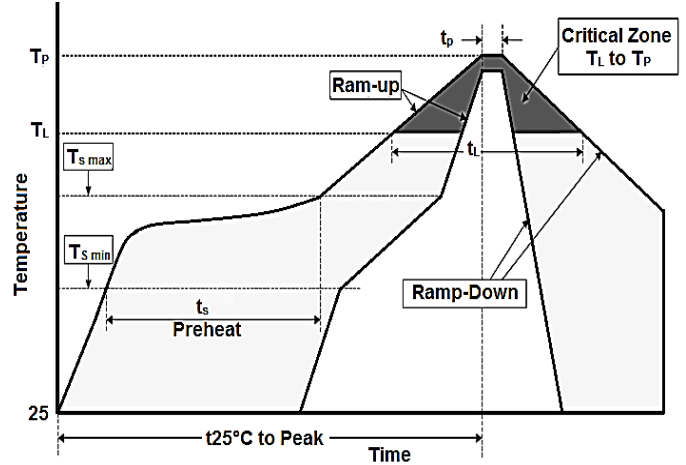
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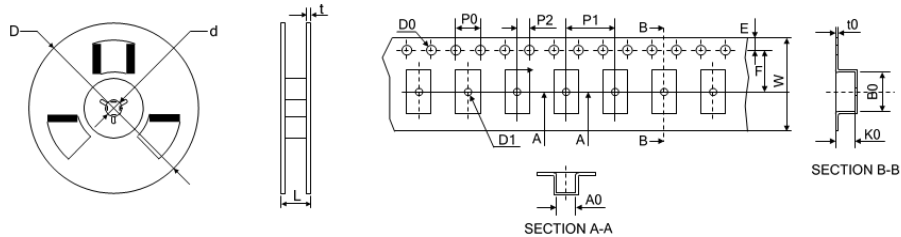
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RECOMMENDED SOLDERING PROFILES

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



Item Series	D ±2.0	d ±0.5	L ±2.0	t ±0.5	W ±0.2	P0 ±0.2	P1 ±0.2	P2 ±0.2	D0 ±0.2	E ±0.2	F ±0.2	A0 ±0.2	K0 ±0.2	B0 ±0.2	t0 ±0.2	QTY pcs
MGT3-3S	330	13	20	2	16.0	4.0	8.0	2.0	1.5	1.75	7.5	3.9	3.8	7.2	0.5	2000

Unit: mm

*Specifications subject to change without notice.