

Gas Discharge Tube

3.5x6.8mm 3 Poles Square End

MGT3-3S Series

MERITEK

FEATURE

- Ultra-Fast Surge Response
- High Surge Current Capability
- High Holder Voltage, High Insulation Resistance
- Low capacitance ($\leq 1\text{pF}$), Micro-Gap Design
- Applications: Repeaters, Modems, Telephone Interface, Line Cards, Data Communication Equipment, Line Test Equipment
- UL Safety Approved Certification No: E223045

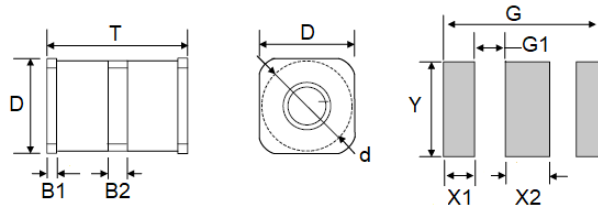


ELECTRICAL CHARACTERISTICS

Part Number	DC Spark-over Voltage	Impulse Spark-over Voltage	Impulse Discharge Current	Impulse Life	Minimum Insulation Resistance		Maximum Capacitance
	100V/s	1KV/ μs	8/20 μs , 10times	10/1K μs , 100A	V_T	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
MGT3G420NCB3S	360~560	1200	2	300	100	1	1

Note: Operating Temperature: -40°C ~ +85°C

DIMENSION AND RECOMMENDED PAD



Unit: mm

Series	D	T	B1	B2	d	X1	X2	Y	G	G1
MGT3-3S	3.5 $\pm$ 0.2	6.8 $\pm$ 0.2	0.4 $\pm$ 0.2	1.2 $\pm$ 0.2	3.5 $\pm$ 0.2	1.4	2.4	3.5	7.8	1.4

PART NUMBERING SYSTEM

MGT 3 G 090N CB3S
(1) (2) (3) (4) (5)

No	Item	Digit	Description	
(1)	Product Code	MGT	Gas Discharge Tube Series	
(2)	Size Code	3	3.5mm Diameter	DxT: 3.5x6.8mm
(3)	Discharge Current,	G	G: 2KA	8/20 μs , 10 times
(4)	DC Spark Over Voltage	090N	90V $\pm$ 30%(N)	DC Spark Over Voltage, 100V/s
(5)	Series Code	CB3S	CB3S: 3 Poles Square End	Internal Control Reference

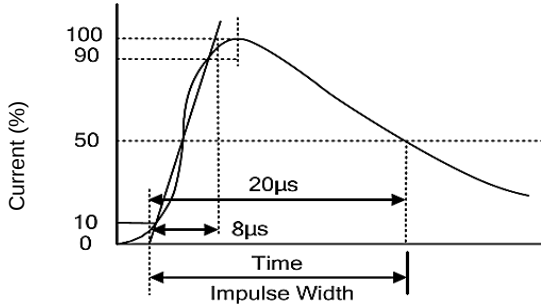
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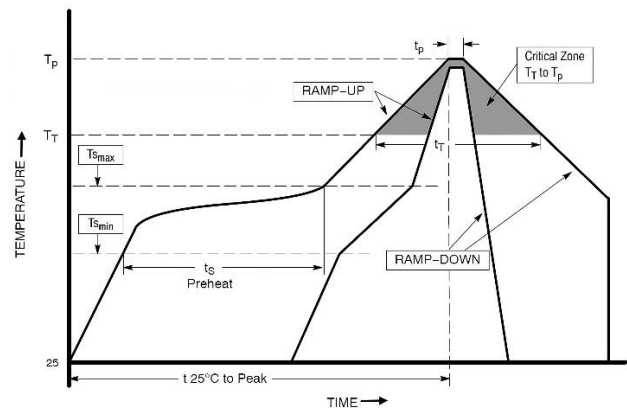
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RELIABILITY AND TEST CONDITON

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 $8/20 \mu s$ 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. Crest 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 changed 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.	

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.

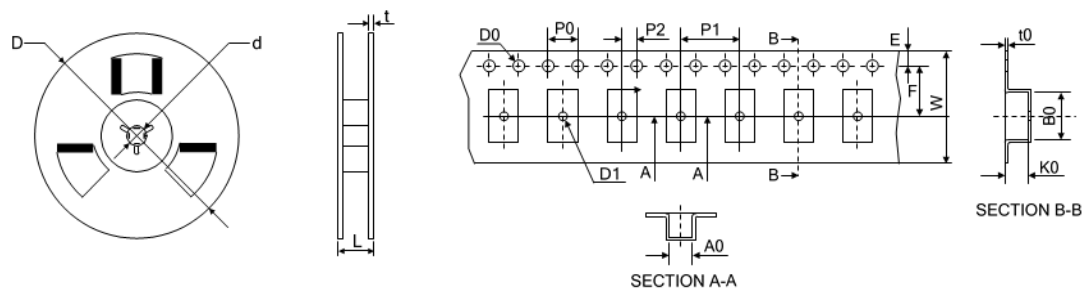


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PACKAGING SPECIFICATION



Unit: mm

Package	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/ Reel
Reel	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

*Specifications subject to change without notice.