Gas Discharge Tube
SMD 1210 2 Poles Square End

MGTS-10 Series

MERITEK

FEATURE

- 1KA 8/20μs Maximum Surge Current Capacity in accordance with IEC61000-4-5
- 6KV 10/700μs Maximum Surge Rating in accordance with ITU-TK.21
- High Holder Voltage, High Insulation Resistance
- Low capacitance (≤0.5pF), Micro-Gap Design
- Applications: Repeaters, Modems, Telephone Interface, Line cards, Data Communication Equipment, Line Test Equipment
- UL Safety Approved Certification No: E223045

RoHS

ELECTRICAL CHARACTERISTICS

Part Number	DC Spark-over Voltage	Impulse Spark-over Voltage	Impulse Discharge Current	Impulse Withstanding Voltage Capacity	Minimum Insulation Resistance		Maximum Capacitance
	100V/s	1KV/μs	8/20μs, 10times	10/700μs, 10times	V_T	IR	1MHz
1210	(V)	(V)	(KA)	(KV)	(V_{DC})	(GΩ)	(pF)
MGTSE090NCB10	90±30%	700	1	6	50	1	0.5
MGTSE150NCB10	150±30%	750	1	6	100	1	0.5
MGTSE200MCB10	200±20%	800	1	6	100	1	0.5
MGTSE300MCB10	300±20%	850	1	6	100	1	0.5
MGTSE400MCB10	400+45%/-10%	950	1	6	100	1	0.5

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

DIMENSIONS AND RECOMMENDATION PAD

Unit: mm

Series	L	W	T	G	X	Y
MGTS-10	3.2±0.3	2.5±0.3	2.5±0.3	2.0	1.1	2.5

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PART NUMBERING SYSTEM

MGTS (1) **E** (2) **090N** (3) **CB10** (4)

No	Item	Code	Description	
(1)	**Product Code**	MGTS	Gas Discharge Tube series, Surface Mount 2 Poles Square End type	
(2)	**Discharge Current**	E	E: 1KA	8/20μs,10times
(3)	**DC Spark Over Voltage**	090N	90V ±30%(N)	DC Spark Over Voltage, 100V/s
(4)	**Series Code**	CB10	CB10: 3.2x2.5mm (EIA 1210)	

ELECTRICAL CHARACTERISTICS

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/μs.	
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.	To meet the specified value
Impulse Withstanding Voltage	The maximum 10/700μs surge that can be applied to the gas tube, 5 positive and 5 negative surges, with 1 minute interval time.	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.	

RELIABILITY

Item	Test Condition	Requirement
Cold Resistance	Measurement after -40°C for 1000Hrs and stabilized at normal temperature for 2 hours.	To meet the specification value
Heat Resistance	Measurement after 125°C for 1000Hrs and stabilized at normal temperature for 2 hours.	
Humidity Resistance	Measurement after humidity 90~95%R.H. (45°C) for 1000Hrs and stabilized at normal temperature for 2 hours.	To meet the specification value
Temperature Cycle	The conditions shown below shall be repeated 10 cycles. Step / Temperature (°C) / Period (minutes) 1 / -40 / 30 2 / Room temperature / 2 3 / 125 / 30 Measurement after normal temperature for 2 hours.	To meet the specification value
Solderability	260±5°C for 3 sec, the body immersion depth 1.5mm in molten solder.	Evenly covered by solder
Resistance to Soldering Heat	260±5°C for 10 sec, the body immersion depth 1.5mm in molten solder.	To meet the specification value

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

Unit: mm

Package	D ±1.0	d ±0.5	L ±0.5	t ±0.2	W ±0.2	P0 ±0.1	P1 ±0.1	P2 ±0.1	D0 ±0.1	E ±0.1	F ±0.1	A0 ±0.1	K0 ±0.1	B0 ±0.1	t0 ±0.1	Qty/ Reel
Reel	300	13	16	2.0	12.0	4.0	8.0	2.0	1.55	1.75	5.50	2.90	2.90	3.60	0.4	2500

*Specifications subject to change without notice.