

# Gas Discharge Tube

## 2R1000~2R7500(T,S)-8 Series

GDTs (Gas Discharge Tubes) are placed in front of, and in parallel with, sensitive telecom equipment such as power lines, communication lines, signal lines and data transmission lines to help protect them from damage caused by transient surge voltages that may result from lightning strikes and equipment switching operations. These devices do not influence the signal in normal operation. However, in the event of an overvoltage surge, such as a lightning strike, the GDT switches to a low impedance state and diverts the energy away from the sensitive equipment.

GDTs offer a high level of surge protection, a broad voltage range, low capacitance, and many form factors including new surface mount devices, which makes them suitable for applications such as MDF (Main Distribution Frame) modules, high data-rate telecom applications (e.g. ADSL, VDSL), and surge protection on power lines. Their low capacitance also results in less signal distortion. When used in a coordinated circuit protection solution with PTC devices, TSS thyristor surge protection devices, and MOV (Metal Oxide Varistor) devices, they can help equipment manufacturers meet

Dimension	unit:(mm)
(T)Series	(S)Series

## Features

- Compact, small form factor suitable for efficient assembly
- Helps provide overvoltage fault protection against high energy surges
- Suitable for high-frequency applications
- 8.0\*6.0mm devices
- Broad voltage range from 1000V-7500V
- Various form factors: surface mount, axial leads, no leads
- Low capacitance and insertion loss
- RoHS compliant
- Devices tested per ITU K.12 recommendations
- Non-radioactive materials

## Applications

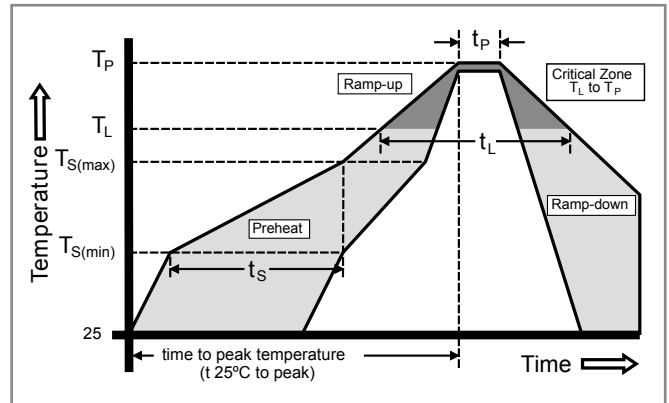
- Communication equipment
- CATV equipment
- Test equipment
- Data lines
- Power supplies
- Telecom SLIC protection
- Telecommunications
- MDF modules, xDSL equipment, RF system protection, antenna, base station
- Broadband equipment
- ADSL equipment including ADSL2+
- XDSL equipment
- Satellite and CATV equipment
- General telecom equipment
- Industrial and consumer electronics, such as
  - Surge protectors
  - Alarm system

## Electrical Characteristics

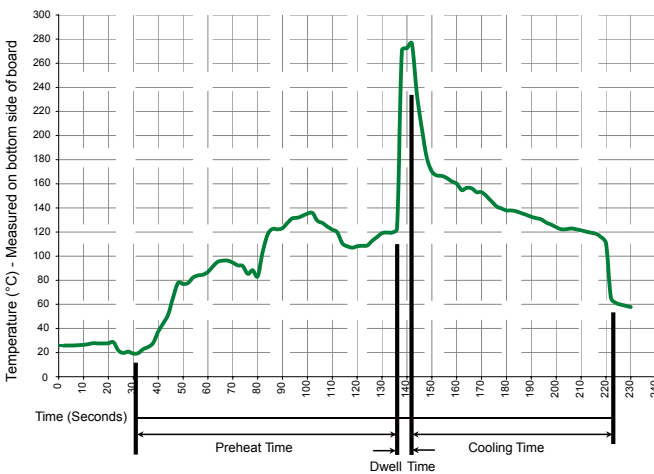
Type Number	Impulse Spark-over Voltage	Maximum Impulse Discharge Voltage	Maximum Surge Discharge Current	AC Discharge Current	Impulse Life	Maximum Insulation Resistance		Maximum Electrode Capacitance
	100v/s	1kv/ $\mu$ s	8/20 $\mu$ s, 10times	50hz, 1sec	10/1000 $\mu$ s, 100A	TestVoltage	(G $\Omega$ )	1MHZ
	(V)	(V)	(KA)	(A)	(Times)	DC(V)		(pF)
2R1000(T,S)-8	1000 $\pm$ 20%	1500	5KA	5A	300 times	DC 1000V >1		1.5 pF
2R1100(T,S)-8	1100 $\pm$ 20%	1700						
2R1200(T,S)-8	1200 $\pm$ 20%	1800						
2R1600(T,S)-8	1600 $\pm$ 20%	2000						
2R2000(T,S)-8	2000 $\pm$ 20%	2300						
2R2500(T,S)-8	2500 $\pm$ 20%	2750	3KA	3A				
2R2700(T,S)-8	2700 $\pm$ 20%	3500						
2R3000(T,S)-8	3000 $\pm$ 20%	4000						
2R3300(T,S)-8	3300 $\pm$ 20%	4200						
2R3600(T,S)-8	3600 $\pm$ 20%	4700						
2R4000(T,S)-8	4000 $\pm$ 20%	6000						
2R4500(T,S)-8	4500 $\pm$ 20%	6500						
2R5000(T,S)-8	5000 $\pm$ 20%	8000						
2R6200(T,S)-8	6200 $\pm$ 20%	9500						
2R6500(T,S)-8	6500 $\pm$ 20%	10000						
2R7500(T,S)-8	7500 $\pm$ 20%	11000						

## Soldering Parameters - Reflow Soldering (Surface Mount Devices)

Reflow Condition		Pb – Free assembly
Pre Heat	- Temperature Min ( $T_{s(min)}$ )	150°C
	- Temperature Max ( $T_{s(max)}$ )	200°C
	- Time (Min to Max) ( $t_s$ )	60 – 180 secs
Average ramp up rate (Liquidus $T_L$ to peak)		3°C/second max
$T_{s(max)}$ to $T_L$ - Ramp-up Rate		5°C/second max
Reflow	- Temperature ( $T_L$ ) (Liquidus)	217°C
	- Temperature ( $t_L$ )	60 – 150 seconds
Peak Temperature ( $T_p$ )		260 <sup>+0/-5</sup> °C
Time within 5°C of actual peak Temperature ( $t_p$ )		10 – 30 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature ( $T_p$ )		8 minutes Max.
Do not exceed		260°C



## Soldering Parameters - Wave Soldering (Thru-Hole Devices)



### Recommended Process Parameters:

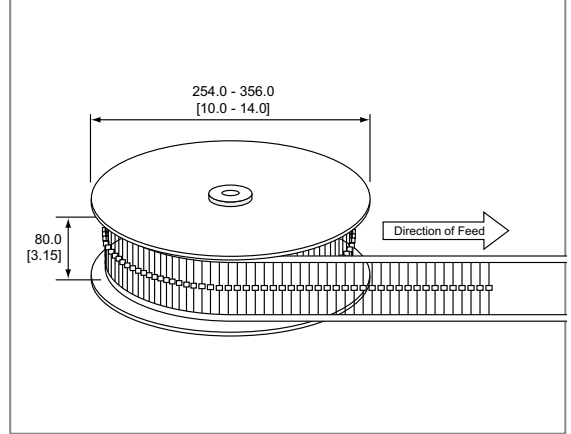
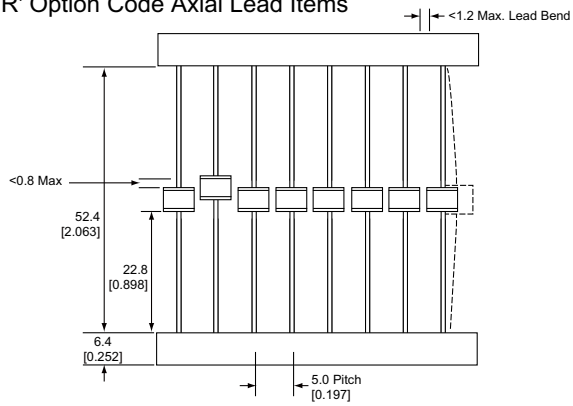
Wave Parameter	Lead-Free Recommendation
Preheat: (Depends on Flux Activation Temperature)	(Typical Industry Recommendation)
Temperature Minimum:	100° C
Temperature Maximum:	150° C
Preheat Time:	60-180 seconds
Solder Pot Temperature:	280° C Maximum
Solder Dwell Time:	2-5 seconds

## Soldering Parameters - Hand Soldering

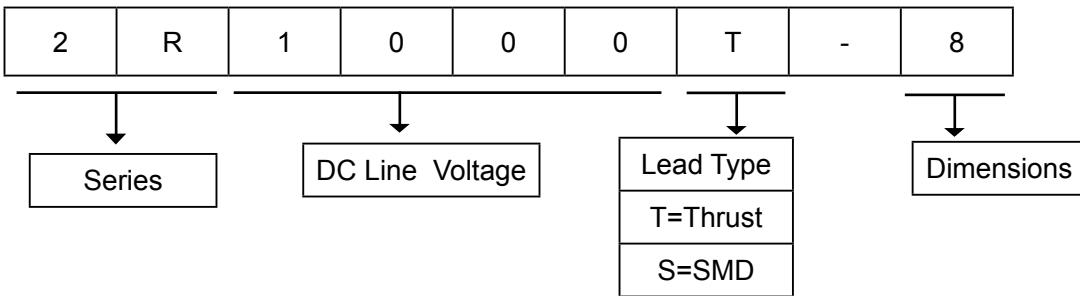
Solder Iron Temperature: 350° C +/- 5° C  
 Heating Time: 5 seconds max.

## Packaging Dimensions

### For 'LTR' Option Code Axial Lead Items



## Part Number Code



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