

### Description

The PG5D5 Series surge arresters are specifically designed for protection of electrical and communication equipment against over voltage transients in surface mount assembly applications. This series offers the most cutting edge protection using non-radioactive elements.



### Features

- Excellent stability on multiple pulse duty cycle
- Excellent response to fast rising transients.
- Ultra Low Insertion Loss
- 5KA surge capability tested with 8/20 $\mu$ s Non-Radioactive
- Low capacitance (<1pF)
- Voltage Ranges 75V to 1000V
- RoHS compliant and Lead-free

### Applications

- Communication equipment
- CATV equipment
- Test equipment
- Data lines
- Power supplies
- Telecom SLIC protection
- Broadband equipment
- ADSL equipment, including ADSL2+
- XDSL equipment
- Satellite and CATV equipment
- General telecom equipment



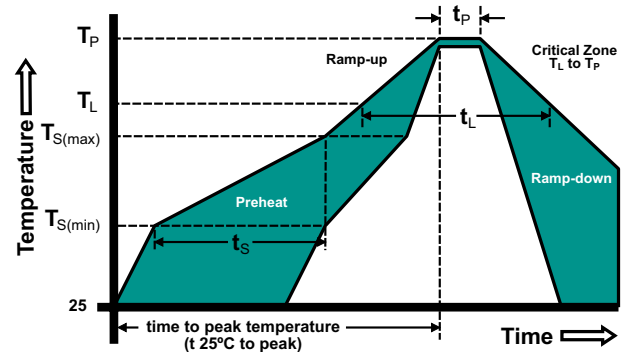
### Electrical Characteristics

Part No.	DC Breakdown in Volts (@100V/s)	Impulse Breakdown in Volts (@1kV/ $\mu$ s) Max.(V)	Insulation Resistance		Capacitance (@1KHz) Max.	Nominal Impulse Discharge Current (@8/20 $\mu$ s)	Nominal Discharge Current (1sec/50Hz)
			Min.	DC			
PG5D5xR075	75 $\pm$ 30%	700	100M $\Omega$	50V	<1.0 pf	5 kA	5 A
PG5D5xR090	90 $\pm$ 30%	700		50V	<1.0 pf		
PG5D5xR150	150 $\pm$ 30%	700		50V	<1.0 pf		
PG5D5xR230	230 $\pm$ 20%	800		100V	<1.0 pf		
PG5D5xR350	350 $\pm$ 20%	800		100V	<1.0 pf		
PG5D5xR420	420 $\pm$ 20%	900		100V	<1.0 pf		
PG5D5xR470	470 $\pm$ 20%	900		100V	<1.0 pf		
PG5D5xR600	600 $\pm$ 20%	1200		100V	<1.0 pf		
PG5D5xR1000	1000 $\pm$ 20%	1800		100V	<1.0 pf		

\*Devices test at ambient temperature of 25°C, Operation temperature -40~125°C  
"x"Code letter for product packages

### Soldering Parameters - Reflow Soldering

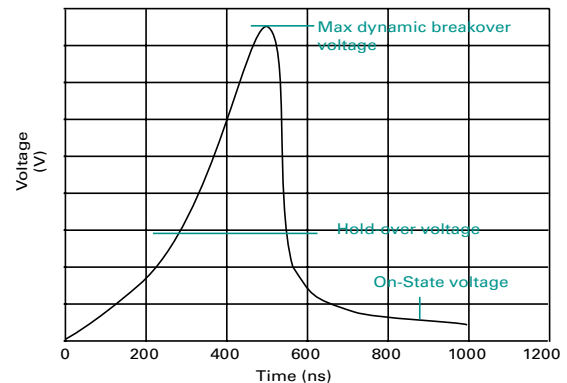
Reflow Condition		Pb – Free assembly
Pre Heat	-Temperature Min ( $T_{s(min)}$ )	150°C
	-Temperature Max ( $T_{s(max)}$ )	200°C
	-Time (Min to Max) ( $t_s$ )	60 – 180 secs
Average ramp up rate (Liquidus Temp ( $T_L$ ) to peak)		3°C/second max
$T_{s(max)}$ to $T_L$ - Ramp-up Rate		5°C/second max
Reflow	-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 ( $t_p$ )		8 – 20 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 - Hand Soldering

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

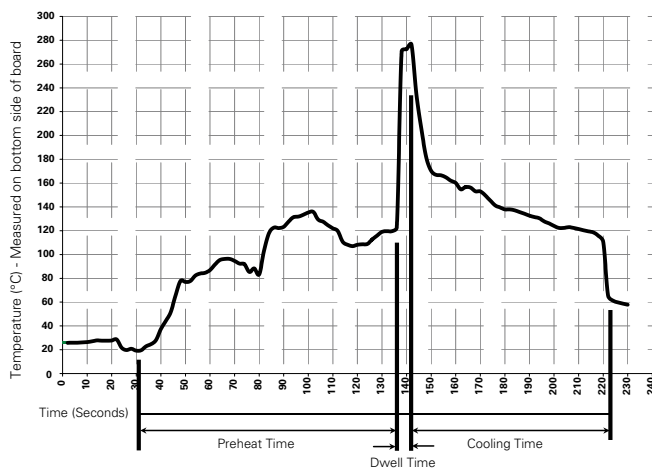
### Voltage vs. Time Characteristic



### Product Characteristics

<b>Materials</b>	Element: Silver or Silver Ceramic Body / End plate Metallization of ceramic body High temperature solder preform End termination overcoat: Nickel Flash, Tin/Lead
<b>Storage and Operational Temperature</b>	-40 to +90 °C

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



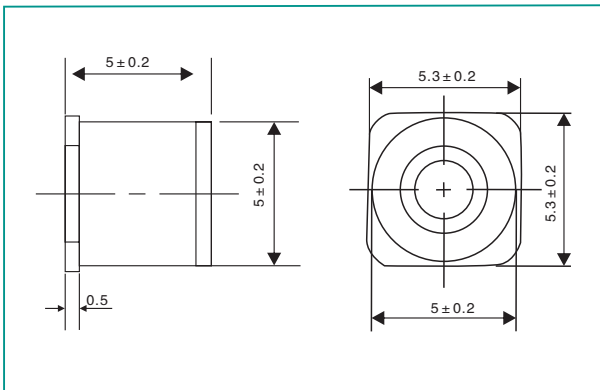
### Recommended Process Parameters:

Wave Parameter	Lead-Free Recommendation
<b>Preheat:</b> (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

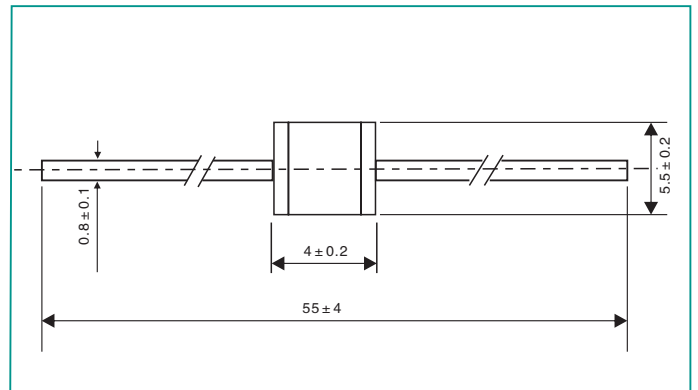
**Note: These devices are not recommended for IR or Convection Reflow process.**

**Device Dimensions** (Unit/mm)

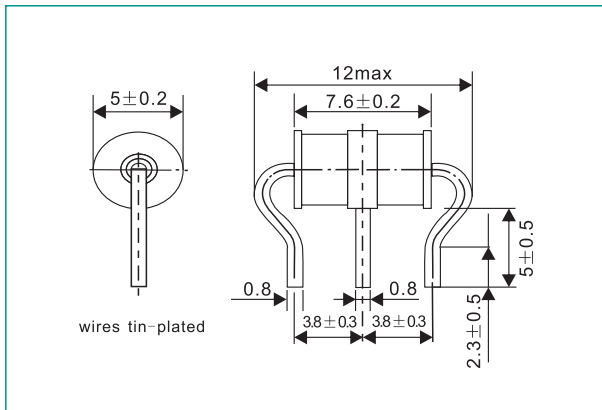
**PG5D5S Seires**



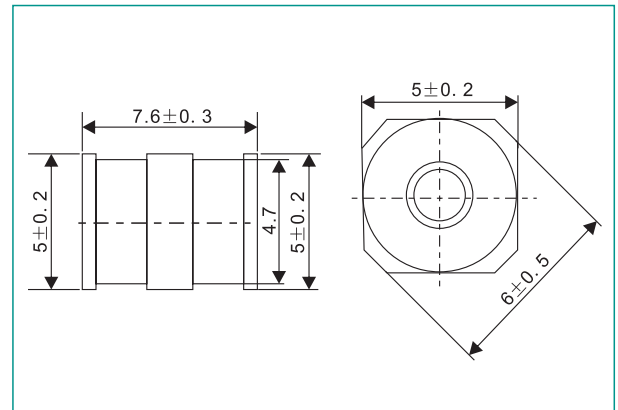
**PG5D5A Seires**



**PG5D5T Seires**



**PG5D5Y Seires**



**Packaging** (Tape and Reel)

Part Number	Description	Quantity
PG5D5S	1500PCS Per Reel,6000PCS in box,24000PCS outer box	24000
PG5D5Y	1000PCS Per Reel,3000PCS in box, 12000PCS outer box	12000
PG5D5A	100PCS PVC,500PCS in box ,5000PCS outer box	5000
PG5D5T	100PCS PVC,500PCS in box ,5000PCS outer box	5000