

## Description

The PG8D6x series offers high levels of performance on fast rising transients in the domain of 100V/ $\mu$ s to 1KV/ $\mu$ s, which are those most likely from induced Lightning disturbances. The PG8D6x series also features ultra low capacitance (typically 1pF or less) and optimised internal geometry which provides low insertion loss at high frequencies, so are ideal for the protection of broadband equipment. These devices are extremely robust and are able to divert a 25,000A pulse without destruction.



## Features

- Excellent stability on multiple pulse duty cycle
- Excellent response to fast rising transients.
- Ultra Low Insertion Loss
- 25KA surge capability tested with 8/20 $\mu$ S
- Non-Radioactive
- Low capacitance (<1pF)
- Voltage Ranges 75V to 1000V
- RoHS compliant and Lead-free

## Applications

- Broadband equipment
- ADSL equipment
- 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)
			Min.	DC		
PG8D6xR075W	75 $\pm$ 30%	700	100M $\Omega$	50V	<1.0 pf	10 kA (10 operations)
PG8D6xR090W	90 $\pm$ 30%	700		50V	<1.0 pf	
PG8D6xR150W	150 $\pm$ 30%	700		50V	<1.0 pf	
PG8D6xR230W	200 $\pm$ 20%	800		100V	<1.0 pf	
PG8D6xR350W	350 $\pm$ 20%	800		100V	<1.0 pf	25 kA (1 operation minimum)
PG8D6xR470W	470 $\pm$ 20%	900		100V	<1.0 pf	
PG8D6xR600W	600 $\pm$ 20%	1200		250V	<1.0 pf	
PG8D6xR1000W	1000 $\pm$ 20%	1800		250V	<1.0 pf	

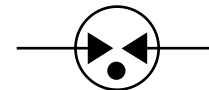
\*Devices test at ambient temperature of 25°C, Operation temperature -40~125°C  
"x"Code letter for product packages



(8x6mm)  
PG8D6A Series



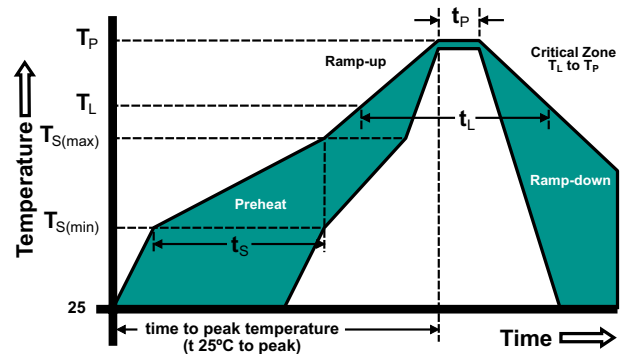
(8x6mm)  
PG8D6S Series



**Bi-Electrode**

### Soldering Parameters - Reflow Soldering

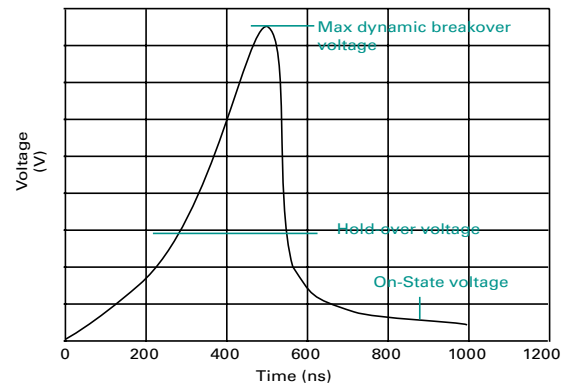
Reflow Condition		Pb – Free assembly
Pre Heat	-Temperature Min ( $T_{s(min)}$ )	150°C
	-Temperature Max ( $T_{s(max)}$ )	200°C
	-Time (Min to Max) ( $t_s$ )	60 – 180 secs
Average ramp up rate (Liquidus Temp ( $T_L$ ) to peak)		3°C/second max
$T_{s(max)}$ to $T_L$ - Ramp-up Rate		5°C/second max
Reflow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

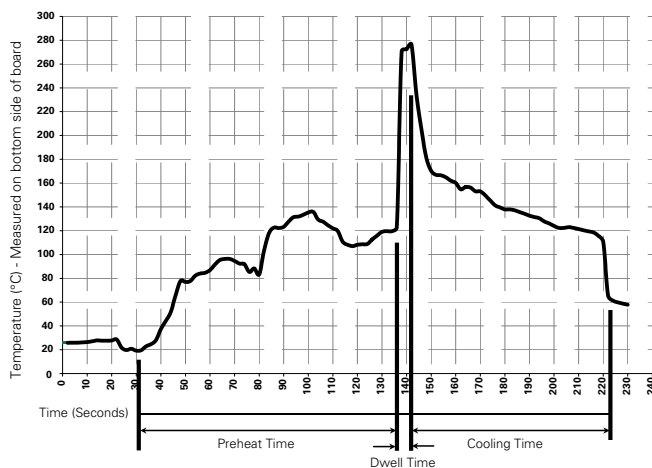
### Voltage vs. Time Characteristic



### 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)



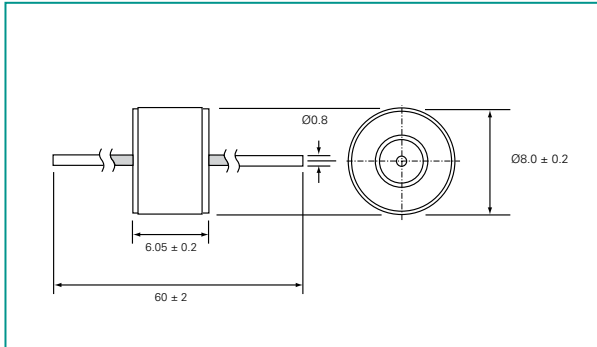
### Recommended Process Parameters:

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

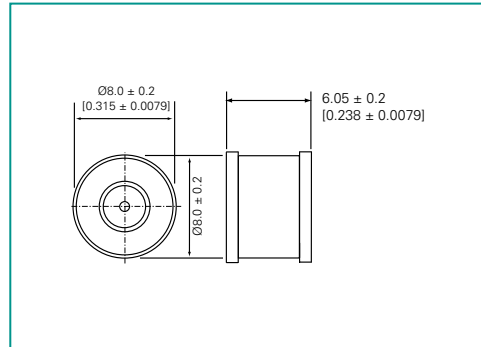
**Note: These devices are not recommended for IR or Convection Reflow process.**

**Device Dimensions** (Unit/mm)

PG8D6A Series



PG8D6S Series



**Packaging** (Tape and Reel)

Part Number	Description	Quantity
PG8D6S	1500 Per Reel,6000pcs in box,24000pcs outer box	24000pcs
PG8D6A	100pcs PVC,500pcs in box,5000pcs outer box	5000pcs