

## Gas Discharge Tube - PG28E-M Series

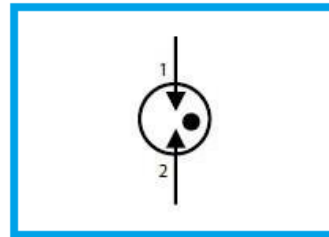
### Features

- DC Spark-over voltage: 75~4000V
- Low Capacitance
- Micro-Gap Design
- Stable breakdown voltage
- RoHS & HF compliant
- High holdover voltage
- High insulation resistance
- Large absorbing transient current capability.



### Applications

- Communication equipment
- Test equipment
- Data lines
- CATV equipment
- Power Supplies
- Telecom SLIC protection
- Telecommunications

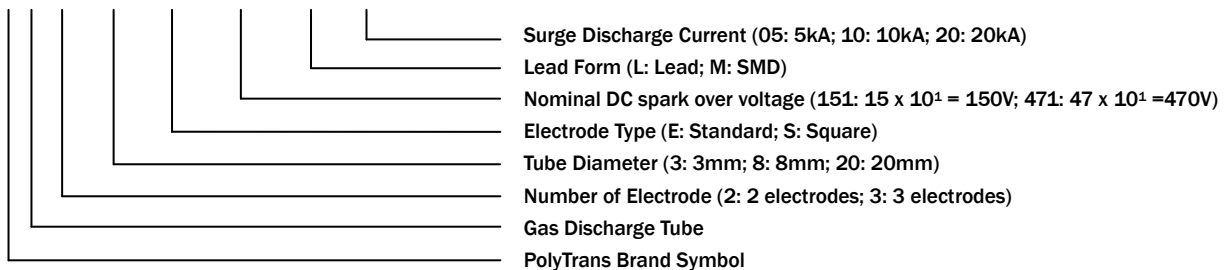


### General Characteristics Definition

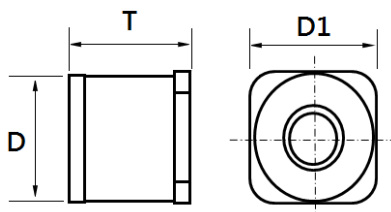
- Operating temperature: -40 ~ 85°C
- Storage temperature: -40 ~ 85°C

### Part Number Code

P G □ □ □ □ □ □ □ □ □ □

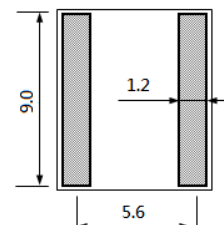


### Physical Dimensions



Symbol	Dimension (mm)
D	8.0±0.5
T	6.0±0.5
D1	8.2±0.5

#### Solder pad layout



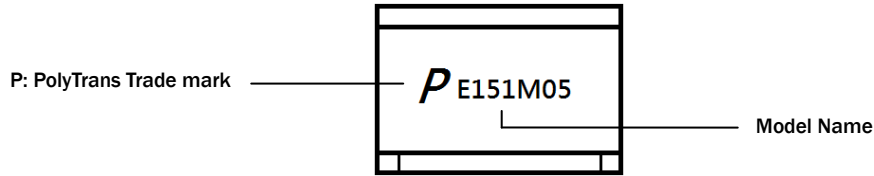
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### Electrical Characteristics

Part Number	DC Spark-over Voltage @ 100V/S	Impulse Spark-over Voltage @ 1kV/ $\mu$ S	Impulse Discharge Current	AC Discharge Current	Minimum Insulation Resistance	Maximum Capacitance @ 1.0 MHz	UL Certificate (E474915)
	(V)		8/20 $\mu$ s 10 Hits	1s/5 Times			
	(V)		(kA)	(A)			
PG28E075M20	75 $\pm$ 20%	$\leq$ 600	20	20	1	1.0	✓
PG28E091M20	90 $\pm$ 20%	$\leq$ 600	20	20	1	1.0	✓
PG28E151M20	150 $\pm$ 20%	$\leq$ 600	20	20	1	1.0	✓
PG28E201M20	200 $\pm$ 20%	$\leq$ 700	20	20	1	1.0	✓
PG28E231M20	230 $\pm$ 20%	$\leq$ 700	20	20	1	1.0	✓
PG28E301M20	300 $\pm$ 20%	$\leq$ 900	20	20	1	1.0	✓
PG28E351M20	350 $\pm$ 20%	$\leq$ 1000	20	20	1	1.0	✓
PG28E401M20	400 $\pm$ 20%	$\leq$ 1000	20	20	1	1.0	✓
PG28E471M20	470 $\pm$ 20%	$\leq$ 1200	20	20	1	1.0	✓
PG28E075M10	75 $\pm$ 20%	$\leq$ 600	10	10	1	1.0	✓
PG28E091M10	90 $\pm$ 20%	$\leq$ 600	10	10	1	1.0	✓
PG28E151M10	150 $\pm$ 20%	$\leq$ 600	10	10	1	1.0	✓
PG28E201M10	200 $\pm$ 20%	$\leq$ 700	10	10	1	1.0	✓
PG28E231M10	230 $\pm$ 20%	$\leq$ 700	10	10	1	1.0	✓
PG28E301M10	300 $\pm$ 20%	$\leq$ 900	10	10	1	1.0	✓
PG28E351M10	350 $\pm$ 20%	$\leq$ 1000	10	10	1	1.0	✓
PG28E401M10	400 $\pm$ 20%	$\leq$ 1000	10	10	1	1.0	✓
PG28E471M10	470 $\pm$ 20%	$\leq$ 1200	10	10	1	1.0	✓
PG28E601M10	600 $\pm$ 20%	$\leq$ 1400	10	10	1	1.0	✓
PG28E075M05	75 $\pm$ 20%	$\leq$ 600	5	5	1	1.0	✓
PG28E091M05	90 $\pm$ 20%	$\leq$ 600	5	5	1	1.0	✓
PG28E151M05	150 $\pm$ 20%	$\leq$ 600	5	5	1	1.0	✓
PG28E201M05	200 $\pm$ 20%	$\leq$ 700	5	5	1	1.0	✓
PG28E231M05	230 $\pm$ 20%	$\leq$ 700	5	5	1	1.0	✓
PG28E301M05	300 $\pm$ 20%	$\leq$ 900	5	5	1	1.0	✓
PG28E351M05	350 $\pm$ 20%	$\leq$ 1000	5	5	1	1.0	✓
PG28E401M05	400 $\pm$ 20%	$\leq$ 1000	5	5	1	1.0	✓
PG28E471M05	470 $\pm$ 20%	$\leq$ 1200	5	5	1	1.0	✓
PG28E601M05	600 $\pm$ 20%	$\leq$ 1400	5	5	1	1.0	✓
PG28E801M03	800 $\pm$ 20%	$\leq$ 1400	3	3	1	1.0	✓
PG28E102M03	1000 $\pm$ 20%	$\leq$ 1700	3	3	1	1.0	✓
PG28E122M03	1200 $\pm$ 20%	$\leq$ 1900	3	3	1	1.0	✓
PG28E152M03	1500 $\pm$ 20%	$\leq$ 2200	3	3	1	1.0	✓
PG28E202M03	2000 $\pm$ 20%	$\leq$ 2700	3	3	1	1.0	✓
PG28E252M03	2500 $\pm$ 20%	$\leq$ 3500	3	3	1	1.0	✓
PG28E272M03	2700 $\pm$ 20%	$\leq$ 3700	3	3	1	1.0	✓
PG28E302M03	3000 $\pm$ 20%	$\leq$ 4000	3	3	1	1.0	✓
PG28E362M03	3600 $\pm$ 20%	$\leq$ 4600	3	3	1	1.0	✓
PG28E402M03	4000 $\pm$ 20%	$\leq$ 5000	3	3	1	1.0	✓

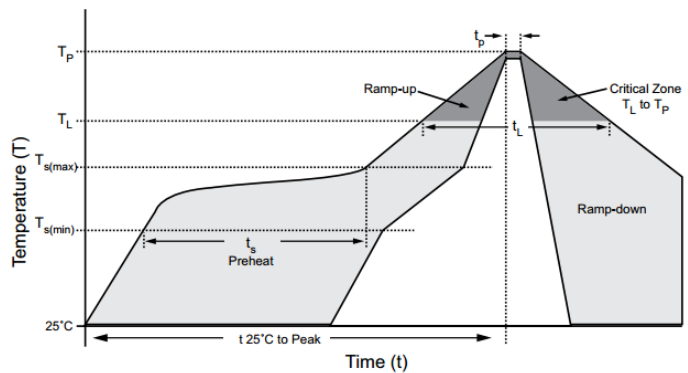
## Gas Discharge Tube - PG28E-M Series

### Marking Definitions



### Lead Free Reflow Soldering Recommendations

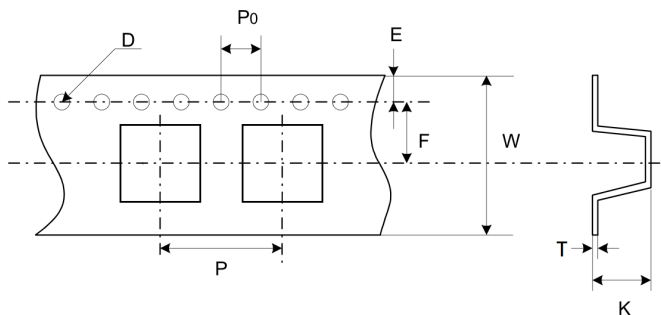
Preheat	
- Temperature Min (T <sub>smin</sub> )	150°C
- Temperature Max (T <sub>smax</sub> )	200°C
- Time (T <sub>smin</sub> to T <sub>smax</sub> )	60-180 seconds
- Average Ramp-Up Rate	1~3°C/second
Peak Temperature	260°C max.
Time within 5°C of actual Peak Temperature (t <sub>p</sub> )	40 seconds max.
Ramp-Down Rate	6 °C /second max.



Note: If the reflow soldering temperatures exceed the recommended profile, devices may not meet the performance requirements.

### Packaging Information

Part Number	Quantity	
	EA/Roll	EA/Carton
PG28E-M Series	500	4000



Dimension	Millimeters
P	16.0±0.1
P0	4.0±0.1
D	1.55±0.05
E	1.75±0.1
F	11.5±0.1
W	24.0±0.3
T	0.50±0.05
K	8.4±0.1