

Gas Discharge Tube - PG28E-M Series

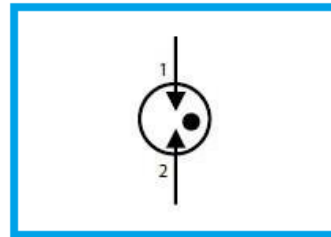
Features

- 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

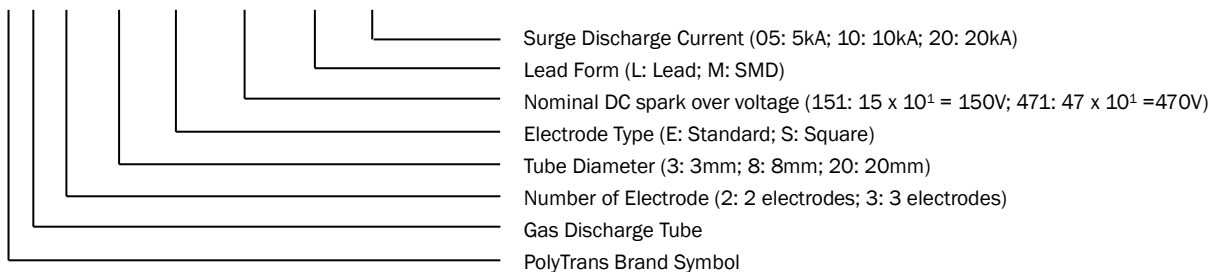


General Characteristics Definition

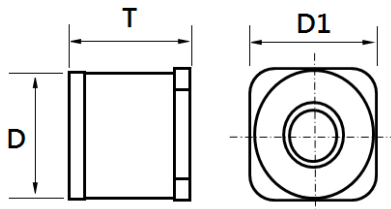
- Operating temperature: -50 ~ 125°C
- Storage temperature: -50 ~ 125°C

Part Number Code

P G □ □ □ □ □ □ □ □

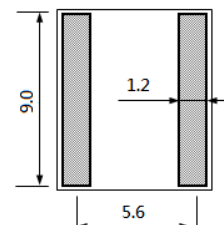


Physical Dimensions



Symbol	Dimension (mm)
D	8.2±0.3
T	6.0±0.2
D1	8.2±0.3

Solder pad layout



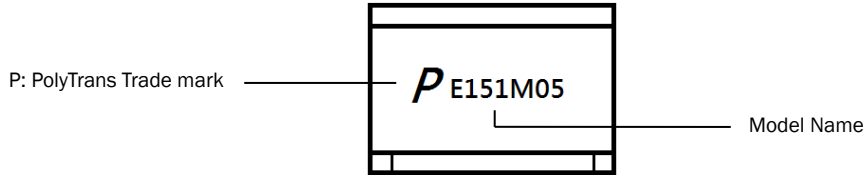
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Electrical Characteristics

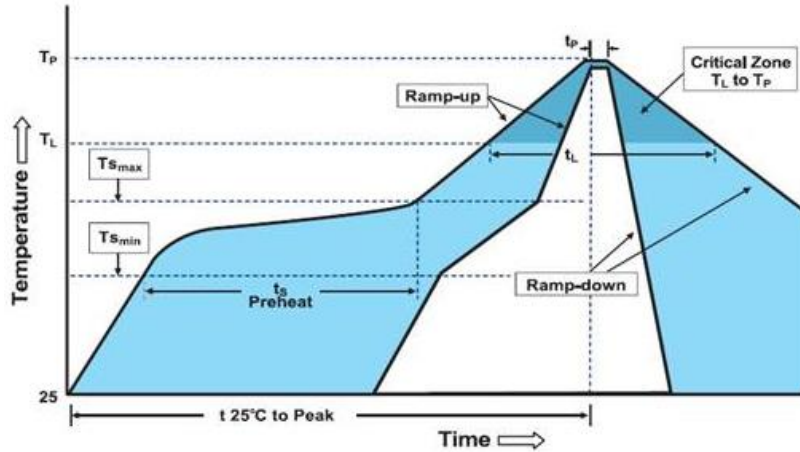
Part Number	DC Spark-over Voltage @ 100V/S	Impulse Spark-over Voltage @ 1kV/ μ S	Impulse Discharge Current	AC Discharge Current	Minimum Insulation Resistance	Maximum Capacitance @ 1.0 MHz	UL Certificate (E474915)
	(V)		8/20 μ s 10 Hits	1s/5 Times			
	(V)		(kA)	(A)			
PG28E075M20	75 \pm 20%	\leq 600	20	20	10	1.0	✓
PG28E091M20	90 \pm 20%	\leq 600	20	20	10	1.0	✓
PG28E151M20	150 \pm 20%	\leq 600	20	20	10	1.0	✓
PG28E201M20	200 \pm 20%	\leq 700	20	20	10	1.0	✓
PG28E231M20	230 \pm 20%	\leq 700	20	20	10	1.0	✓
PG28E301M20	300 \pm 20%	\leq 900	20	20	10	1.0	✓
PG28E351M20	350 \pm 20%	\leq 1000	20	20	10	1.0	✓
PG28E401M20	400 \pm 20%	\leq 1000	20	20	10	1.0	✓
PG28E471M20	470 \pm 20%	\leq 1200	20	20	10	1.0	✓
PG28E075M10	75 \pm 20%	\leq 600	10	10	10	1.0	✓
PG28E091M10	90 \pm 20%	\leq 600	10	10	10	1.0	✓
PG28E151M10	150 \pm 20%	\leq 600	10	10	10	1.0	✓
PG28E201M10	200 \pm 20%	\leq 700	10	10	10	1.0	✓
PG28E231M10	230 \pm 20%	\leq 700	10	10	10	1.0	✓
PG28E301M10	300 \pm 20%	\leq 900	10	10	10	1.0	✓
PG28E351M10	350 \pm 20%	\leq 1000	10	10	10	1.0	✓
PG28E401M10	400 \pm 20%	\leq 1000	10	10	10	1.0	✓
PG28E471M10	470 \pm 20%	\leq 1200	10	10	10	1.0	✓
PG28E601M10	600 \pm 20%	\leq 1400	10	10	10	1.0	✓
PG28E801M10	800 \pm 20%	\leq 1400	10	10	10	1.0	✓
PG28E102M10	1000 \pm 20%	\leq 1700	10	10	10	1.0	✓
PG28E075M05	75 \pm 20%	\leq 600	5	5	10	1.0	✓
PG28E091M05	90 \pm 20%	\leq 600	5	5	10	1.0	✓
PG28E151M05	150 \pm 20%	\leq 600	5	5	10	1.0	✓
PG28E201M05	200 \pm 20%	\leq 700	5	5	10	1.0	✓
PG28E231M05	230 \pm 20%	\leq 700	5	5	10	1.0	✓
PG28E301M05	300 \pm 20%	\leq 900	5	5	10	1.0	✓
PG28E351M05	350 \pm 20%	\leq 1000	5	5	10	1.0	✓
PG28E401M05	400 \pm 20%	\leq 1000	5	5	10	1.0	✓
PG28E471M05	470 \pm 20%	\leq 1200	5	5	10	1.0	✓
PG28E601M05	600 \pm 20%	\leq 1400	5	5	10	1.0	✓
PG28E801M05	800 \pm 20%	\leq 1400	5	5	10	1.0	✓
PG28E102M05	1000 \pm 20%	\leq 1700	5	5	10	1.0	✓
PG28E122M05	1200 \pm 20%	\leq 1900	5	5	10	1.0	✓
PG28E152M05	1500 \pm 20%	\leq 2200	5	5	10	1.0	✓
PG28E202M05	2000 \pm 20%	\leq 2700	5	5	10	1.0	✓
PG28E252M05	2500 \pm 20%	\leq 3500	5	5	10	1.0	✓
PG28E272M05	2700 \pm 20%	\leq 3700	5	5	10	1.0	✓
PG28E272M03	2700 \pm 20%	\leq 3700	3	3	10	1.0	✓
PG28E302M03	3000 \pm 20%	\leq 4000	3	3	10	1.0	✓
PG28E362M03	3600 \pm 20%	\leq 4600	3	3	10	1.0	✓
PG28E402M03	4000 \pm 20%	\leq 5000	3	3	10	1.0	✓

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Marking Definitions



Lead Free Reflow Soldering Recommendations



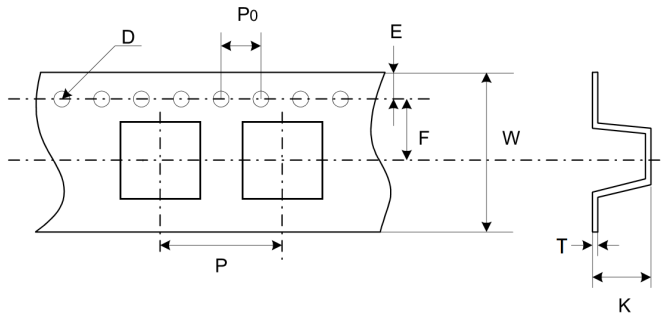
Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate ($T_{S_{max}}$ to T_P)	3°C/second max.
Preheat	
-Temperature Min ($T_{S_{min}}$)	150°C
-Temperature Max ($T_{S_{max}}$)	200°C
-Time ($T_{S_{min}}$ to $T_{S_{max}}$)	60-180 seconds
Time maintained above:	
-Temperature (T_L)	217°C
-Time (t_L)	60-150 seconds
Peak Temperature (T_P)	260°C
Time within 5°C of actual Peak Temperature (t_P)	20-40 seconds
Ramp-Down Rate	6 °C /second max.
Time 25°C to Peak Temperature	8 minutes max.
Storage Condition	0°C ~35°C, ≤ 70%RH

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

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Packaging Information

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



Dimension	Millimeters
P	12.0±0.1
P0	4.0±0.1
D	1.55±0.05
E	1.75±0.1
F	7.5±0.1
W	16.0±0.3
T	0.50±0.05
K	8.4±0.1