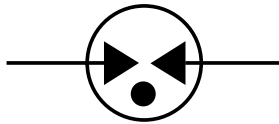




Agency Approvals

| AGENCY | AGENCY FILE NUMBER |
|--------|--------------------|
| | E128662 |

2 Electrode GDT Graphical Symbol



Additional Information



Datasheet



Resources



Samples

Description

Littelfuse SG series GDT offers high surge ratings in a miniature package. It's designed for surface mounting on PCB with small size 4.5x3.2x2.7mm. Low insertion loss is perfectly suited to broadband equipment applications. The capacitance does not vary with voltage, and will not cause operational problems with ADSL2+, where capacitance variation across Tip and Ring is undesirable. These devices are extremely robust and are able to divert a 1000A pulse without destruction.

Features

- RoHS compliant and Lead-free
- GHz working frequency
- Excellent stability on multiple pulse duty cycle
- Excellent response to fast rising transients.
- Ultra Low Insertion Loss
- 1-2KA surge capability tested with 8/20µS pulse as defined by IEC 61000-4-5
- Ultra small devices offered in a variety of mounting lead forms
- Non-Radioactive
- Low capacitance (<1pF)
- Voltage Ranges 75V to 600V
- UL recognized
- Conforms to ITU-T K12, IEC 1000-4-5
- Square Outline

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 Number | Device Specifications (at 25°C) | | | | | | | | Life Ratings | | | | |
|-------------|---------------------------------|-----|-----|---------------------------------------|---|-----------------------|---------------------|-------------------|--------------------------------|--------------|--|---|--|
| | DC Breakdown in Volts (@100V/s) | | | Impulse Breakdown in Volts (@100V/μs) | Impulse Breakdown In Volts (@1 Kv/μsec) | Insulation Resistance | Capacitance (@1MHz) | Arc Voltage (@1A) | Glow to Arc Transition Current | Glow Voltage | Nominal AC Discharge Current (x10 @50Hz) | Nominal Impulse Discharge Current (x10 @8/20μs) | Nominal Impulse Discharge Current (10/1000μs 100 cycles) |
| | MIN | TYP | MAX | MAX | | MIN | MAX | | | | | | |
| SG75 | 52 | 75 | 98 | 500 | 650 | >1GΩ (at 50VDC) | <1 pf | ~10 V | ~1.0 A | ~60 V | 2 A | 2kA | 10 A |
| SG90 | 63 | 90 | 117 | 500 | 600 | | | | | | | | |
| SG150 | 105 | 150 | 195 | 500 | 600 | | | | | | | | |
| SG200 | 140 | 200 | 260 | 550 | 700 | >1GΩ (at 100VDC) | <0.8 pf | ~12 V | ~0.5 A | ~140 V | 2.5 A | 1kA | |
| SG230 | 172 | 230 | 288 | 650 | 800 | | | | | | | | |
| SG300 | 225 | 300 | 375 | 700 | 850 | | | | | | | | |
| SG300Q | 210 | 300 | 390 | 580 | 650 | >1GΩ (at 50VDC) | <1 pf | ~20 V | ~0.8 A | ~140 V | NA* | | |
| SG350 | 263 | 350 | 437 | 750 | 900 | | | | | | | | |
| SG350Q | 263 | 350 | 437 | 600 | 700 | | | | | | | | |
| SG400 | 300 | 400 | 500 | 800 | 950 | >1GΩ (at 100VDC) | <0.5 pf | ~16 V | ~0.1 A | ~140 V | 2 A | | |
| SG420 | 315 | 420 | 525 | 800 | 1000 | | | | | | | | |
| SG420Q | 315 | 420 | 525 | 650 | 750 | | | | | | | | |
| SG450Q | 370 | 450 | 500 | 680 | 750 | >1GΩ (at 100VDC) | <1 pf | ~20 V | <0.5 A | ~140 V | 1 A | | |
| SG500Q | 400 | 500 | 600 | 950 | 1050 | | | | | | | | |
| SG600Q | 450 | 600 | 750 | 1100 | 1200 | | | | | | | | |

* Specification is not applicable for quick response (SGxxxQ) version of product

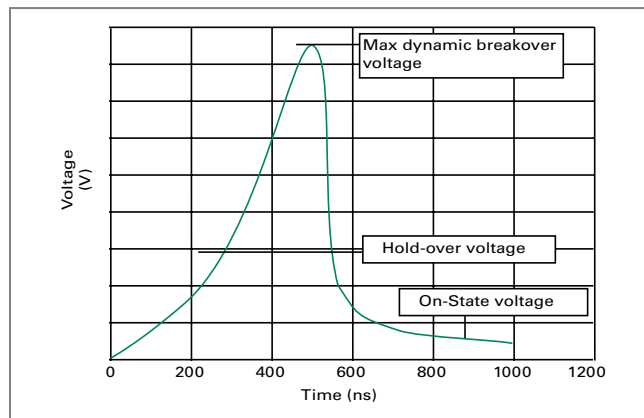
Product Characteristics

| | |
|--|--|
| Materials | Device Tin Plated 17.5±12.5 Microns Construction Ceramic Insulator. |
| Storage and Operational Temperature | -40 to +90 °C |

Typical Insertion Loss

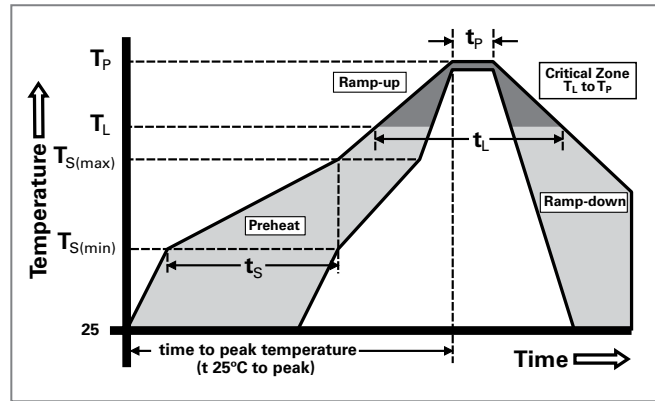
| |
|---------------------|
| @ 1.0 GHz = 0.01 dB |
| @ 1.4GHz = 0.1 dB |
| @ 1.8 GHz = 0.53 dB |
| @ 2.1 GHz = 0.81 dB |
| @ 2.45 GHz= 1 dB |
| @ 2.8 GHz = 1.2 dB |
| @ 3.1 GHz = 1.5 dB |
| @ 3.5 GHz = 2.1 dB |

Voltage vs. Time Characteristic

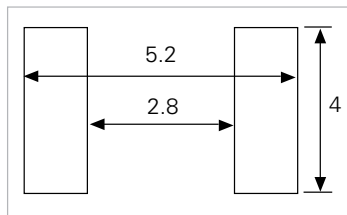
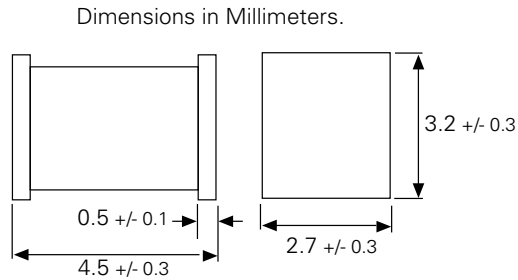


Soldering Parameters - Reflow Soldering (Surface Mount Devices)

| | | |
|--|------------------------------------|-------------------------|
| 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 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 ^{+0/-5} °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 |

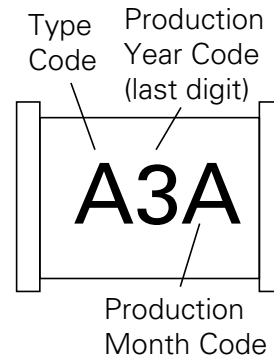


Device Dimensions



Recommended Soldering Pad Layout

Device Marking

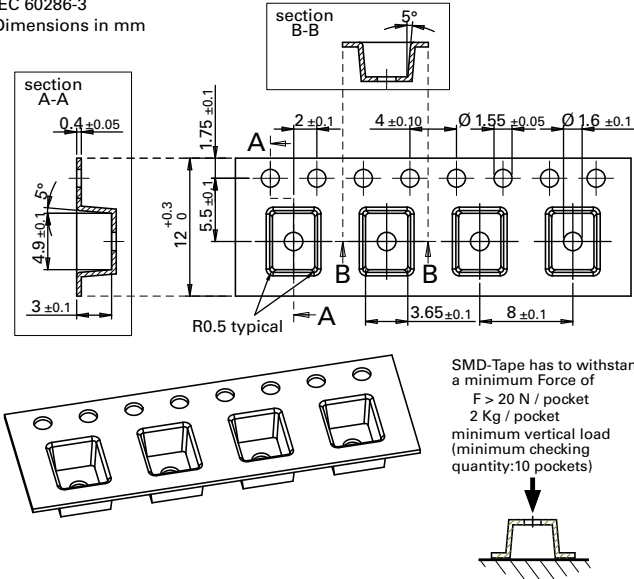


| Type Code | | Month Code | |
|-----------|--------|------------|-----------|
| A | SG75 | A | January |
| B | SG90 | B | February |
| C | SG150 | C | March |
| D | SG230 | D | April |
| E | SG300 | E | May |
| F | SG300Q | F | June |
| G | SG350 | G | July |
| H | SG350Q | H | August |
| I | SG400 | I | September |
| J | SG420 | J | October |
| K | SG420Q | K | November |
| L | SG450Q | L | December |
| M | SG500Q | | |
| N | SG600Q | | |
| O | SG200 | | |

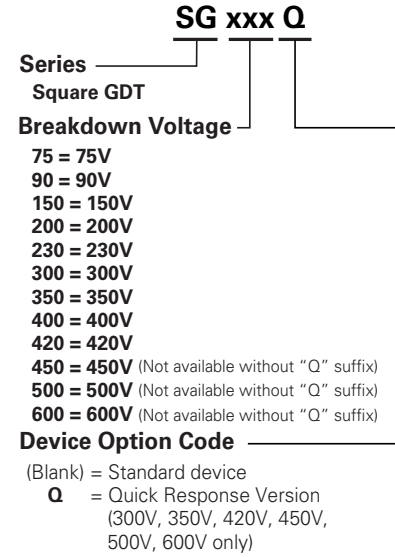
Tape and Reel Dimensions (IEC 60286-3, dimension in mm)

Tape Specifications

IEC 60286-3
Dimensions in mm

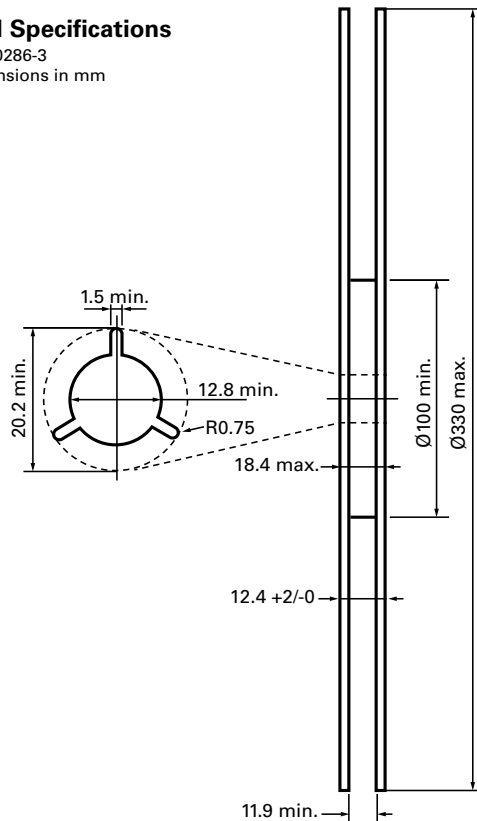


Part Numbering System and Ordering Information



Reel Specifications

IEC 60286-3
Dimensions in mm



Packaging

| Part Number and Device Type | | Quantity and Packaging Description |
|-----------------------------|---------------|------------------------------------|
| SGxxx | Surface mount | 2000pcs/reel in tape and reel |

Disclaimer Notice - Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Littelfuse products are not designed for, and may not be used in, all applications. Read complete Disclaimer Notice at: www.littelfuse.com/disclaimer-electronics.



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)

Факс: 8 (812) 320-02-42

Электронная почта: org@eplast1.ru

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.