

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						2 A		
SG300	225	300	375	700	850								
SG300Q	210	300	390	580	650		~20 V	~0.8 A	~140 V	NA*			
SG350	263	350	437	750	900	>1GΩ (at 50VDC)	~12 V	~0.5 A	~90 V	2 A			
SG350Q	263	350	437	600	700				~140 V	NA*			
SG400	300	400	500	800	950				~90 V	2 A			
SG420	315	420	525	800	1000	<1 pf	~10 V	<1.0 A	~60 V	2 A			
SG420Q	315	420	525	650	750		~20 V		NA*				
SG450Q	370	450	500	680	750		~20 V		1 A				
SG500Q	400	500	600	950	1050	>1GΩ (at 100VDC)	<0.5 pf	~16 V	~0.1 A	~140 V	2 A		
SG600Q	450	600	750	1100	1200		<1 pf	~20 V	<0.5 A				

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

+ Not UL Recognized

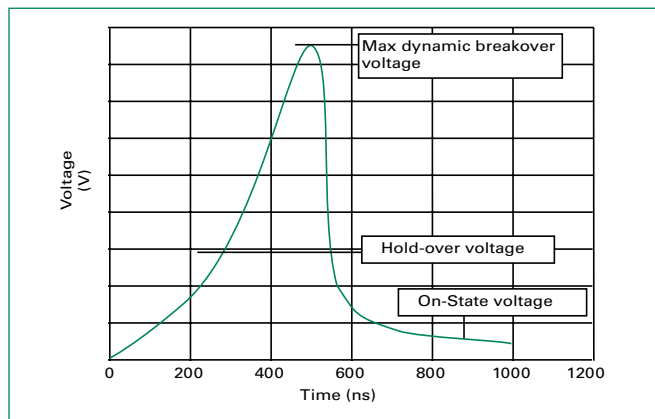
Product Characteristics

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

Typical Insertion Loss

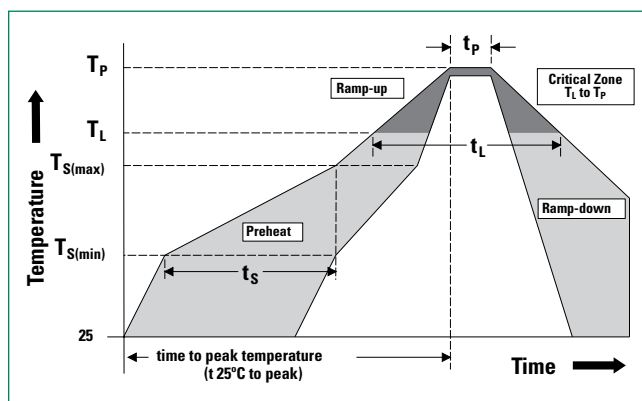
@ 1.0 GHz = 0.01 dB
@ 1.4GHz = 0.1 dB
@ 1.8 GHz = 0.53 dB
@ 2.1 GHz = 0.81 dB
@ 2.45 GHz = 1 dB
@ 2.8 GHz = 1.2 dB
@ 3.1 GHz = 1.5 dB
@ 3.5 GHz = 2.1 dB

Voltage vs. Time Characteristic

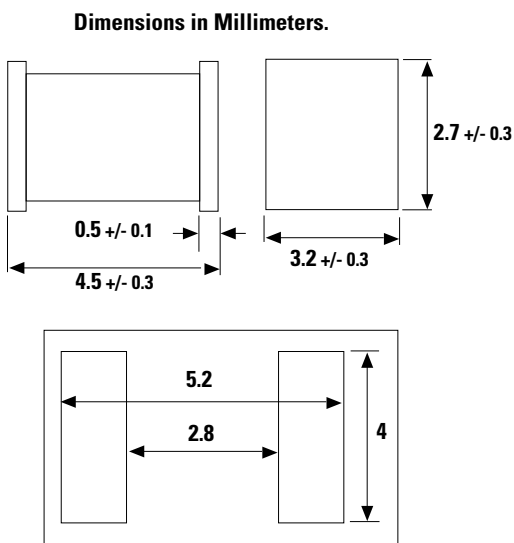


Soldering Parameters - Reflow Soldering (Surface Mount Devices)

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

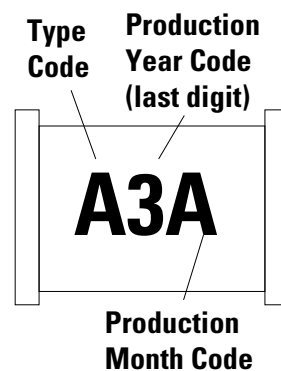


Device Dimensions



Recommended Soldering Pad Layout

Device Marking



Type Code	
A	SG75
B	SG90
C	SG150
D	SG230
E	SG300
F	SG300Q
G	SG350
H	SG350Q
I	SG400
J	SG420
K	SG420Q
L	SG450Q
M	SG500Q
N	SG600Q
O	SG200

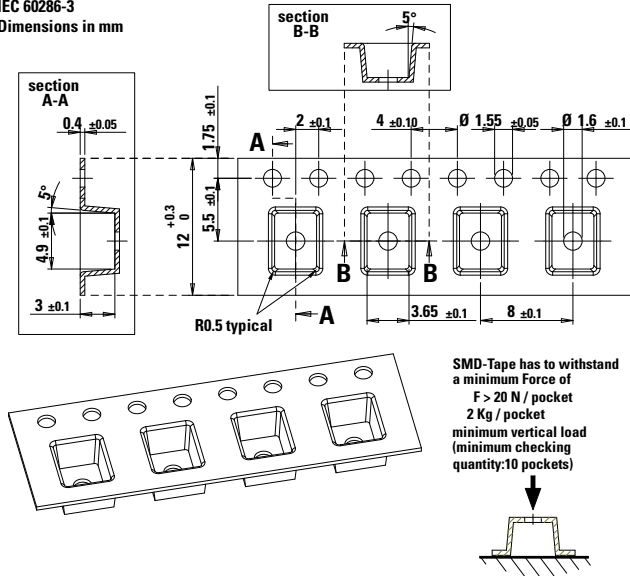
Month Code	
A	January
B	February
C	March
D	April
E	May
F	June
G	July
H	August
I	September
J	October
K	November
L	December

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

Tape Specifications

IEC 60286-3

Dimensions in mm



Part Numbering System and Ordering Information

SG xxx Q

Series

Square GDT

Breakdown Voltage

75 = 75V

90 = 90V

150 = 150V

200 = 200V

230 = 230V

300 = 300V

350 = 350V

400 = 400V

420 = 420V

450 = 450V

(Not available without "Q" suffix)

500 = 500V

(Not available without "Q" suffix)

600 = 600V

(Not available without "Q" suffix)

Device Option Code

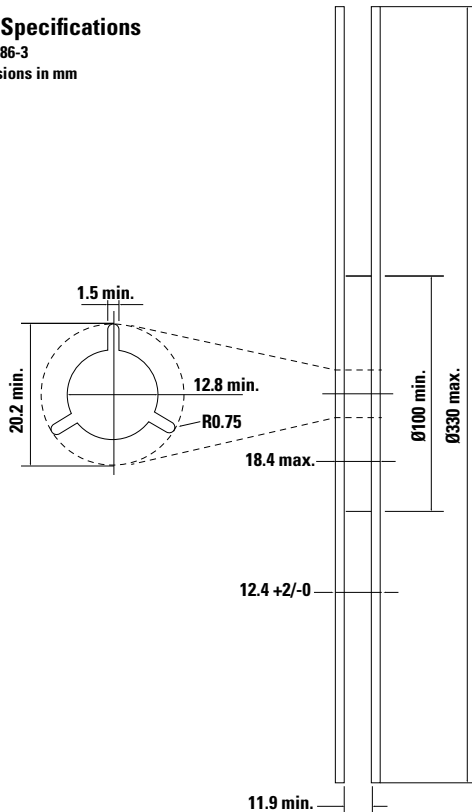
(Blank) = Standard device

Q = Quick Response Version
(300V, 350V, 420V, 450V,
500V, 600V only)

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