

INTRODUCE:

HVGT high voltage silicon rectifier diodes is made of high quality glass passivated chip and high reliability epoxy resin sealing structure, and through professional testing equipment inspection qualified after to customers.

FEATURES:

- ▶ Design of glass passivation chip(GPP).
- ▶ Fast recovery time.
- ▶ J Lead or Gullwing Package Option.
- ▶ Medium current design.
- ▶ Surface Mount Package.
- ▶ Epoxy resin molded in vacuum.
- ▶ Have anticorrosion in the surface.
- ▶ ANSI/UL94 V-0 rated material.

REFERENCE SHAPE:



SMA-JS



SMA-GS



HVGT SEMI Package Naming:

APPLICATIONS:

- ▶ Detecting equipment.
- ▶ General purpose high voltage rectifier.
- ▶ X-ray voltage doubling circuit.
- ▶ Automotive Electronics.

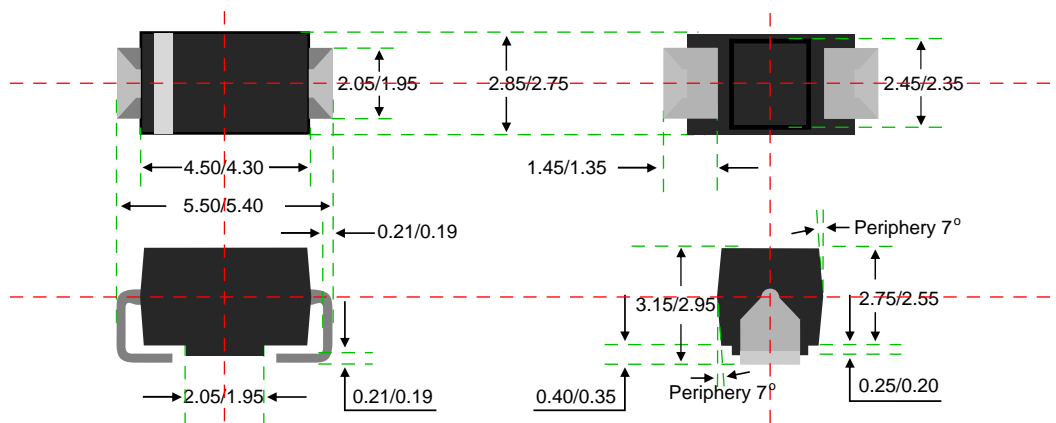
MECHANICAL DATA:

- ▶ Case: Epoxy resin molding.
- ▶ Terminal: Surface mount welding.
- ▶ Net weight: 0.09 grams (approx).

PACKAGE SIZE:

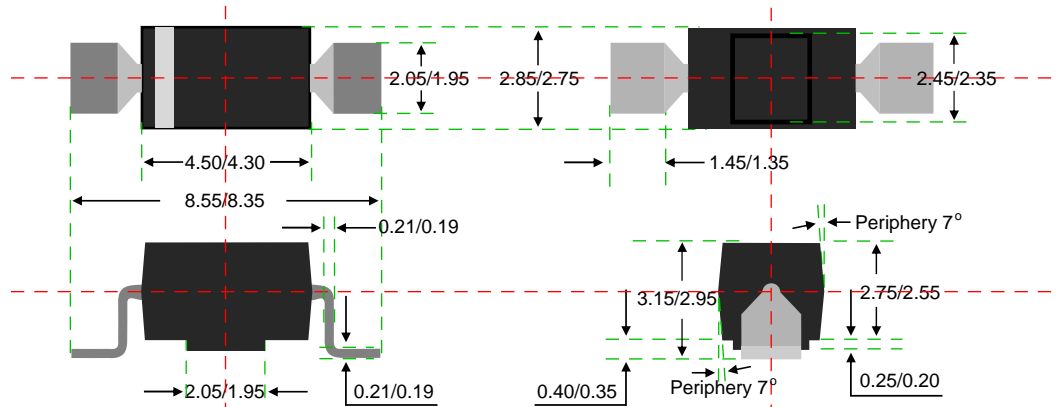
SMA-JS Series ▶

SMA-J Lead



SMA-GS Series ▶

SMA-G Lead



--- Center line - - - Boundary line Unit: mm Value: Max / Min

MAXIMUM RATINGS AND CHARACTERISTICS: (Ta=25° C, Ambient temperature unless stated otherwise.)

HVGT Part Number	V _{RRM}	I _{FAVM1}	I _{FAVM2}	V _{FM}	I _{R1}	I _{R2}	I _{FSM}	T _{RR}	C _J	R _{JL}
	kV	mA	mA	V	uA	uA	A	nS	pF	° C/W
SMF1203JS	3.0	120	50	3.9	0.5	20	3.0	75	2.5	30
SMF1203GS	3.0	120	50	3.9	0.5	20	3.0	75	2.5	30

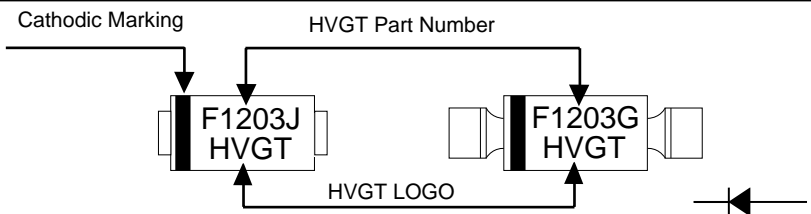
SPECIFICATION DEFINITIONS:

Items	Symbols	Condition
Maximum Repetitive Reverse Voltage	V _{RRM}	--
Maximum Average Forward Current	I _{FAVM1}	60Hz half-sine wave; Resistance load; TL= 55° C
Maximum Average Forward Current	I _{FAVM2}	60Hz half-sine wave; Resistance load; TL= 100° C
Maximum Leakage Current	I _{R1}	A t V _{RRM} ; Ta=25° C
Maximum Leakage Current	I _{R2}	A t V _{RRM} ; Ta=100° C
Maximum Forward Voltage Drop	V _{FM}	A t 100mA
Maximum Surge Current	I _{FSM}	A t 60Hz; 8.3mS; Single Half Sine
Maximum Reverse Recovery Time	T _{RRM}	A t I _F = 0.5 I _{FAVM} ; I _R = -I _{FAVM} ; I _{RR} = -0.25 I _{FAVM}
Maximum Junction Capacitance	C _{JM}	A t V _R = 0VDC, f = 1MHz
Typical Thermal Resistance Junction to Lead	R _{JL}	Device Mounted on 0.2" x 0.2" (5mm x 5mm) Copper Solder Pads

TEMPERATURE:

Maximum Junction Temperature: 125 ° C
 Operating Temperature: -55 to 125 ° C
 Storage Temperature: -55 to 150 ° C

MARKING:

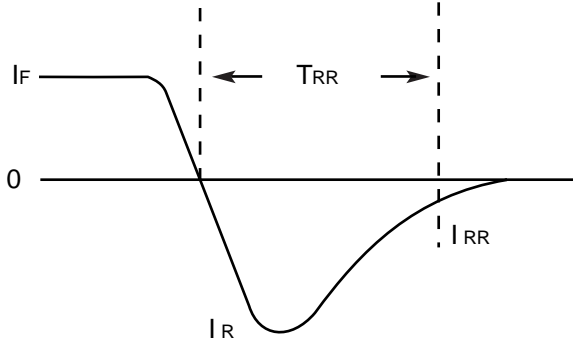


Part Number	SMF1203JS	SMF1203GS		
Marking	F1203J HVGT	F1203G HVGT		

Note: Specifications subject to change without notice. Photo is representation only.
 Standard package quantity:3,000PCS.

RATING & CHARACTERISTIC CURVES OF HIGH-VOLTAGE DIODES

FIGURE 01 Reverse Recovery Measurement Waveform



Typical data capture points: $I_F = 0.5I_R$, I_R , $I_{RR} = 0.25I_R$

I_R is typically the rated average forward current maximum (I_{FAVM}) of the D.U.T

FIGURE 02 Forward Current Derating Curve

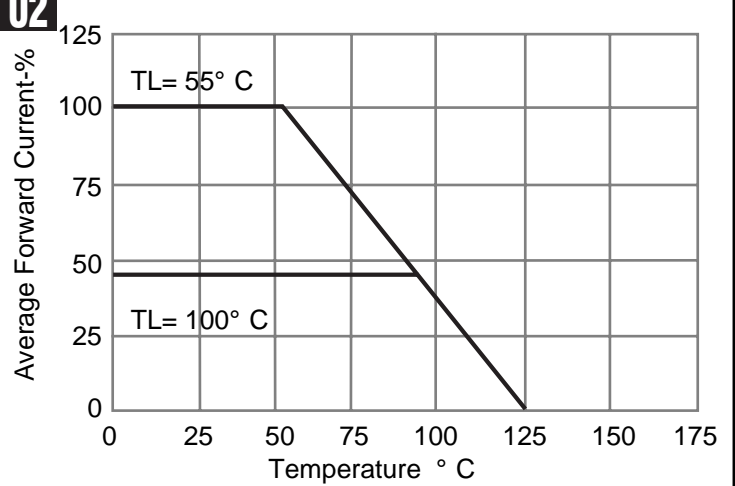


FIGURE 03 Positive Characteristic Curve

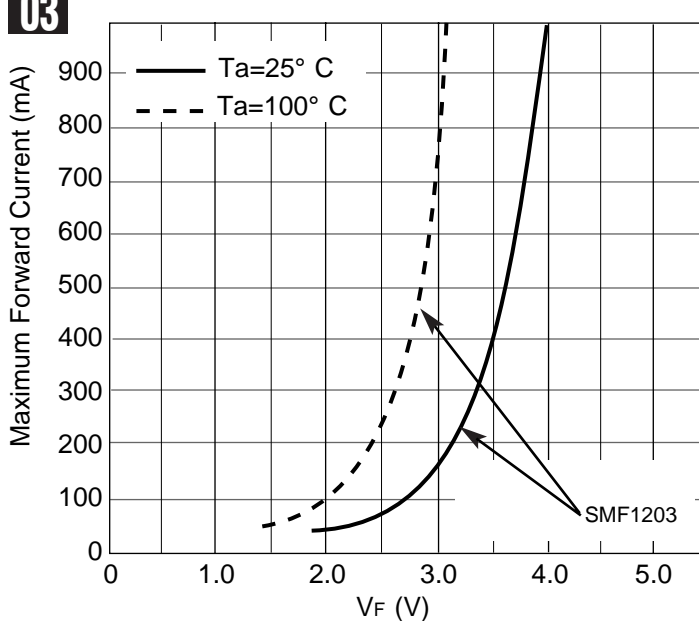


FIGURE 04 Reverse Leakage Current Curve With Voltage Variation

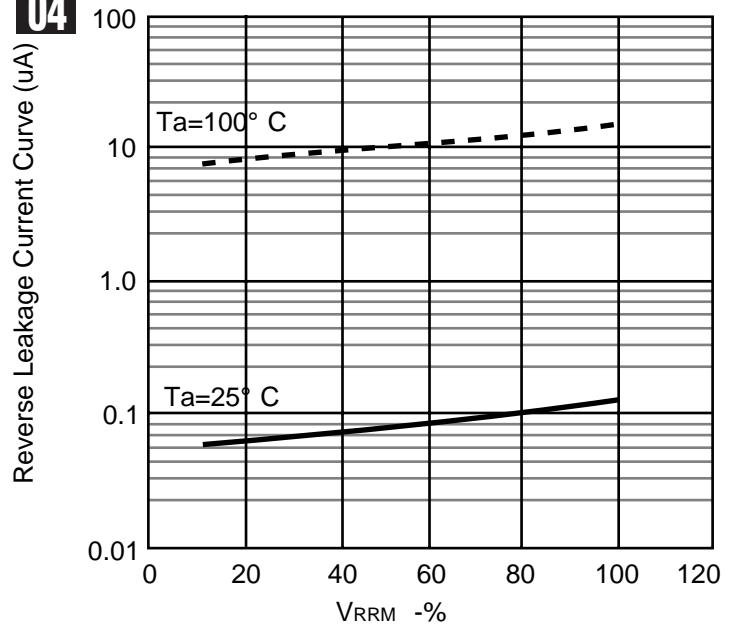
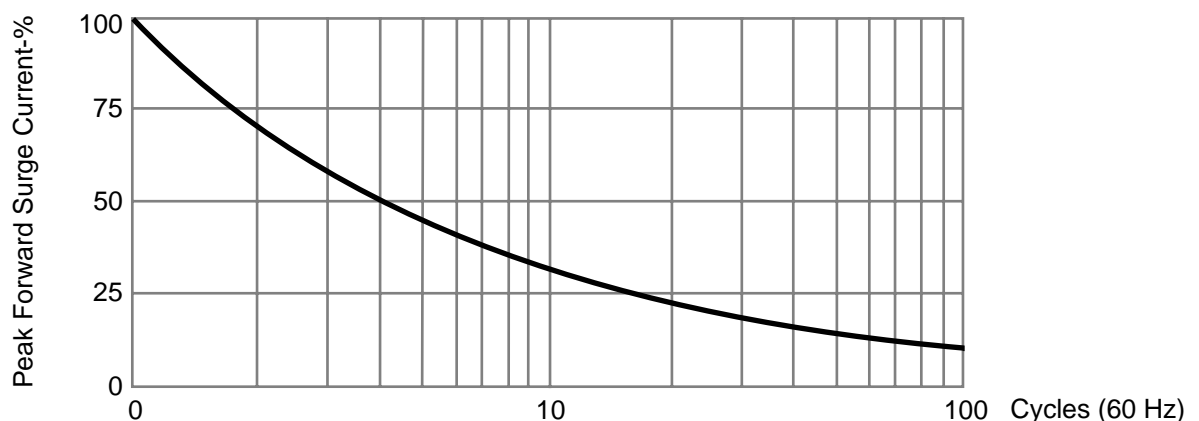


FIGURE 05 Repetitive Surge Current Derating Curve



This curve represents the percentage of published maximum surge rating as a function of surge repetition.