

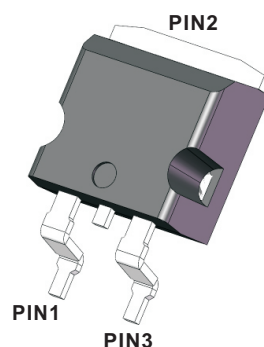


## SiC Schottky Diode

TO-263-2L(Prefix :G)

### Product Summary

$V_{RRM}$	650V
$I_F(T_C 156^\circ\text{C})$	8A
$Q_C$	22 nC



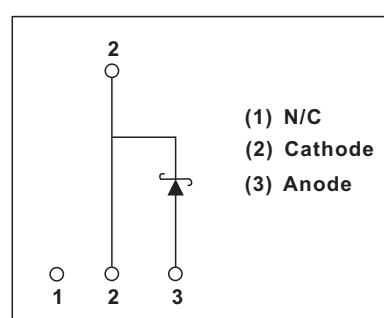
ROHS  
COMPLIANT

### Features

- Low conduction loss due to low VF
- Extremely low switching loss by tiny QC
- Essentially No Switching Losses
- Increased Power Density
- Enabling Higher Switching Frequency
- RoHS Compliant

### Applications

- Switch Mode Power Supplies
- Uninterruptible Power Supplies
- Motor Drivers
- Power factor correction



### Maximum Ratings

Ratings At 25°C Ambient Temperature Unless Otherwise Specified

Parameter	Symbols	SC08065GS	Test Conditions	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	650	$T_C=25^\circ\text{C}$	V
Surge Peak Reverse Voltage	$V_{RSM}$	650	$T_C=25^\circ\text{C}$	V
Maximum DC Blocking Voltage	$V_{DC}$	650	$T_C=25^\circ\text{C}$	V
Forward Current	$I_F$	31 14 8	$T_C \leq 25^\circ\text{C}$ $T_C \leq 135^\circ\text{C}$ $T_C \leq 156^\circ\text{C}$	A
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)(Per leg)	$I_{FSM}$	60	$T_C=25^\circ\text{C}$ , $T_p=8.3\text{ms}$ , Half Sine Wave	A
Power Dissipation	PD	136	$T_C=25^\circ\text{C}$	W
Operating Junction Temperature Range	$T_j$	-55 ~ +175		$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55 ~ +175		$^\circ\text{C}$



### Electrical Characteristics

Ratings At 25°C Ambient Temperature Unless Otherwise Specified

Parameter	Symbols	Test Conditions	Min	Typ	Max	Units
Instantaneous forward voltage per leg	$V_F$	$I_F=8A, T_J=25^\circ C$ $I_F=8A, T_J=175^\circ C$		1.32 1.40	1.5 1.6	V
Reverse current per leg	$I_R$	$V_R=650V, T_J=25^\circ C$ $V_R=650V, T_J=175^\circ C$		5 25	50 200	$\mu A$
Total Capacitance	C	$V_R=0V, T_J=25^\circ C, f=1MHz$		500		pF
Total Capacitive Charge	$Q_C$	$V_R=650V, I_F=8A$ $di/dt=200A/\mu s, T_J=25^\circ C$		22		nC

### Thermal Characteristics

Parameter	Symbols	TYP	Units
Thermal Resistance from Junction to Case	$R_{\theta JC}$	1.1	$^\circ C/W$

### Typical Performance

Figure 1. Total Capacitance vs. Reverse Voltage

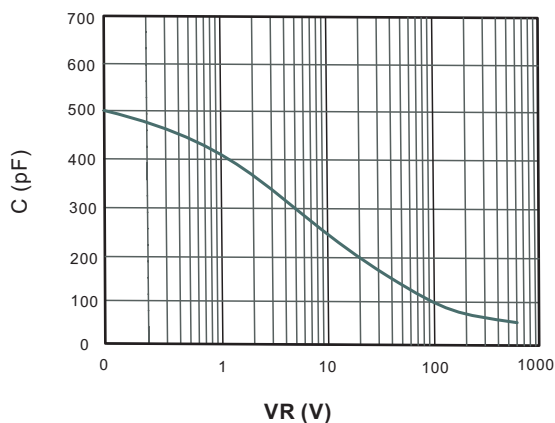


Figure 2. Total Capacitive Charge vs. Reverse Voltage

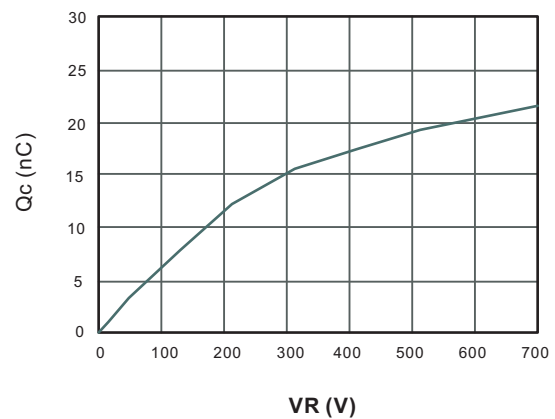




Fig.3 Typical Forward Current Derating Curve

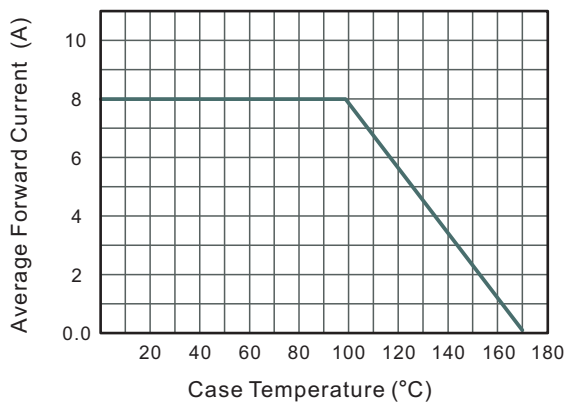


Fig.4 Power Dissipation

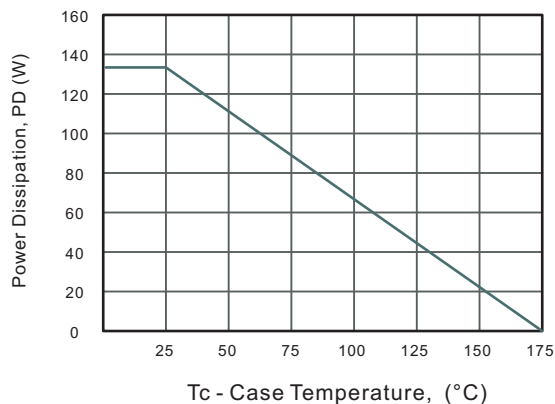


Fig.5 Typical Forward Characteristic(per leg)

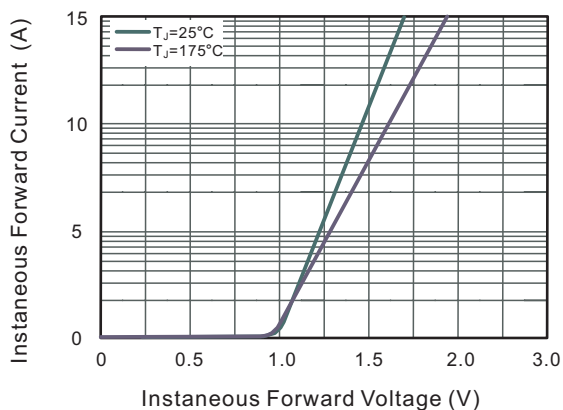


Fig.6 Typical Reverse Characteristics

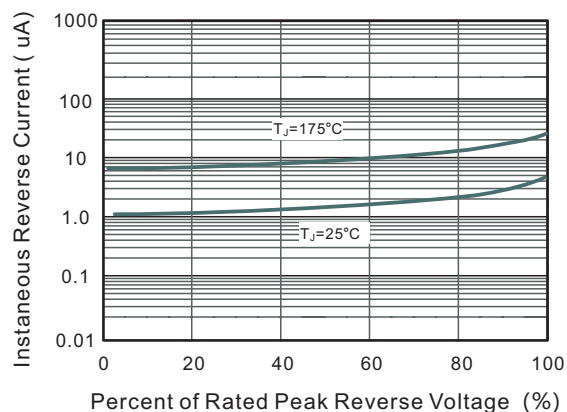


Fig.7 Max. Transient Thermal Impedance

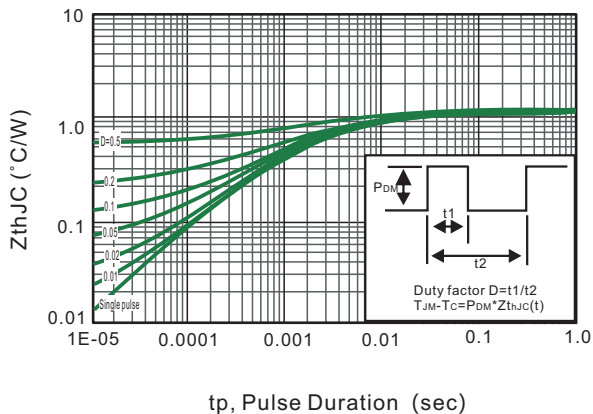
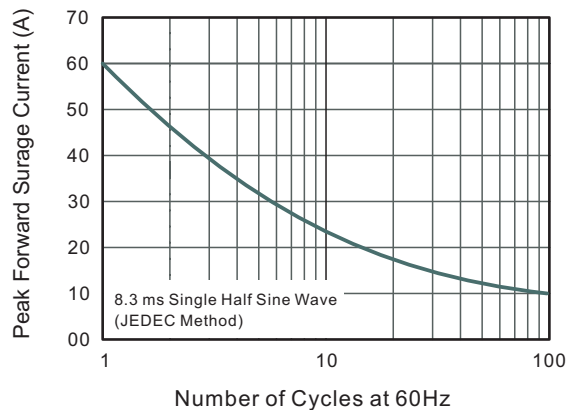


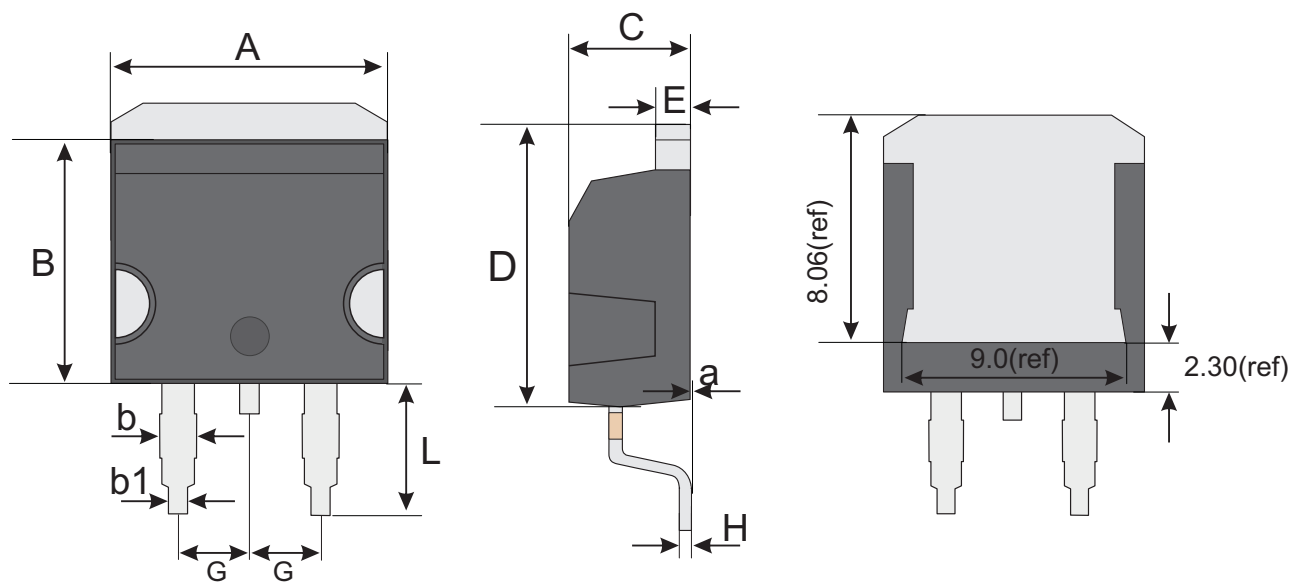
Fig.8 Maximum Non-Repetitive Peak Forward Surge Current





Package Outline  
Plastic surface mounted package; 2 leads

TO-263-2L

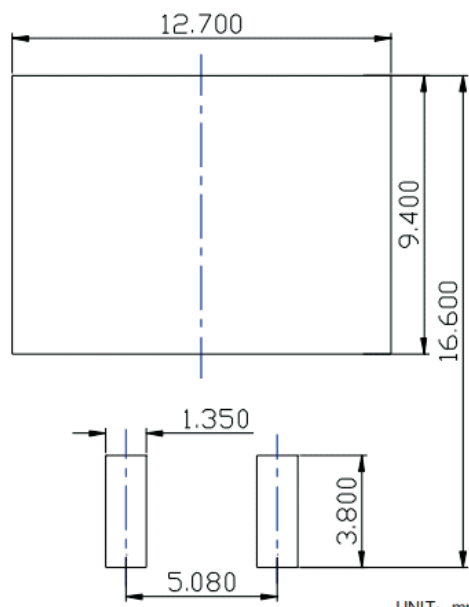


TO-263-2L mechanical data

UNIT		A	B	b	b1	C	D	E	G	H	L	a
mm	max	10.28	9.35	1.67	0.9	4.65	10.56	1.37	2.64	0.6	5.35	0.1 ref.
	typ	10.18	9.15	1.47	0.8	4.45	10.36	1.27	2.54	0.5	5.15	
	min	10.08	8.95	1.27	0.7	4.25	10.16	1.17	2.44	0.4	4.95	
mil	max	405	368	66	35	183	416	54	104	24	211	4.0 ref.
	typ	401	360	58	31	175	409	50	100	20	203	
	min	397	352	50	28	167	400	46	96	16	195	

Marking

Type number	Marking code
SC08065GS	SC08065GS



UNIT: mm

SUGGESTED SOLDER PAD LAYOUT



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