

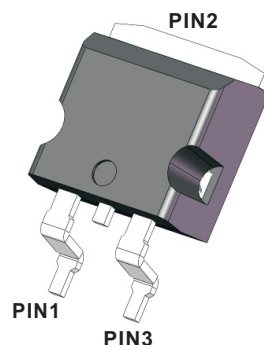


SiC Schottky Diode

TO-263-2L(Prefix :G)

Product Summary

V_{RRM}	650V
$I_F(T_c 160^{\circ}C)$	4A
Q_c	11.5 nC

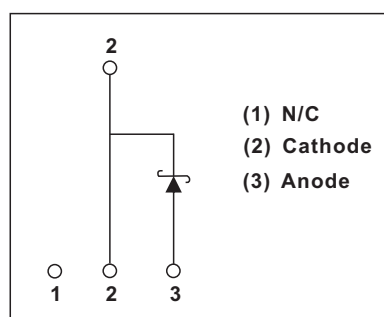


Features

- 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
- Lead Free Finish, 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	SC04065C	Test Conditions	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	650	$T_c=25^{\circ}C$	V
Surge Peak Reverse Voltage	V_{RSM}	650	$T_c=25^{\circ}C$	V
Maximum DC Blocking Voltage	V_{DC}	650	$T_c=25^{\circ}C$	V
Forward Current	I_F	14	$T_c \leq 25^{\circ}C$	A
		8	$T_c \leq 135^{\circ}C$	
		4	$T_c \leq 160^{\circ}C$	
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)(Per leg)	I_{FSM}	30	$T_c=25^{\circ}C, T_p=8.3ms,$ Half Sine Wave	A
Power Dissipation	PD	78	$T_c=25^{\circ}C$	W
Operating Junction Temperature Range	T_j	-55 ~ +175		$^{\circ}C$
Storage Temperature Range	T_{stg}	-55 ~ +175		$^{\circ}C$



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	$I_F=4A, T_J=25^\circ C$ $I_F=4A, T_J=175^\circ C$		1.38 1.40	1.5 1.6	V
Reverse current per leg	I_R	$V_R=650V, T_J=25^\circ C$ $V_R=650V, T_J=175^\circ C$		4 20	50 200	μA
Total Capacitance	C	$V_R=0V, T_J=25^\circ C, f=1MHz$		215		pF
Total Capacitive Charge	Q_C	$V_R=400V, I_F=4A$ $di/dt=200A/\mu s, T_J=25^\circ C$		11.5		nC

Thermal Characteristics

Parameter	Symbols	TYP	Units
Thermal Resistance from Junction to Case	$R_{\theta JC}$	1.6	$^\circ C/W$

Typical Performance

Figure 1. Total Capacitance vs. Reverse Voltage

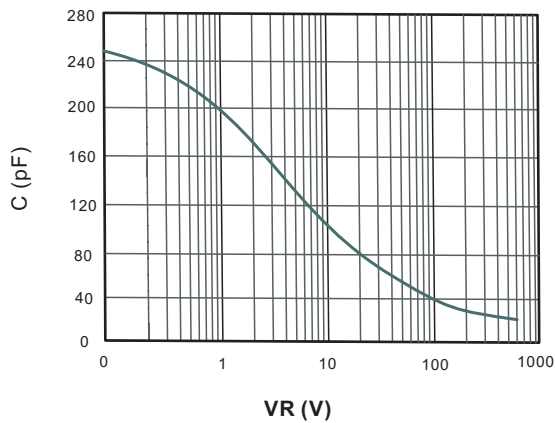


Figure 2. Total Capacitive Charge vs. Reverse Voltage

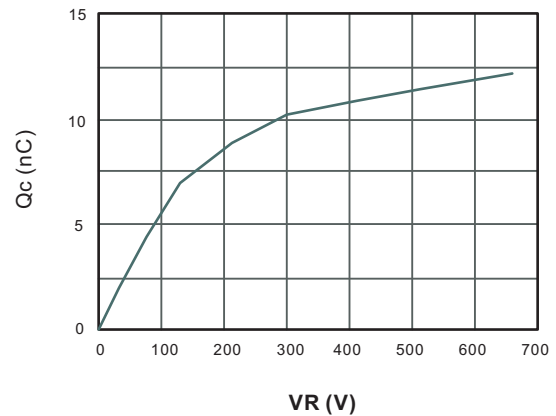




Fig.3 Typical Forward Current Derating Curve

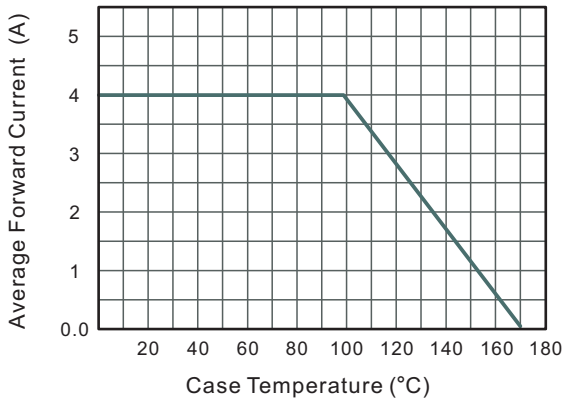


Fig.4 Power Dissipation

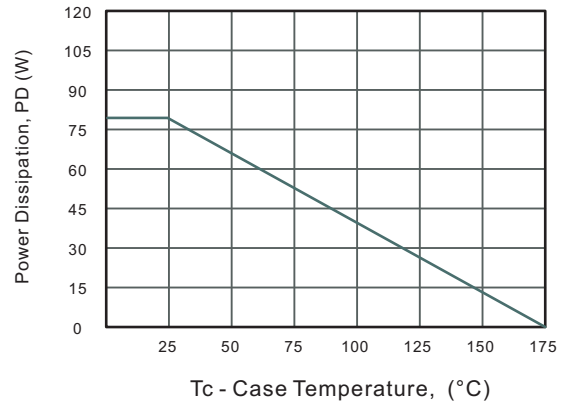


Fig.5 Typical Forward Characteristic(per leg)

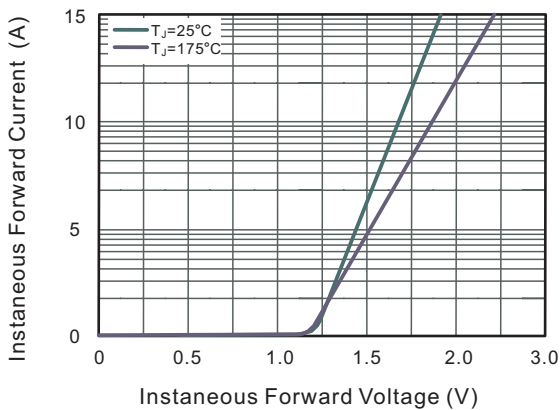


Fig.6 Typical Reverse Characteristics

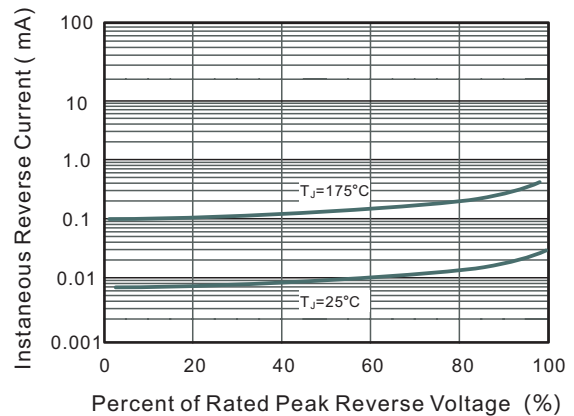


Fig.7 Max. Transient Thermal Impedance

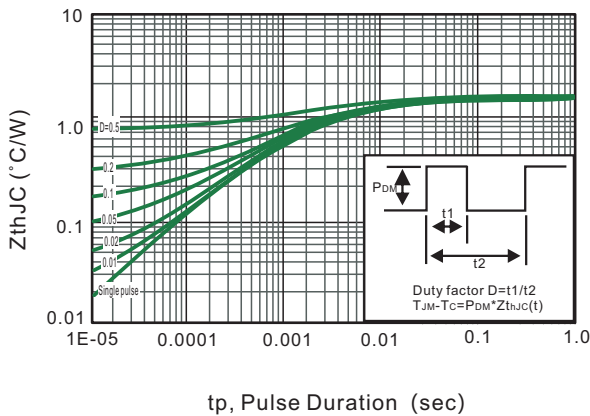
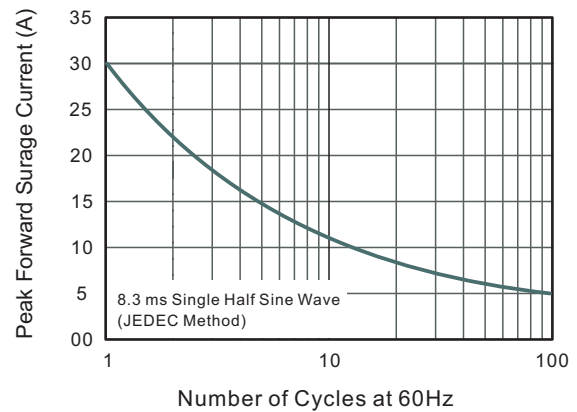


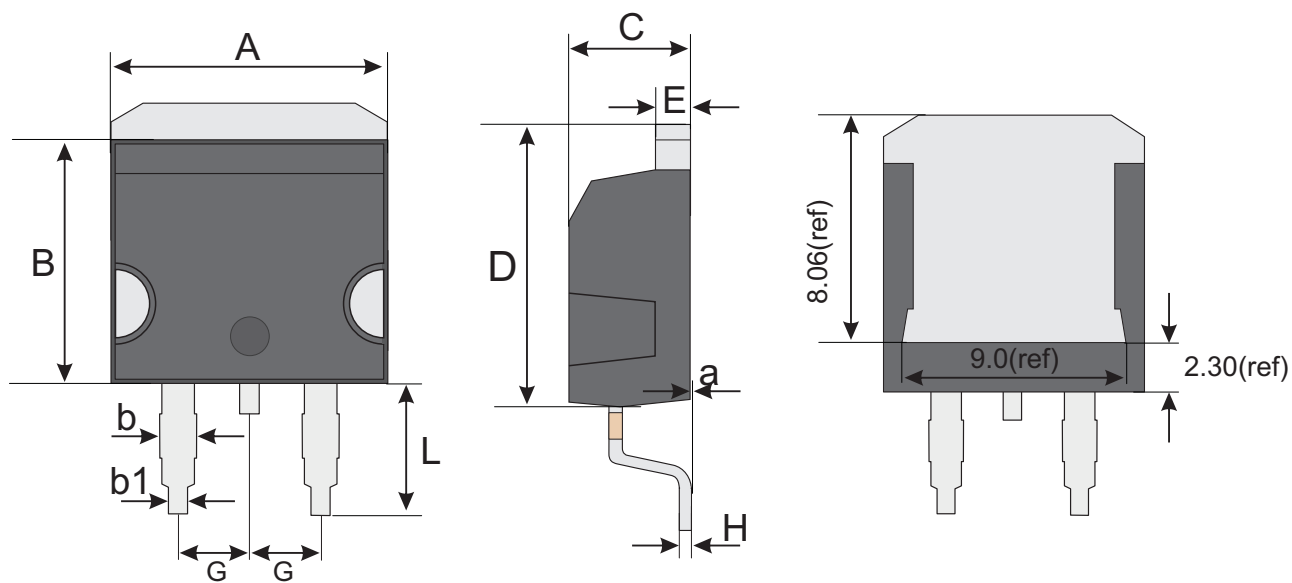
Fig.8 Maximum Non-Repetitive Peak Forward Surge Current





Package Outline
Plastic surface mounted package; 2 leads

TO-263-2L

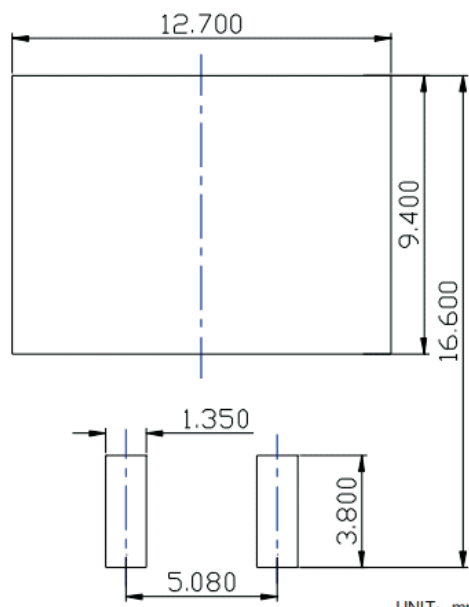


TO-263-2L mechanical data

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
SC04065GS	SC04065GS



UNIT: mm

SUGGESTED SOLDER PAD LAYOUT



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