

Features

- Zero Reverse Recovery Current
- Positive Temperature Coefficient
- High-Speed Switching
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free. "Green" Device (Note 1)
- Lead Free Finish/RoHS Compliant^(Note 2) ("P" Suffix designates RoHS Compliant. See ordering information)

10Amp Silicon Carbide Schottky Diode 650 Volts

Benefits

- Temperature-Independent Performance
- Low Switching Loss
- Low Heat Dissipation Requirements

Applications

- Switching Power Supply
- Power Factor Correction
- Motor Drive, Traction
- Charging Pile

Maximum Ratings

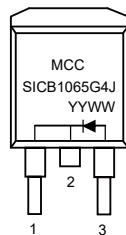
Parameter	Symbol	Rating	Unit
Peak Repetitive Reverse Voltage@T _j =25°C	V _{RRM}	650	V
Surge Peak Reverse Voltage@T _j =25°C	V _{RSM}	650	V
DC Reverse Voltage@T _j =25°C	V _{DC}	650	V
Continuous forward Current @T _C =25°C	I _F	29	A
Continuous forward Current @T _C =135°C	I _F	13	A
Continuous forward Current @T _C =150°C	I _F	10	A
Non-repetitive Peak Forward Surge Current @T _C =25°C, t _p =10ms, Half Sine Pulse	I _{FSM}	75	A
Power Dissipation @T _C =25°C	P _D	107	W
Power Dissipation @T _C =110°C	P _D	46	W
i ² t Value@ T _C =25°C ,tp=10ms	ji ² dt	28	A ² S

Note1: Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

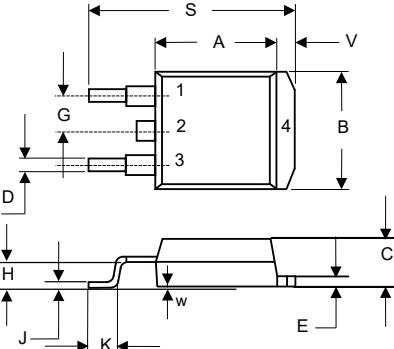
Note2: High Temperature Solder Exemptions Applied, see EU Directive Annex 7a.

Internal Structure:

PIN 1,2 → CASE
PIN 3 → CASE

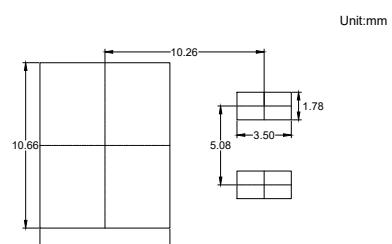


Device Code: SICB1065G4J
Date Code: YYWW (Year & Week)



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.331	0.370	8.40	9.40	
B	0.378	0.417	9.60	10.60	
C	0.165	0.189	4.20	4.80	
D	0.027	0.037	0.68	0.94	
E	0.045	0.055	1.14	1.40	
G	0.10		2.54		TYP.
H	0.096	0.134	2.43	3.40	
J	0.011	0.025	0.28	0.64	
K	0.071	0.131	1.80	3.32	
S	0.575	0.625	14.60	15.87	
V	0.042	0.058	1.07	1.47	
W	0.000	0.010	0.00	0.25	

Suggested Solder Pad Layout



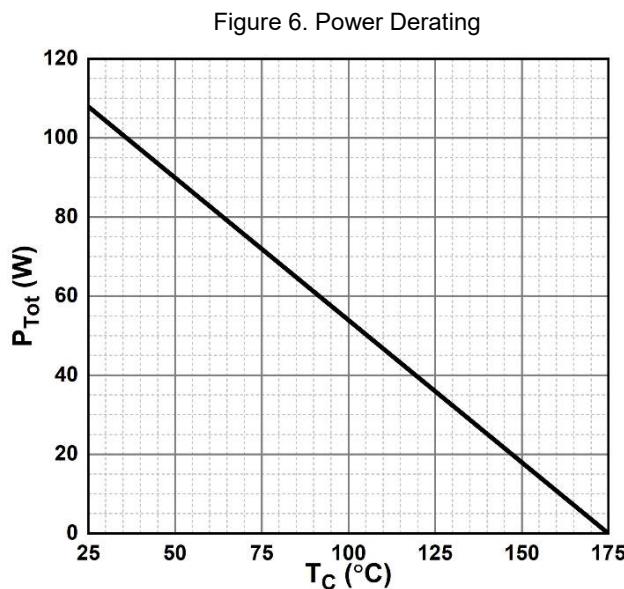
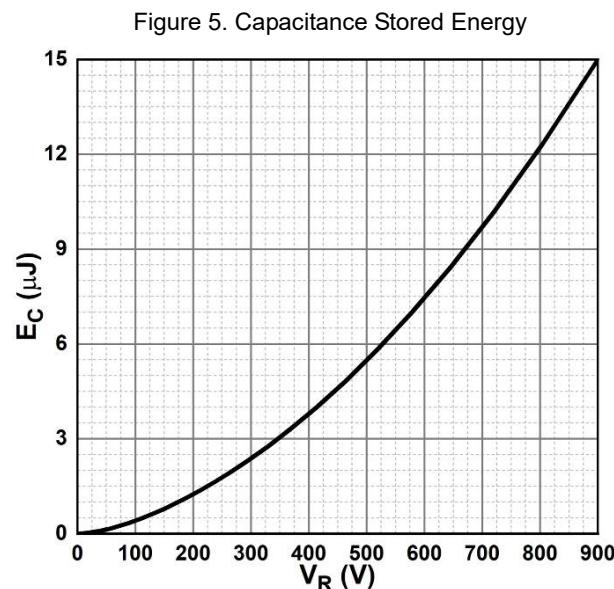
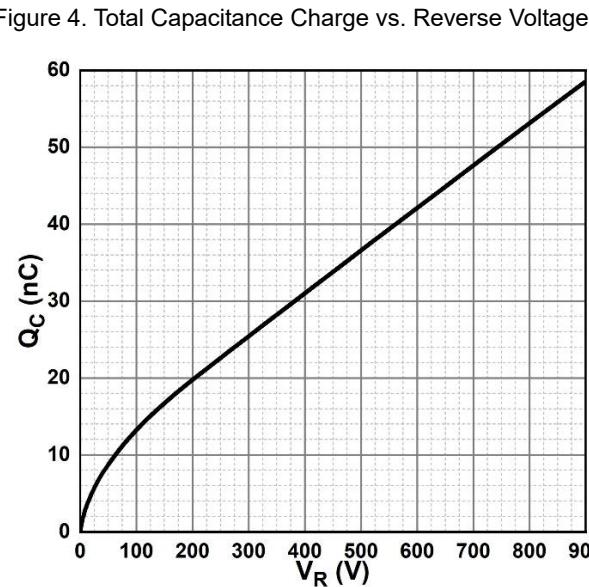
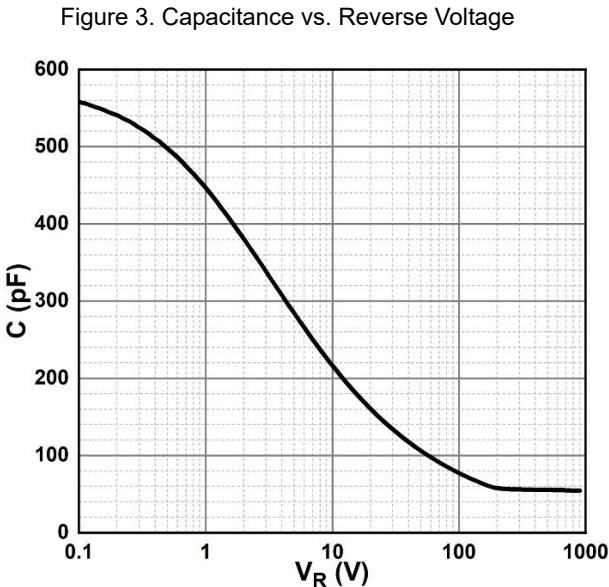
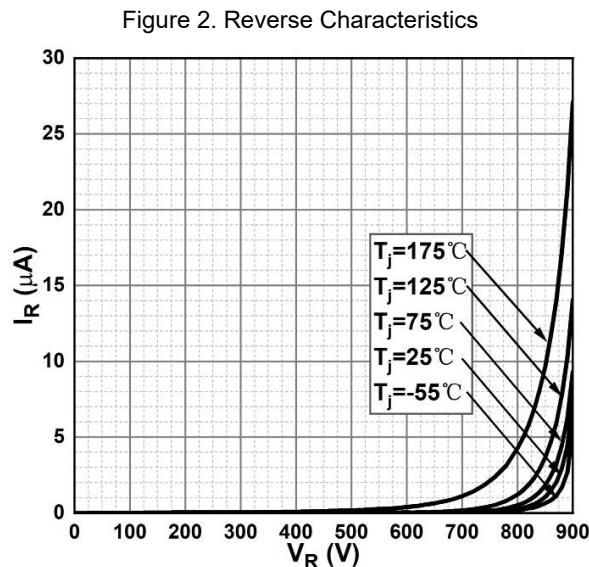
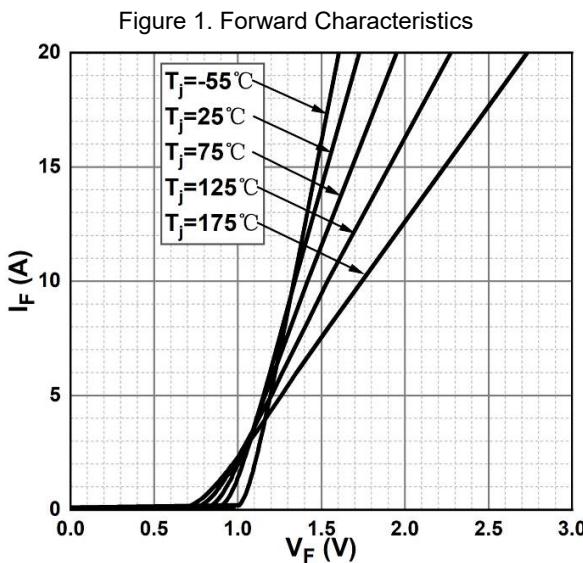
Electrical Characteristics @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Conditions	Typ.	Max.	Units
Forward Voltage	V_F	$I_F=10A, T_J=25^\circ C$	1.35	1.6	V
		$I_F=10A, T_J=175^\circ C$	1.75		V
Reverse Leakage Current	I_R	$V_R=650V, T_J=25^\circ C$	0.2	25	μA
		$V_R=650V, T_J=175^\circ C$	2.0		μA
Total Capacitive Charge	Q_C	$V_R=400V$	31		nC
Total capacitance	C	$V_R=0V, f=1MHz$	568		pF
		$V_R=200V, f=1MHz$	58		pF
		$V_R=400V, f=1MHz$	56		pF
Capacitance Stored Energy	E_C	$V_R=400V$	3.7		μJ

Thermal characteristics

Parameter	Symbol	Min	Typ	Max	Unit
Operating Junction Temperature Range	T_J	-55		175	°C
Storage Temperature Range	T_{stg}	-55		175	°C
Thermal Resistance from Junction to Case	R_{thJ-C}		1.39		°C/W

Curve Characteristics



Curve Characteristics

Figure 7. Current Derating

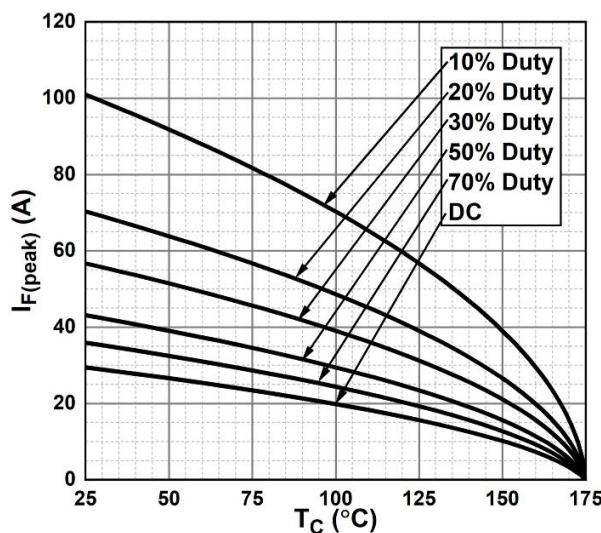
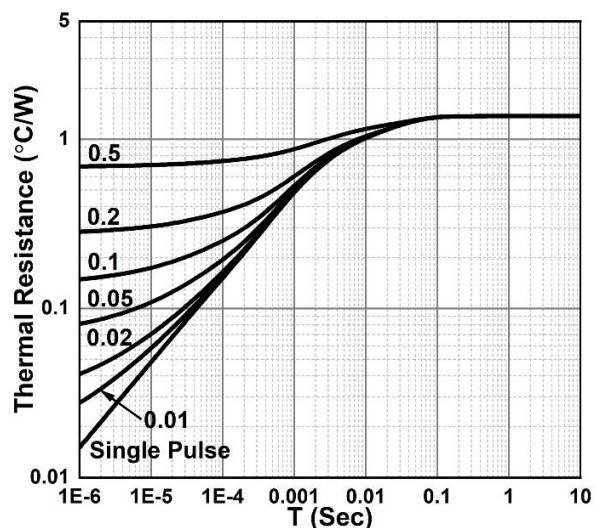


Figure 8. Transient Thermal Impedance



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 800pcs/Reel

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