

VRRM	IF (TC≤155℃)	QC
650V	20A	62nc

HSC2065

Silicon Carbide Schottky Dide

Features:

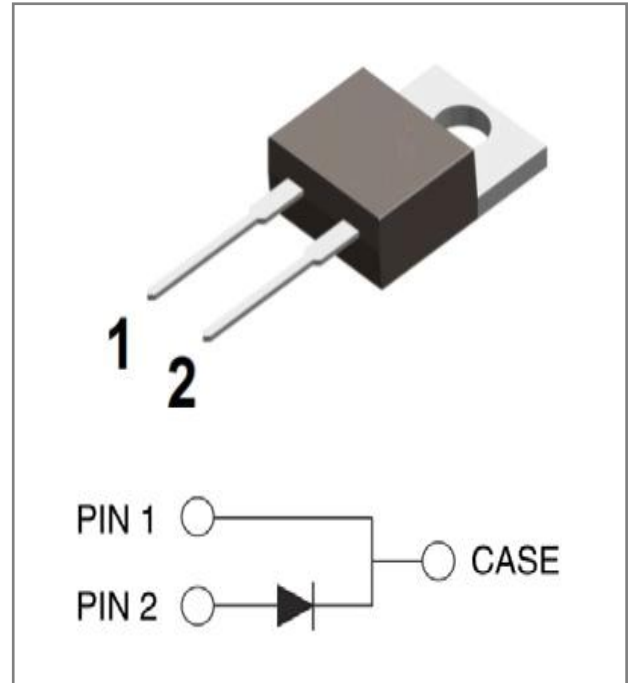
- Zero Reverse Recovery Current
- Zero Forward Recovery Voltage
- New Thin Wafer Technology
- Positive Temperature Coefficient on VF
- Temperature-independent Switching
- Excellent surge current capability
- 175°C Operating Junction Temperature

Applications:

- Switch Mode Power Supplies
- Power Factor Correction
- Motor drive, PV Inverter, Wind Power Station

Benefits:

- Replace Bipolar with Unipolar Device
- Reduction of Heat Sink Size
- Parallel Devices Without Thermal Runaway
- Essentially No Switching Losses



Ordering Information

Part Number	Package	Marking	Packing	Qty.
HSC2065	TO-220AC	HSC2065	Tube	50 PCS

Maximum Ratings (TJ= 25℃ unless otherwise specified)

Symbol	Parameter	Value	Unit	Test Conditions	Note
VRRM	Repetitive Peak Reverse Voltage	650	V	TC = 25℃	
VRSM	Surge Peak Reverse Voltage	650	V	TC = 25℃	
VR	DC Blocking Voltage	650	V	TC = 25℃	
IF	Forward Current	58 30 20	A	TC ≤ 25℃ TC ≤ 135℃ TC ≤ 155℃	
IFSM	Non-Repetitive Forward Surge Current	160	A	TC = 25℃, tp = 10ms, Half Sine Wave	
Ptot	Power Dissipation	136	W	TC = 25℃	
	TO-220 Mounting Torque	1	Nm	M3 Screw	
TJ	Operating Junction Temperature	-55 -175	℃		
TSTG	Storage Temperature Range	-55 -150	℃		

Electrical Characteristics (T_J = 25 °C unless otherwise specified)

Symbol	Parameter	Typ.	Max.	Unit	Test Conditions	Note
V _F	Forward Voltage	1.3 1.5	1.5 -	V	I _F = 20A, T _J = 25 °C I _F = 20A, T _J = 175 °C	
I _R	Reverse Current	6 30	80 200	μA	V _R = 650V, T _J = 25 °C V _R = 650V, T _J = 175 °C	
C	Total Capacitance	1176 119 98	/	pF	V _R = 0V, T _J = 25 °C, f = 1MHz V _R = 200V, T _J = 25 °C, f = 1MHz V _R = 400V, T _J = 25 °C, f = 1MHz	
QC	Total Capacitive Charge	62	/	nC	V _R = 400V	

Thermal Characteristics (T_J = 25 °C unless otherwise specified)

Symbol	Parameter	Typ.	Unit	Note
R _{θJC}	Thermal Resistance from Junction-Case	1.1	°C / W	

Typical Characteristics

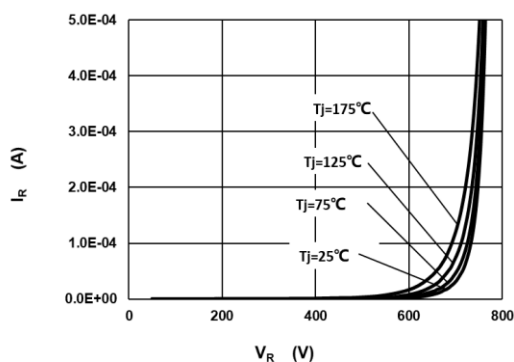


Fig 1 Typical Reverse Characteristic

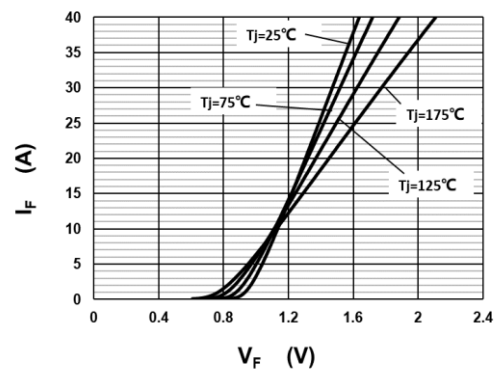


Fig 2 Typical Forward Characteristics

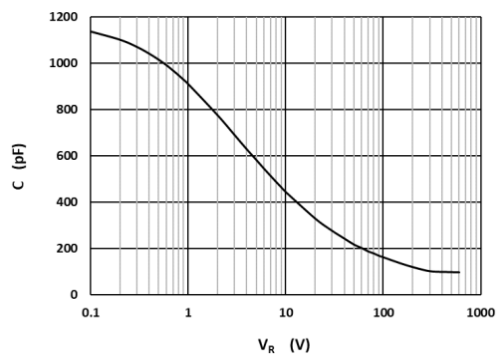


Fig 3 Capacitance vs. Reverse Voltage

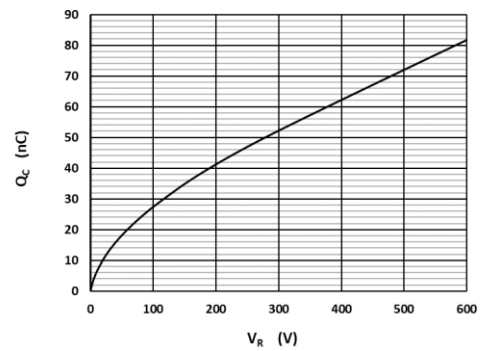


Fig 4 Reverse Charge vs. Reverse Voltage

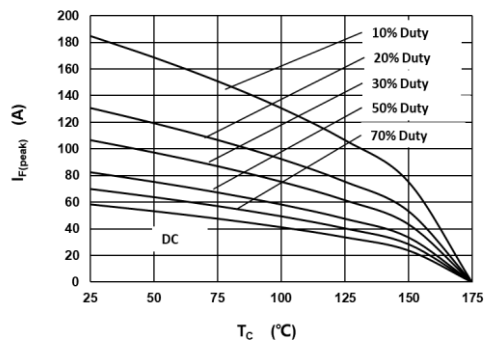


Fig 5 Current Derating

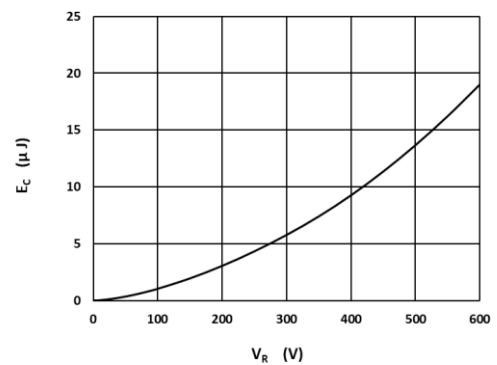


Fig 6 Typical Capacitance Stored Energy

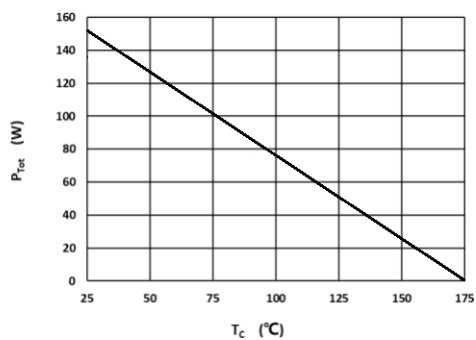
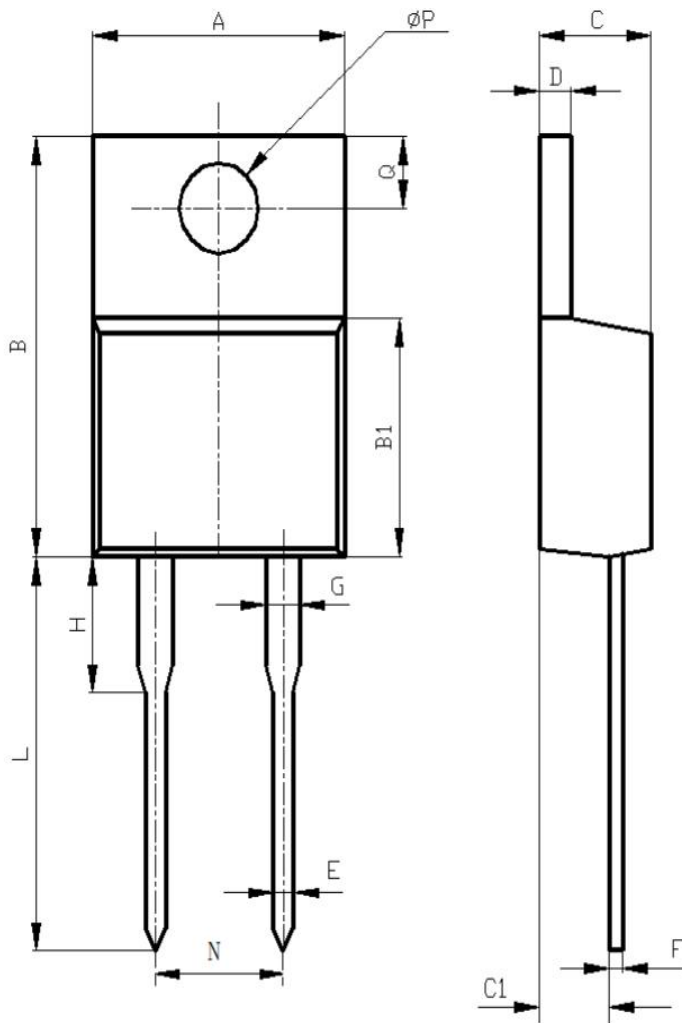


Fig 7 Power Derating

Package outline drawing (TO-220AC Unit: mm)



Symbol	unit(mm)	
	MIN	MAX
A	10.1	10.5
B	15.0	15.4
B1	8.85	9.05
C	4.50	4.70
C1	2.45	2.75
D	1.20	1.40
E	0.70	0.90
F	0.30	0.50
G	1.17	1.37
H	3.60	4.00
L	13.6	13.9
N	4.90	5.20
Q	2.40	3.00
Ø P	3.70	3.90