

# 4A, 650V SIC Schottky Rectifier

## FEATURES

- 650V schottky rectifier
- Ceramic package provides 2.5KV isolation
- Zero reverse recovery current
- Zero forward recovery voltage
- Switching characteristics independent on temperature
- Positive temperature coefficient of forward voltage
- High temperature soldering guaranteed: 270°C/10 seconds
- RoHS compliant, halogen free

## MECHANICAL DATA

- Case: TO-220AC
- Case material: molding compound meets UL 94V-0 flammability rating
- Polarity: as marked on case

## TYPICAL APPLICATION

General purpose use in HAVC, SMPS, AC/DC converters, free wheeling diodes in inverter stages.

## MAXIMUM RATINGS

$T_J=25^\circ\text{C}$  unless otherwise noted

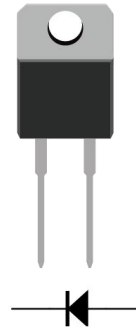
Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	$V_{RRM}$	650	V
Average Forward Rectified Current	$I_F$	4	A
Repetitive Peak Forward Surge Current ( $t_p=10\text{ms}, T_C=25^\circ\text{C}$ )	$I_{FRM}$	20	A
Peak Forward Surge Current ( $t_p=10\text{ms}, T_C=25^\circ\text{C}$ )	$I_{FSM}$	26	A
Non-Repetitive peak forward surge current ( $t_p = 10 \text{ us}; T_C = 25^\circ\text{C}, \text{pulse}$ )	$I_{Fmax}$	200	A
Power Dissipation $T_C=25^\circ\text{C}$ $T_C=110^\circ\text{C}$	$P_{tot}$	76.5 33.2	W
Operating Junction Temperature Range	$T_J$	-55 to +175	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to +175	$^\circ\text{C}$

## ELECTRICAL CHARACTERISTICS

$T_J=25^\circ\text{C}$  unless otherwise noted

Parameter	Test Conditions	Symbol	Value		Unit
			Typ.	Max.	
Forward Voltage@ $I_F=4\text{A}$	$T_J=25^\circ\text{C}$	$V_F$	1.5	1.8	V
	$T_J=175^\circ\text{C}$		1.8	2	
Reverse Current @ $V_{RRM}$	$T_J=25^\circ\text{C}$	$I_R$	1	20	$\mu\text{A}$
	$T_J=175^\circ\text{C}$		12	100	
Total Capacitance	$V_R=0\text{V}, f=1\text{MHz}$	C	185	-	pF
	$V_R=200\text{V}, f=1\text{MHz}$		19	-	
	$V_R=400\text{V}, f=1\text{MHz}$		16.7	-	
Total Capacitance Charge	$V_R=400\text{V}$	$Q_C$	9.5	-	nC
Capacitance Stored Energy	$V_R=400\text{V}$	$E_C$	2.4	-	$\mu\text{J}$
Thermal Resistance		$R_{\theta JC}$	2.8		$^\circ\text{C}/\text{W}$

TO-220AC



RoHS  
COMPLIANT

HALOGEN  
FREE

RATINGS AND CHARACTERISTIC CURVES

FIG.1: Forward Characteristics

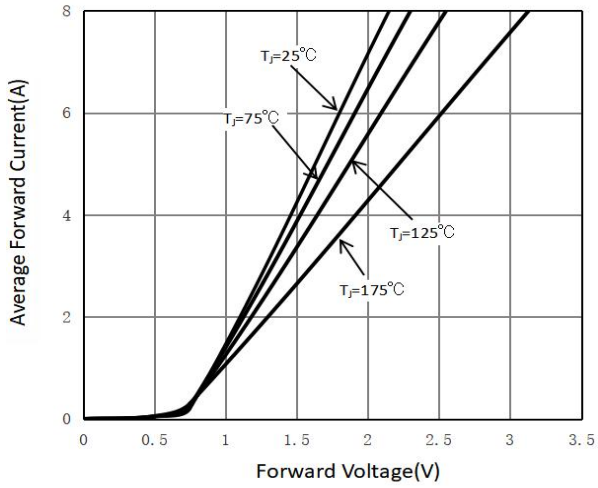


FIG.2: Reverse Characteristics

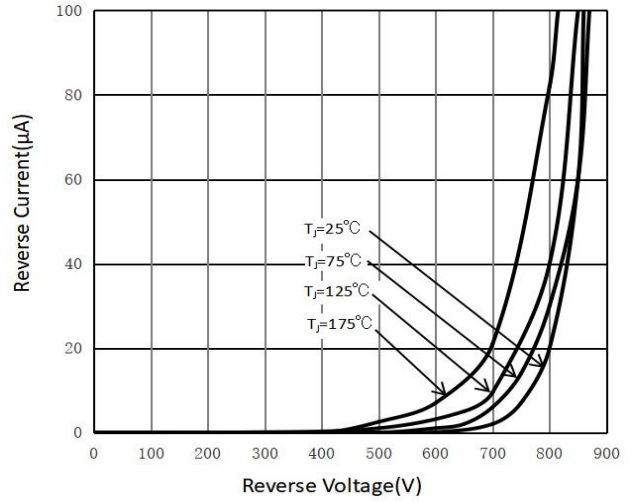


FIG.3: Capacitance Charge vs. Reverse Voltage

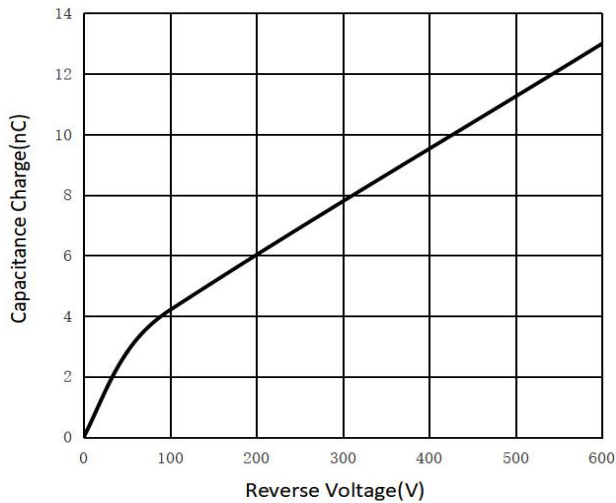


FIG.4: Capacitance Stored Energy

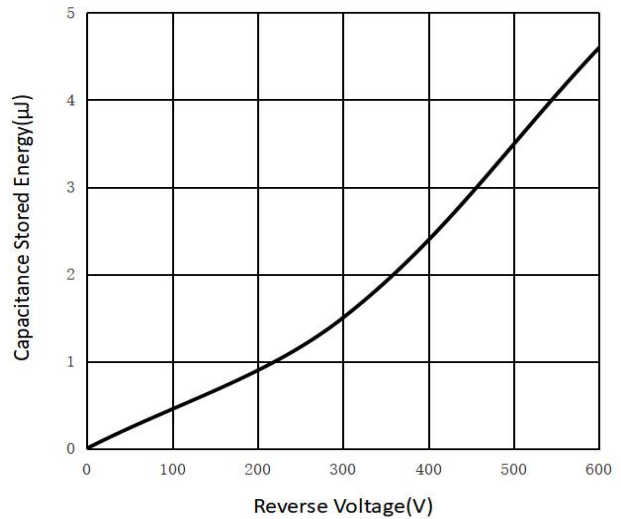


FIG.5: Power Derating

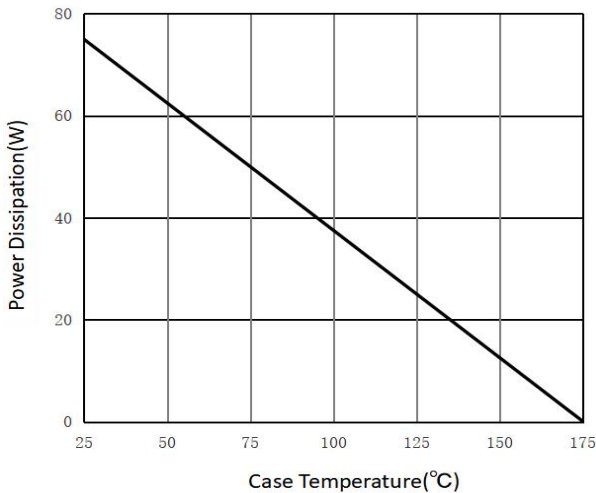
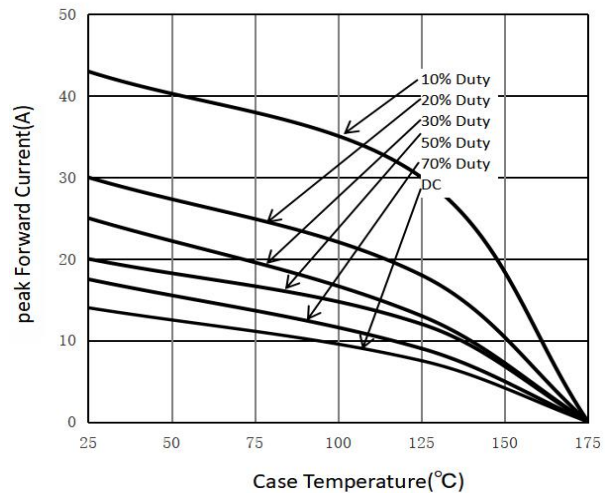
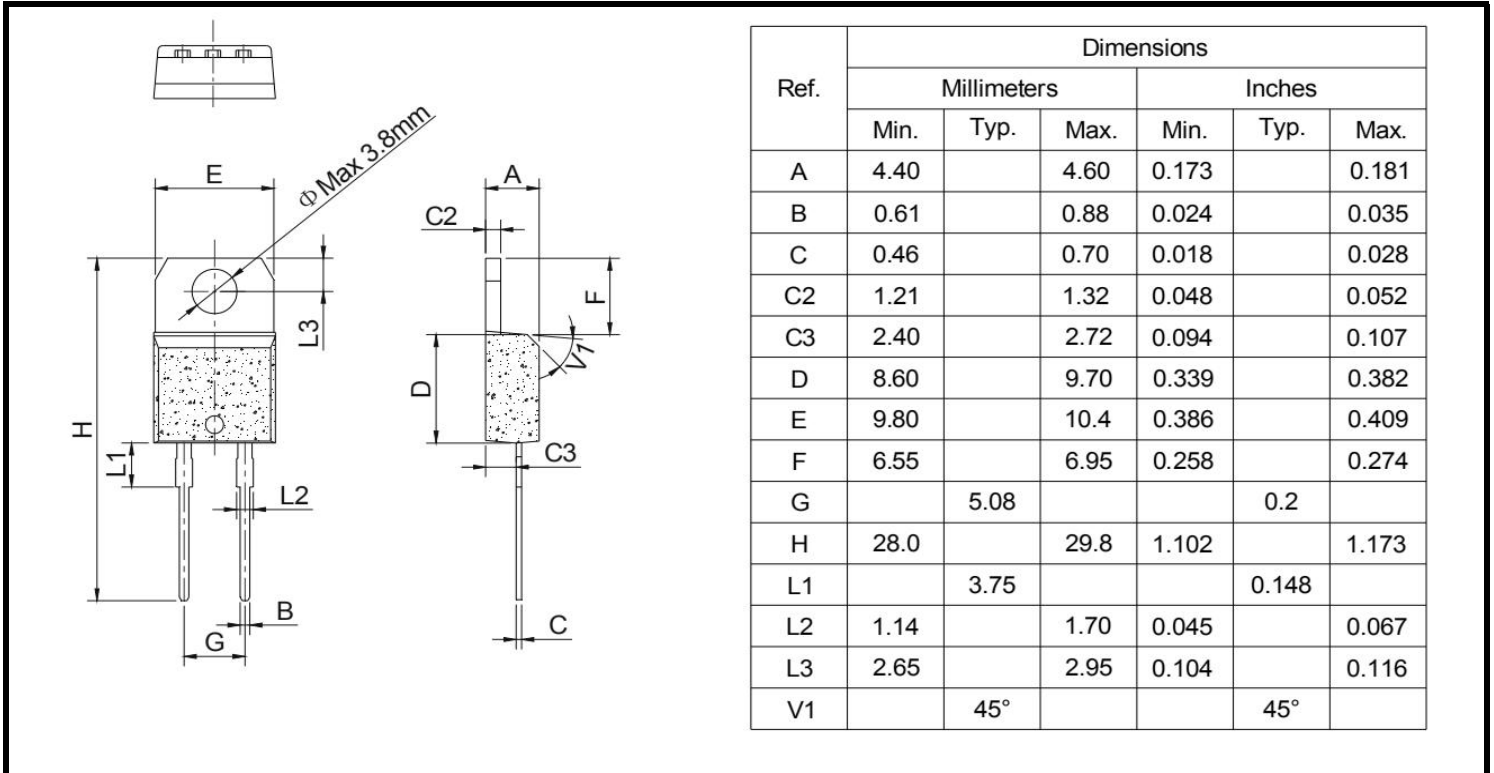


FIG.6: Current Derating



**4A, 650V SIC Schottky Rectifier**
**PACKAGE OUTLINE DIMENSIONS**

**PACKING INFORMATION**

Package	Tube(PCS)	Inner Box(PCS)	Carton(PCS)
TO-220AC	50	1,000	8,000