

## 40A, 1200V SiC Schottky Rectifier

### FEATURES

- 1200V schottky rectifier
- 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-247
- Case material: molding compound meets UL 94V-0 flammability rating

### 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

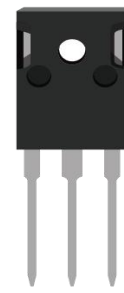
Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	$V_{RRM}$	1200	V
Continuous Forward Current ( $T_C=137^\circ\text{C}$ )	$I_F$	40	A
Repetitive Peak Forward Surge Current ( $t_p=10\text{ms}, T_C=25^\circ\text{C}$ )	$I_{FRM}$	100	A
Peak Forward Surge Current ( $t_p=10\text{ms}, T_C=25^\circ\text{C}$ )	$I_{FSM}$	140	A
Non-repetitive Peak Forward Surge Current ( $t_p=10\text{ms}, T_C=25^\circ\text{C}$ )	$I_{FMAX}$	1200	A
Power Dissipation	$P_{tot}$	$T_C=25^\circ\text{C}$ 283	W
		$T_C=110^\circ\text{C}$ 123	
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

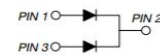
$T_J=25^\circ\text{C}$  unless otherwise noted

Parameter	Test Conditions	Symbol	Value		Unit
			Typ.	Max.	
Forward Voltage @ $I_F=20\text{A}$	$T_J=25^\circ\text{C}$	$V_F$	1.5	1.8	V
	$T_J=175^\circ\text{C}$		2.2	3.0	
Reverse Current @ $V_{RRM}$	$T_J=25^\circ\text{C}$	$I_R$	10	100	$\mu\text{A}$
	$T_J=175^\circ\text{C}$		50	400	
Total Capacitance	$V_R=0\text{V}, f=1\text{MHz}$	C	2010	-	pF
	$V_R=400\text{V}, f=1\text{MHz}$		120	-	
	$V_R=600\text{V}, f=1\text{MHz}$		97	-	
Total Capacitance Charge	$V_R=600\text{V}$	$Q_C$	95	-	nC
Capacitance Stored Energy	$V_R=600\text{V}$	$E_C$	28.6	-	$\mu\text{J}$
Thermal Resistance	Junction to case	$R_{\theta JC}$	0.53		$^\circ\text{C}/\text{W}$

TO-247



1 2 3



RoHS  
COMPLIANT

HALOGEN  
FREE

### RATINGS AND CHARACTERISTIC CURVES

FIG.1: Forward Characteristics

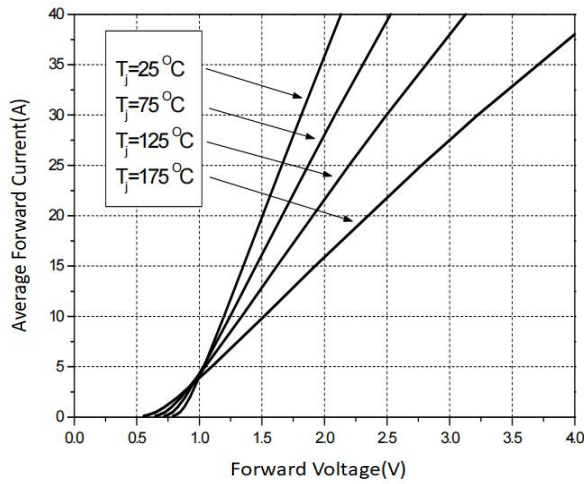


FIG.2: Reverse Characteristics

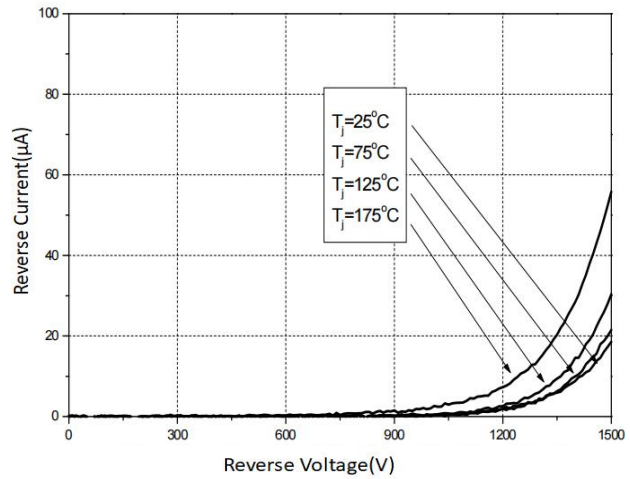


FIG.3: Capacitance Charge vs. Reverse Voltage

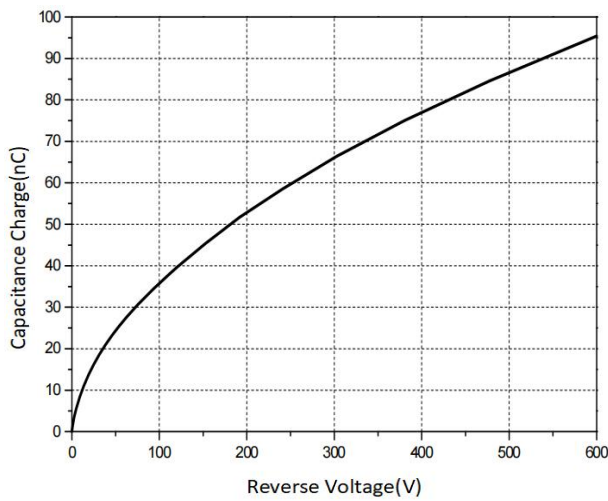


FIG.4: Capacitance Stored Energy

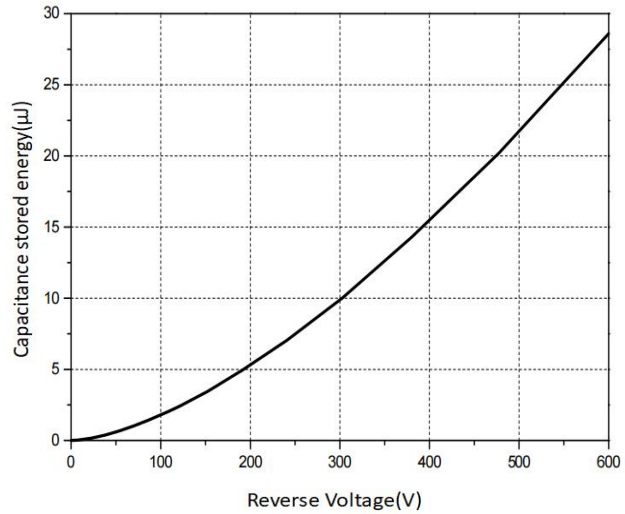


FIG.5: Power Derating

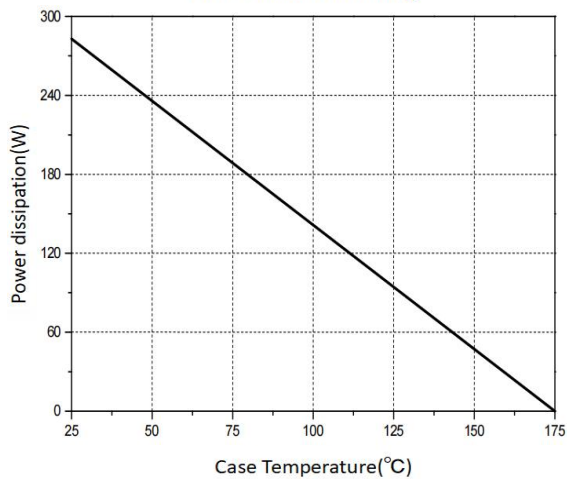
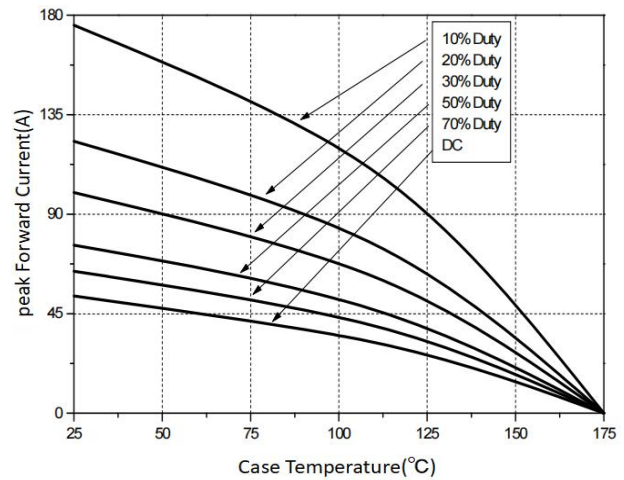
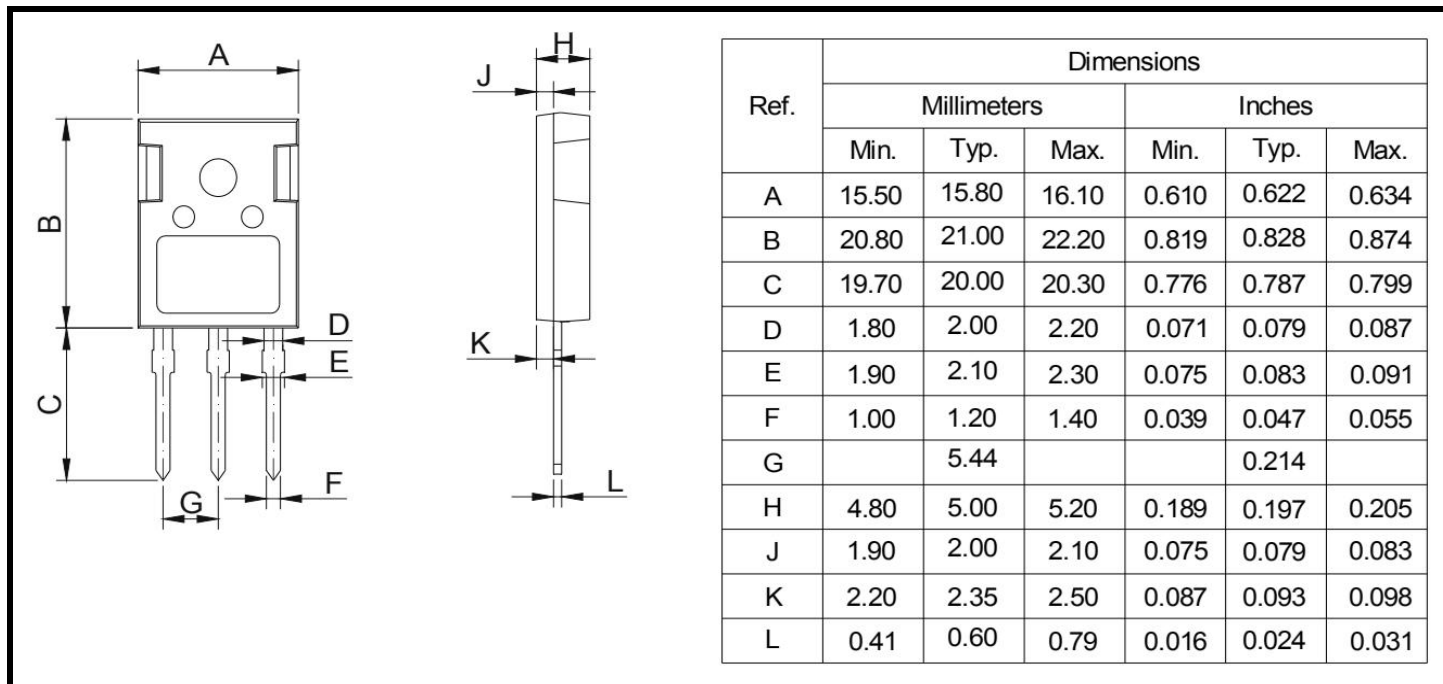


FIG.6: Current Derating



**40A, 1200V SIC Schottky Rectifier**
**PACKAGE OUTLINE DIMENSIONS**

**PACKING INFORMATION**

Package	Tube(PCS)	Inner Box(PCS)	Carton(PCS)
TO-247	30	450	2,250