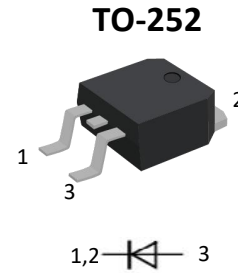


6A, 650V SIC Schottky Rectifier

FEATURES

- 650V schottky rectifier
- Zero reverse recovery current
- Zero forward recovery voltage
- High frequency operation
- Switching characteristics independent on temperature
- Positive temperature coefficient of forward voltage
- RoHS compliant
- Halogen free



RoHS
COMPLIANT

HALOGEN
FREE

MECHANICAL DATA

- Case: TO-252
- Case material: molding compound meets UL 94V-0 flammability rating

TYPICAL APPLICATION

General purpose use in HAVC, SMPS, UPS, AC/DC converters, free wheeling diodes in inverter stages, power factor correction, PC Silverbox, LED/OLED TV, motor drives.

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 ($T_C=135^{\circ}\text{C}$)	I_F	6	A
Repetitive Peak Forward Surge Current ($t_p=10\text{ms}, T_C=25^{\circ}\text{C}$)	I_{FRM}	30	A
Peak Forward Surge Current ($t_p = 10 \text{ ms}; T_C = 25^{\circ}\text{C}$)	I_{FSM}	54	A
Non-Repetitive peak forward surge current ($t_p = 10 \text{ us}; T_C = 25^{\circ}\text{C}$, pulse)	I_{Fmax}	200	A
Power Dissipation $T_C=25^{\circ}\text{C}$ $T_C=110^{\circ}\text{C}$	P_{tot}	111 48	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 @ $I_F=6\text{A}$	$T_J=25^{\circ}\text{C}$	V_F	1.35	1.5	V
	$T_J=175^{\circ}\text{C}$		1.7	2.0	
Reverse Current @ V_{RRM}	$T_J=25^{\circ}\text{C}$	I_R	5	20	μA
	$T_J=175^{\circ}\text{C}$		30	80	
Total Capacitance	$V_R=0\text{V}, f=1\text{MHz}$	C	386	-	pF
	$V_R=200\text{V}, f=1\text{MHz}$		37	-	
	$V_R=400\text{V}, f=1\text{MHz}$		29	-	
Total Capacitance Charge	$V_R=400\text{V}, T_J=25^{\circ}\text{C}$	Q_C	19	-	nC
Capacitance Stored Energy	$V_R=400\text{V}$	E_C	5	-	μJ
Thermal Resistance	Junction to case	$R_{\theta JC}$	3		$^{\circ}\text{C}/\text{W}$

RATINGS AND CHARACTERISTIC CURVES

FIG.1: Forward Characteristics

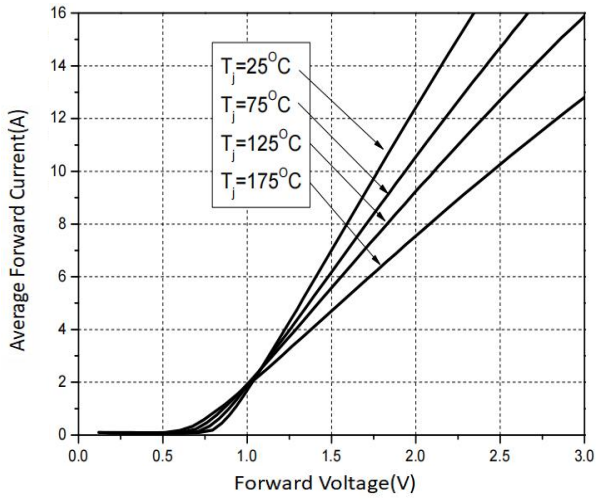


FIG.2: Capacitance Charge vs. Reverse Voltage

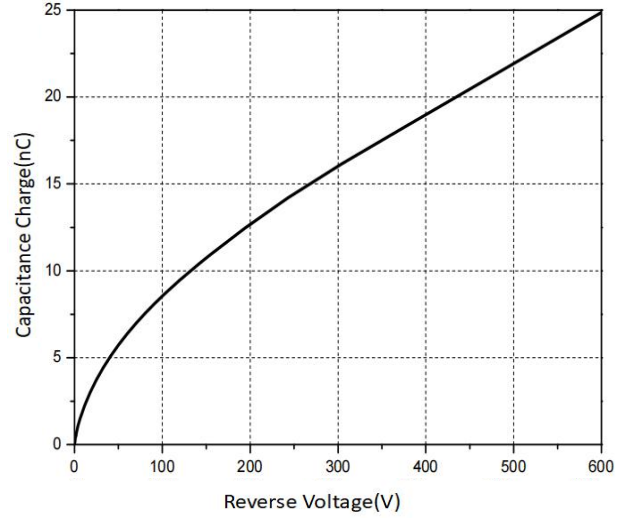


FIG.3: Reverse Characteristics

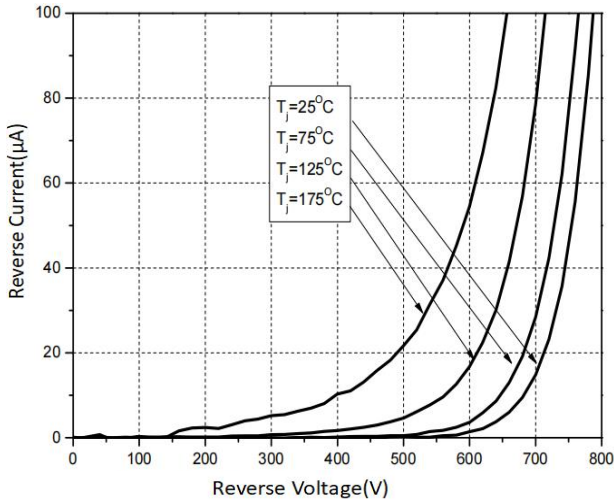


FIG.4: Capacitance Stored Energy

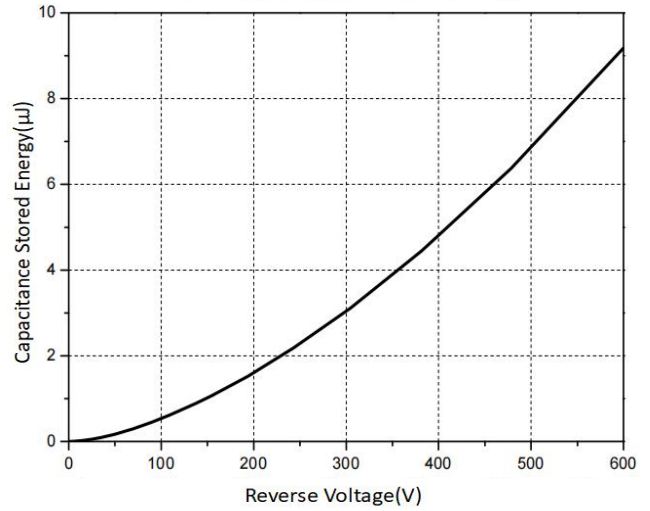


FIG.5: Total Power Derating

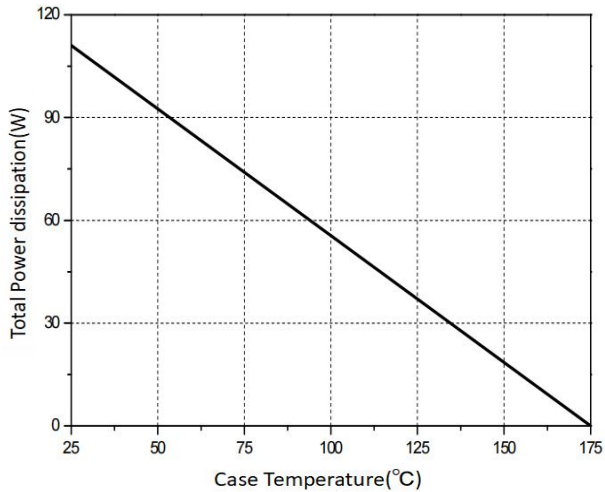
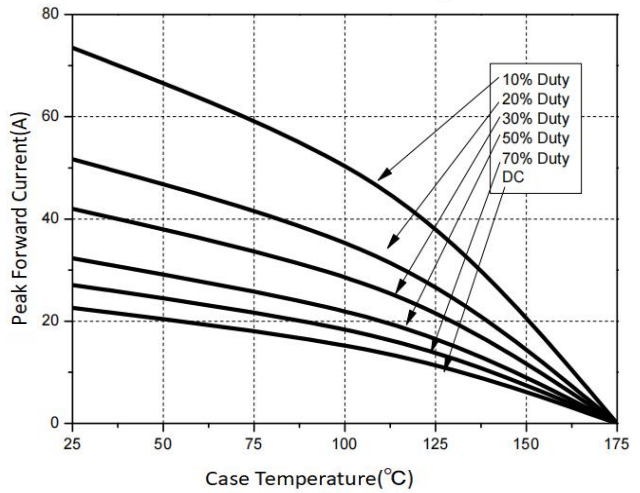
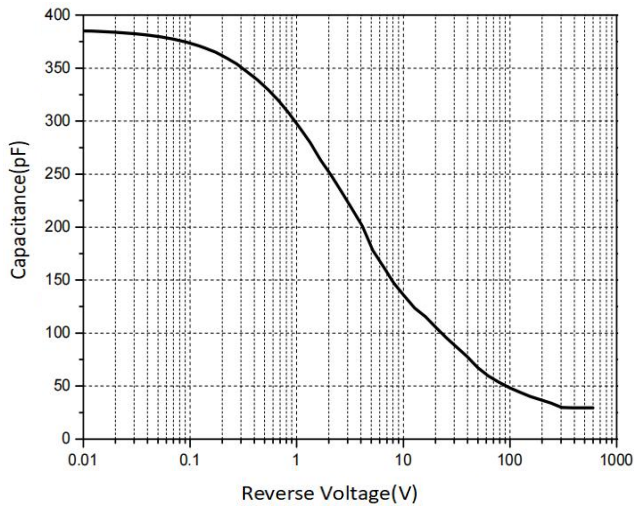


FIG.6: Current Derating

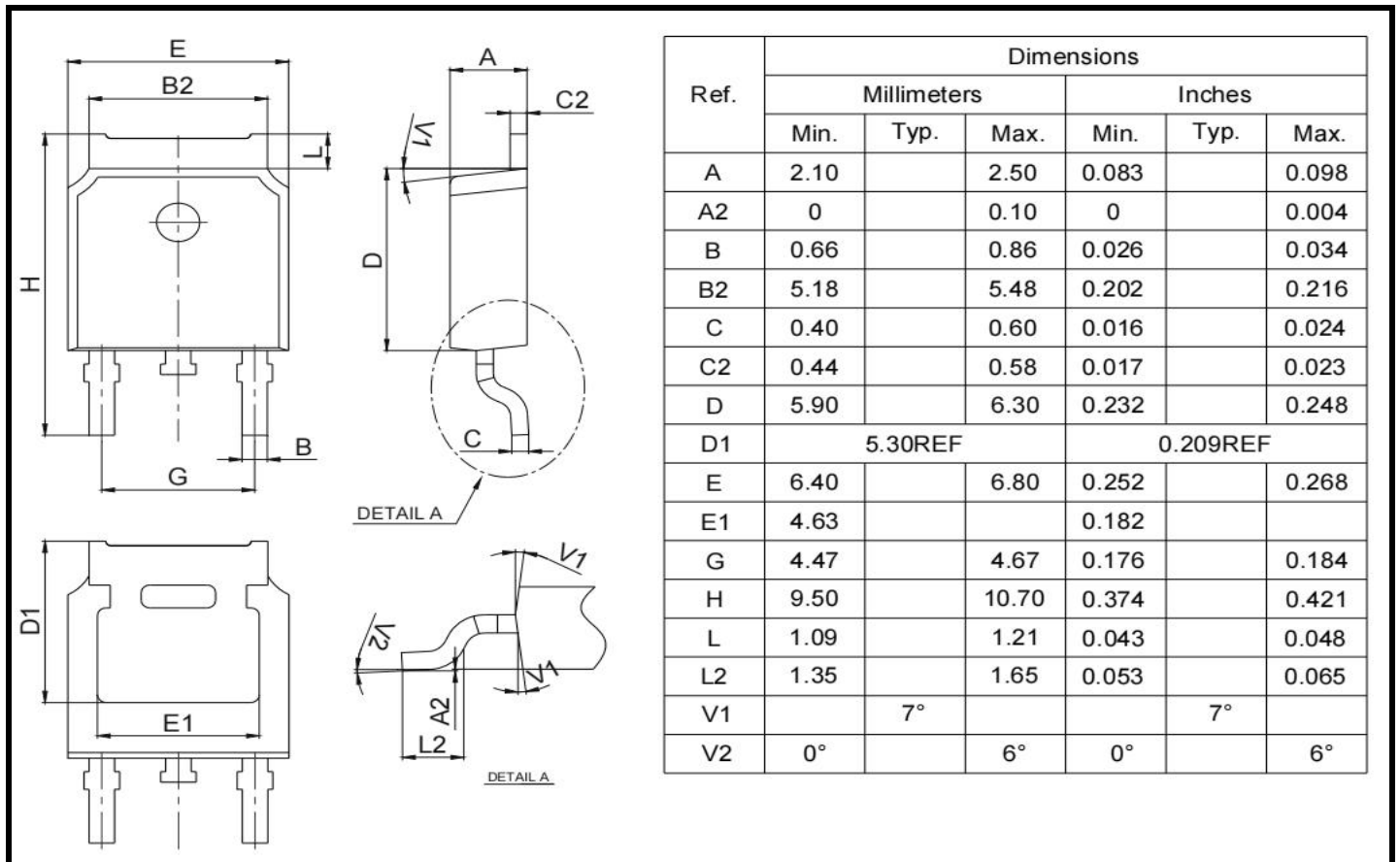


RATINGS AND CHARACTERISTIC CURVES

FIG.7: Capacitance vs. Reverse Voltage



PACKAGE OUTLINE DIMENSIONS



PACKING INFORMATION

Package	Reel(PCS)	Inner Box(PCS)	Carton(PCS)
TO-252	80	4,000	20,000