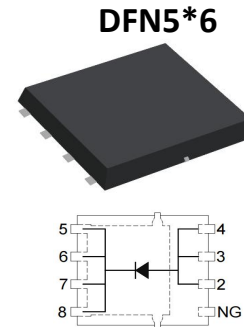


# 6A, 650V SIC Schottky Rectifier

## 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: DFN5\*6
- 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	$\mu\text{A}$
	$T_J=175^\circ\text{C}$		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	-	$\mu\text{J}$
Thermal Resistance	Junction to case	$R_{\theta JC}$	2.3		$^\circ\text{C/W}$

**RATINGS AND CHARACTERISTIC CURVES**

FIG.1: Forward Characteristics

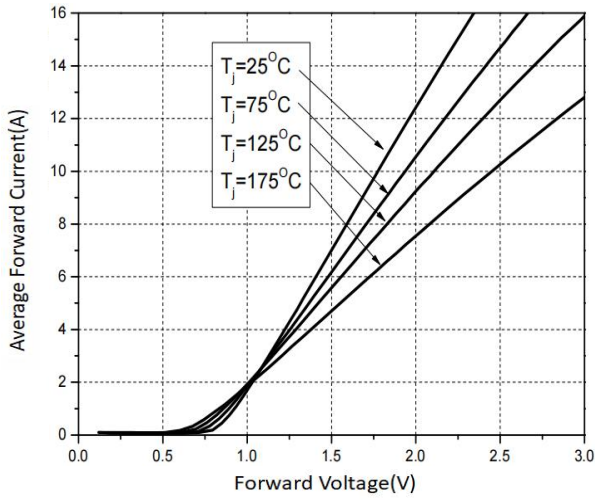


FIG.2: Capacitance Charge vs. Reverse Voltage

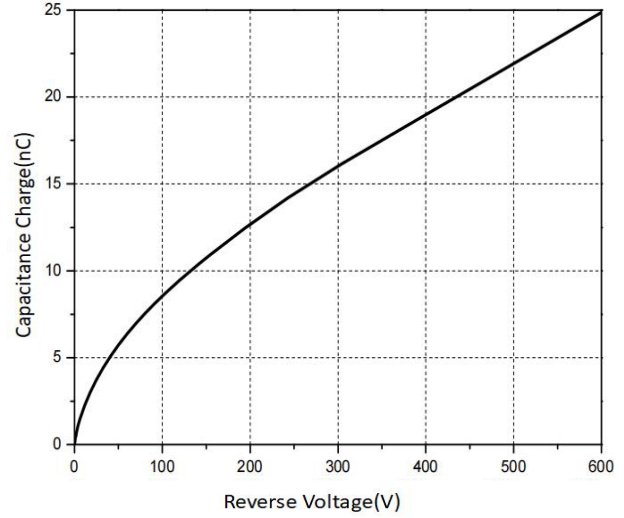


FIG.3: Reverse Characteristics

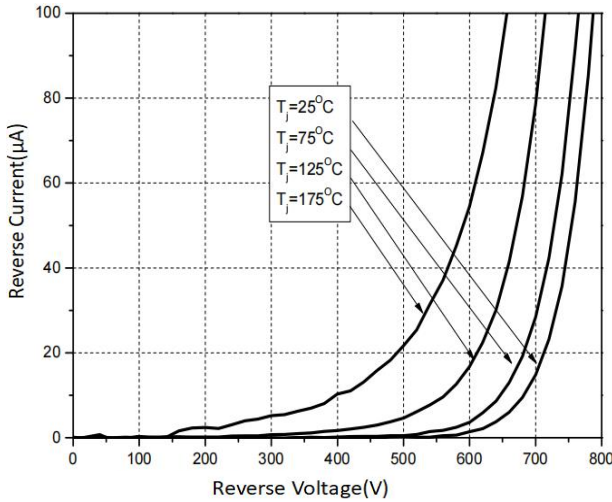


FIG.4: Capacitance Stored Energy

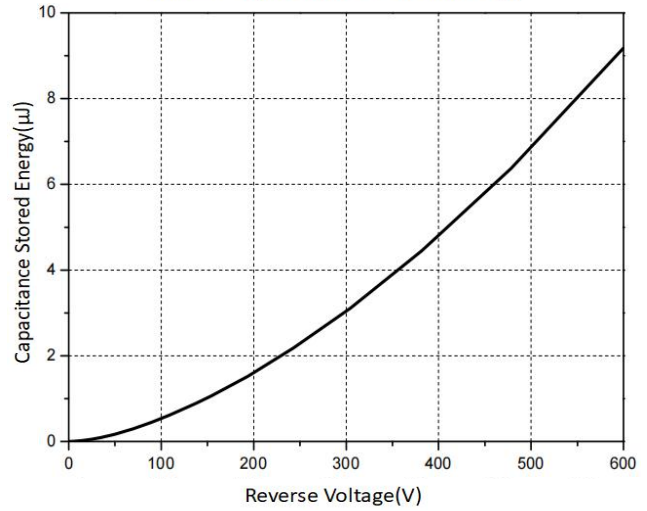


FIG.5: Total Power Derating

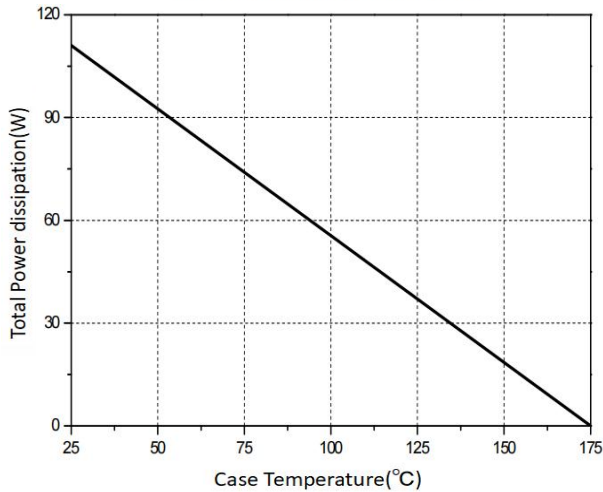
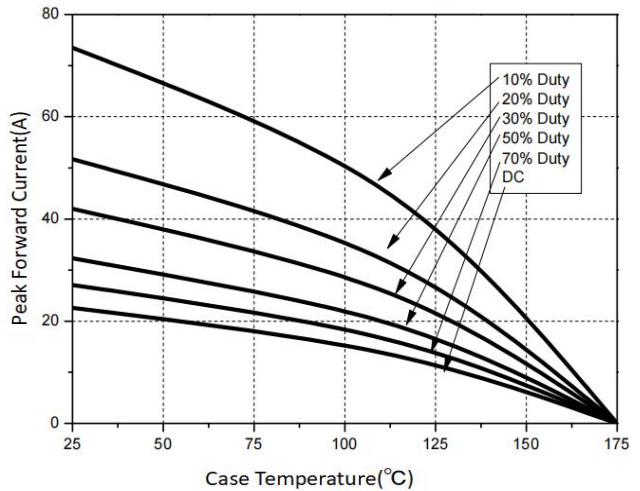
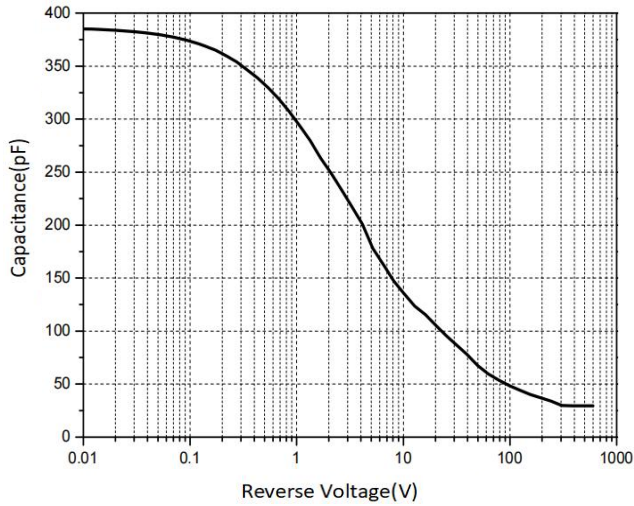


FIG.6: Current Derating

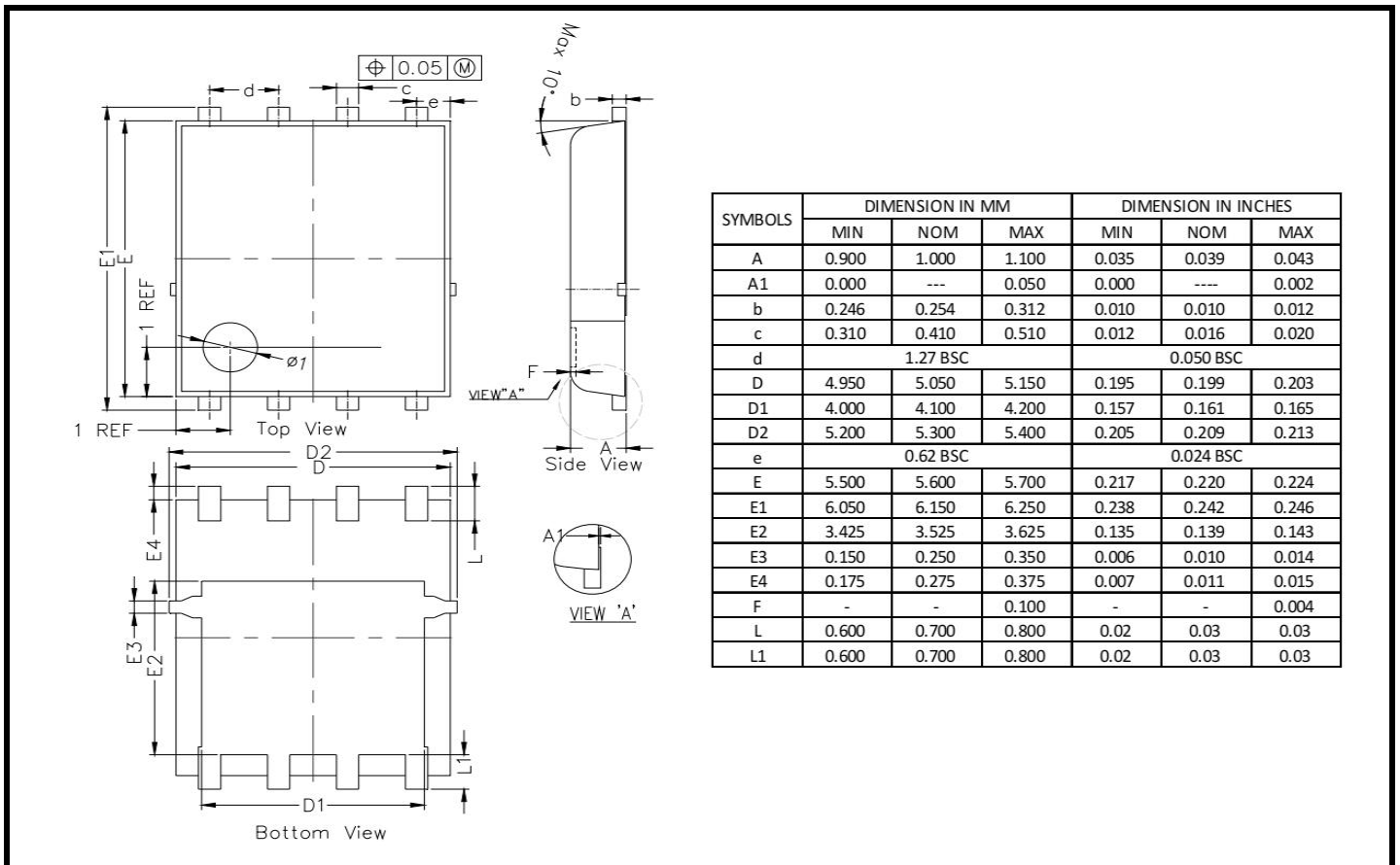


### RATINGS AND CHARACTERISTIC CURVES

FIG.7: Capacitance vs. Reverse Voltage



### PACKAGE OUTLINE DIMENSIONS



### PACKING INFORMATION

Package	Reel(PCS)	Inner Box(PCS)	Carton(PCS)
DFN5*6	3,000	6,000	30,000