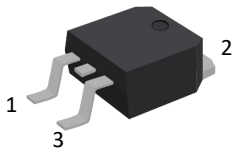
SC10650TB

10A, 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

TO-252



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℃ unless otherwise noted

Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	650	V
Average Forward Rectified Current(T_C=25℃)	I_F	10	A
Repetitive Peak Forward Surge Current (tp=10ms,T_C=25℃)	I_{FRM}	70	A
Peak Forward Surge Current (tp = 10 ms; T_C = 25 °C)	I_{FSM}	92	A
Non-Repetitive peak forward surge current (tp = 10 us; T_C = 25 °C, pulse)	I_{Fmax}	270	A
Power Dissipation T_C=25℃ T_C=110℃	P_{tot}	 71 30	W
Operating Junction Temperature Range	T_J	-55 to +175	℃
Storage Temperature Range	T_{STG}	-55 to +175	℃

ELECTRICAL CHARACTERISTICS

T_J=25℃ unless otherwise noted

Parameter	Test Conditions	Symbol	Value		Unit
			Typ.	Max.	
Forward Voltage@I_F=10A	T_J=25℃	V_F	1.4	1.7	V
	T_J=175℃		1.7	2	
Reverse Current @ V_{RRM}	T_J=25℃	I_R	5	20	μA
	T_J=175℃		80	200	
Total Capacitance	V_R=0V,f=1MHz	C	608	-	pF
	V_R=200V,f=1MHz		58	-	
	V_R=400V,f=1MHz		48	-	
Total Capacitance Charge	V_R=400V,T_J=25℃	Q_C	35	-	nC
Capacitance Stored Energy	V_R=400V	E_C	7.5	-	μJ
Thermal Resistance	Junction to case	$R_{\theta JC}$	2.1		℃/W

RATINGS AND CHARACTERISTIC CURVES

FIG.1: Forward Characteristics

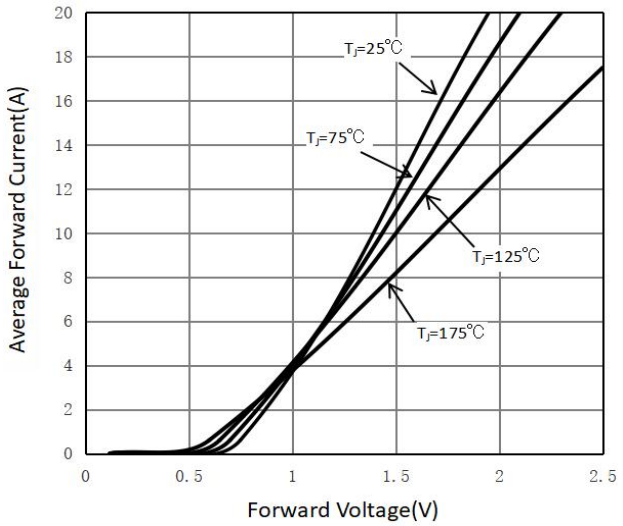


FIG.2: Reverse Characteristics

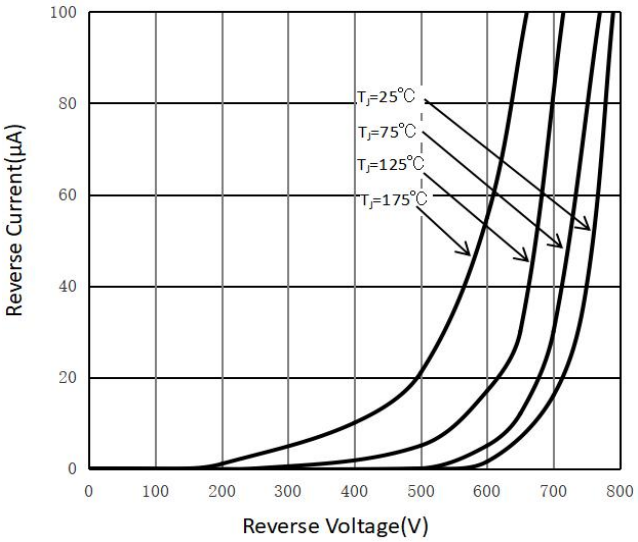


FIG.3: Capacitance Charge vs. Reverse Voltage

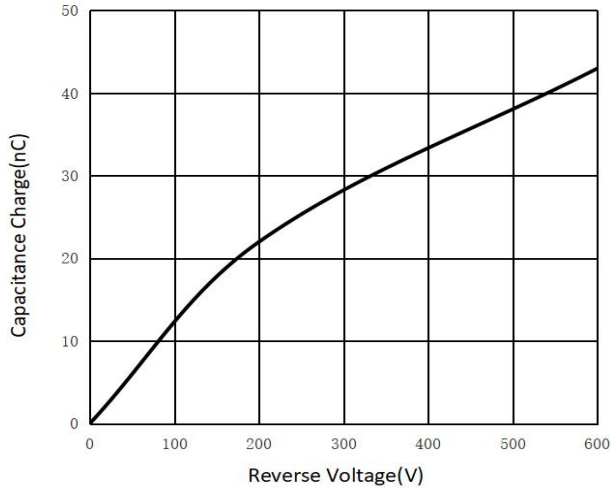


FIG.4: Capacitance Stored Energy

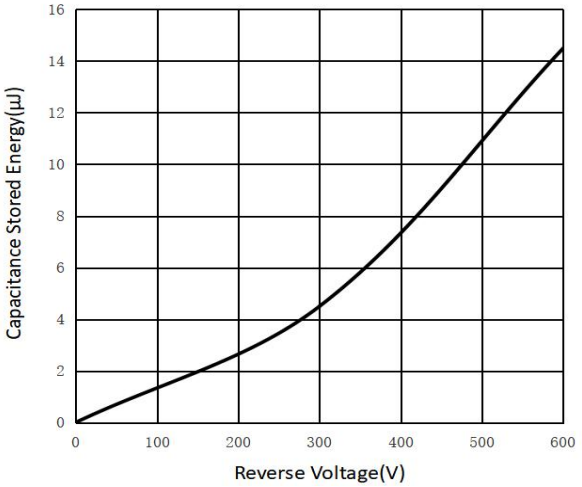


FIG.5: Power Derating

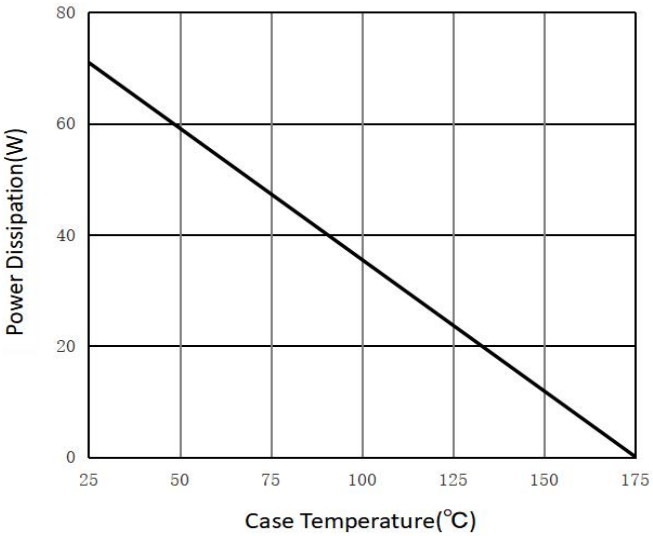
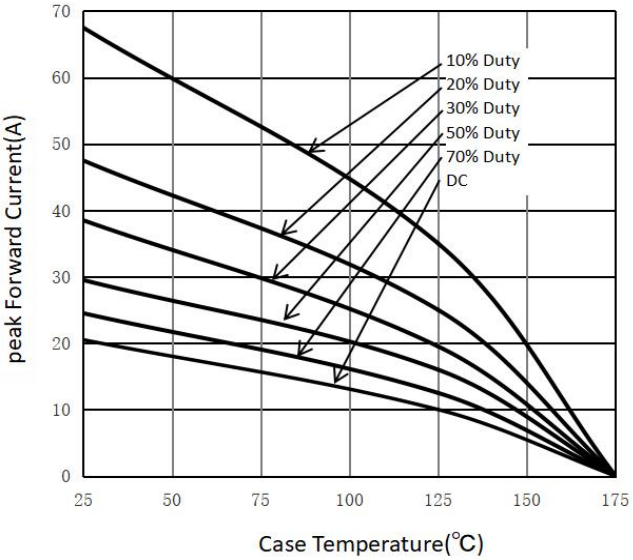
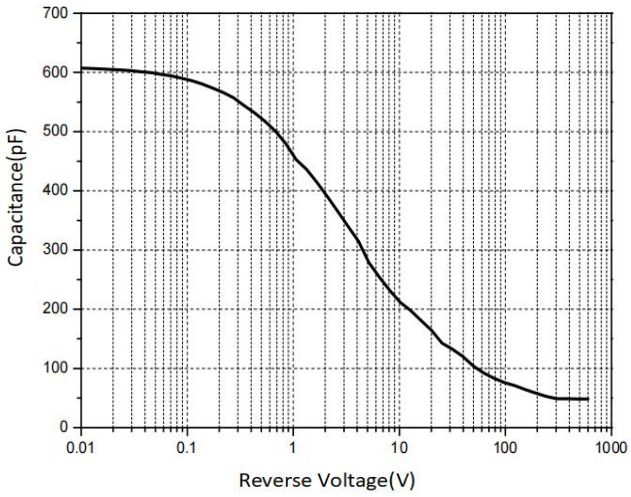


FIG.6: Current Derating

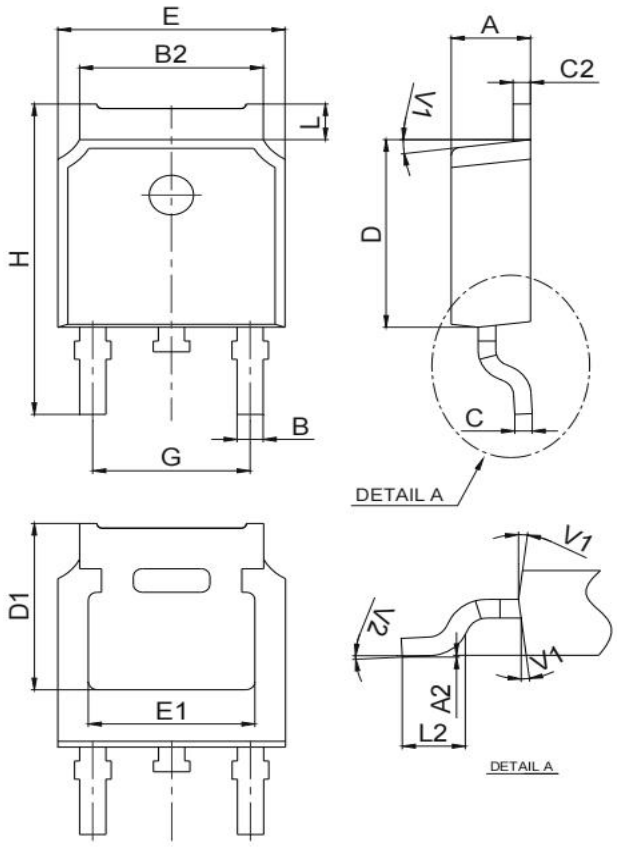


RATINGS AND CHARACTERISTIC CURVES

FIG.7: Capacitance vs. Reverse Voltage



PACKAGE OUTLINE DIMENSIONS



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.10		2.50	0.083		0.098
A2	0		0.10	0		0.004
B	0.66		0.86	0.026		0.034
B2	5.18		5.48	0.202		0.216
C	0.40		0.60	0.016		0.024
C2	0.44		0.58	0.017		0.023
D	5.90		6.30	0.232		0.248
D1	5.30REF			0.209REF		
E	6.40		6.80	0.252		0.268
E1	4.63			0.182		
G	4.47		4.67	0.176		0.184
H	9.50		10.70	0.374		0.421
L	1.09		1.21	0.043		0.048
L2	1.35		1.65	0.053		0.065
V1		7°			7°	
V2	0°		6°	0°		6°

PACKING INFORMATION

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