



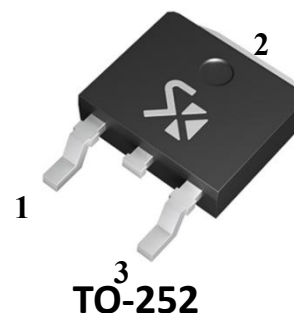
SiC Schottky Barrier Diode

Features

- 650V Schottky Diode
- Zero Reverse Recovery/Zero Forward Recovery
- High Efficiency Operation
- Extremely Fast Switching
- Temperature Independent Switching Behavior

Applications

- Switch mode power supply
- Power factor correction Solar Invertor
- Solar inverter
- Uninterruptible power supply



Absolute Maximum Ratings ($T_C=25^{\circ}\text{C}$ Unless otherwise specified)

Parameter	Symbol	Value	Unit
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	650	V
DC Blocking Voltage	V_{DC}	650	
Maximum Average Forward Rectified Current@ $T_C=150^{\circ}\text{C}$	$I_{F(AV)}$	6	A
Non-Repetitive Peak Forward Surge Current $t_p=10\text{ms}$, Half Sine Pulse	I_{FSM}	30	A
Total Power Dissipation	P_D	57.5	W
Operating Junction and Storage Temperature	T_J, T_{STG}	$-40\sim+175$	$^{\circ}\text{C}$
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	2.6	$^{\circ}\text{C/W}$

Electrical Characteristics($T_J=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Test condition	Min	Typ	Max	Units
Forward Voltage	V_F	$I_F=6\text{A}, T_J=25^{\circ}\text{C}$		1.35	1.65	V
		$I_F=6\text{A}, T_J=175^{\circ}\text{C}$		1.75		
Reverse Current	I_R	$V_R=650\text{V}, T_J=25^{\circ}\text{C}$		3	40	μA
		$V_R=650\text{V}, T_J=175^{\circ}\text{C}$		7		
Total Capacitive Charge	Q_C	$V_R=400\text{V}$		16.4		nC
Total Capacitance	C	$V_R=0\text{V}, f=1\text{MHz}$		275		pF
		$V_R=200\text{V}, f=1\text{MHz}$		31		
		$V_R=400\text{V}, f=1\text{MHz}$		30		



Typical Characteristics

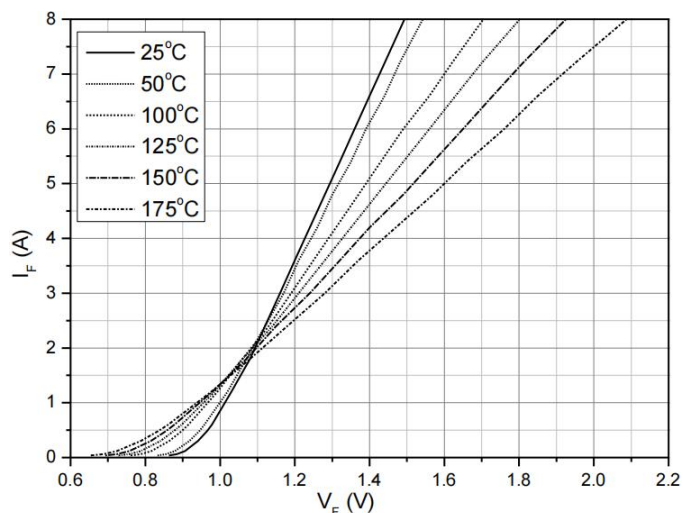


Figure 1. Forward Characteristics

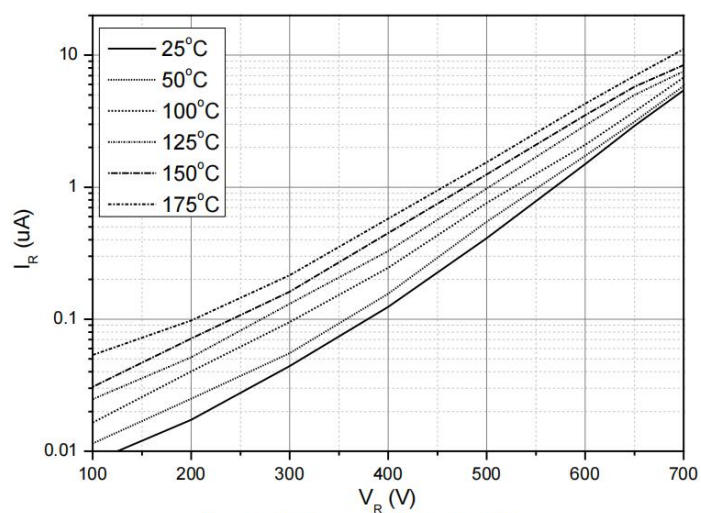


Figure 2. Reverse Characteristics

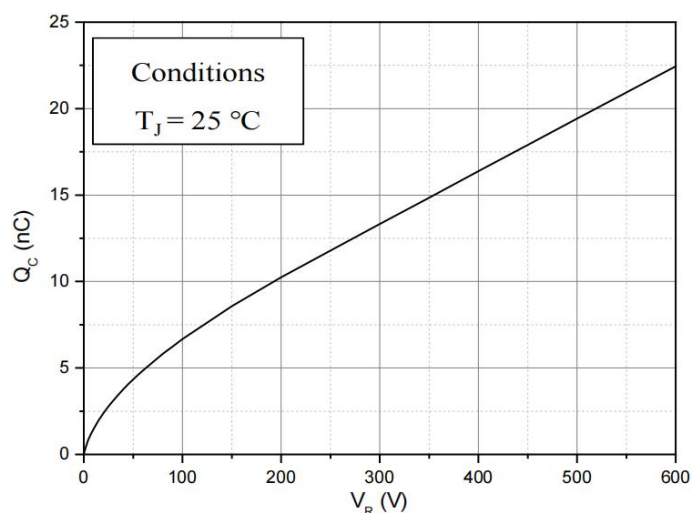


Figure 3. Total Capacitance Charge vs. Reverse Voltage

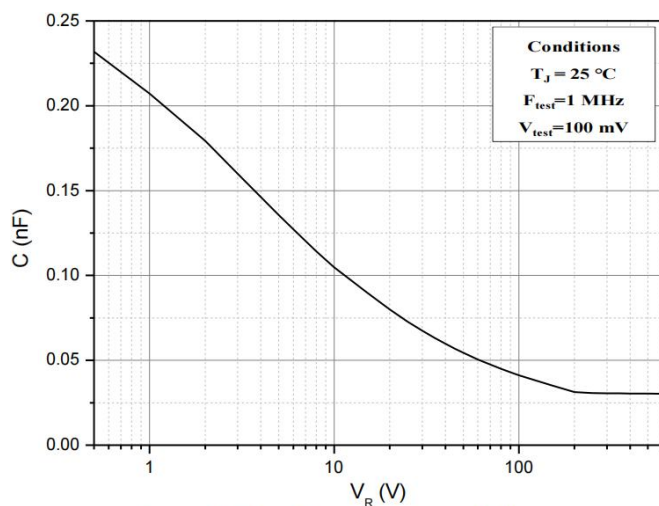


Figure 4. Capacitance vs. Reverse Voltage

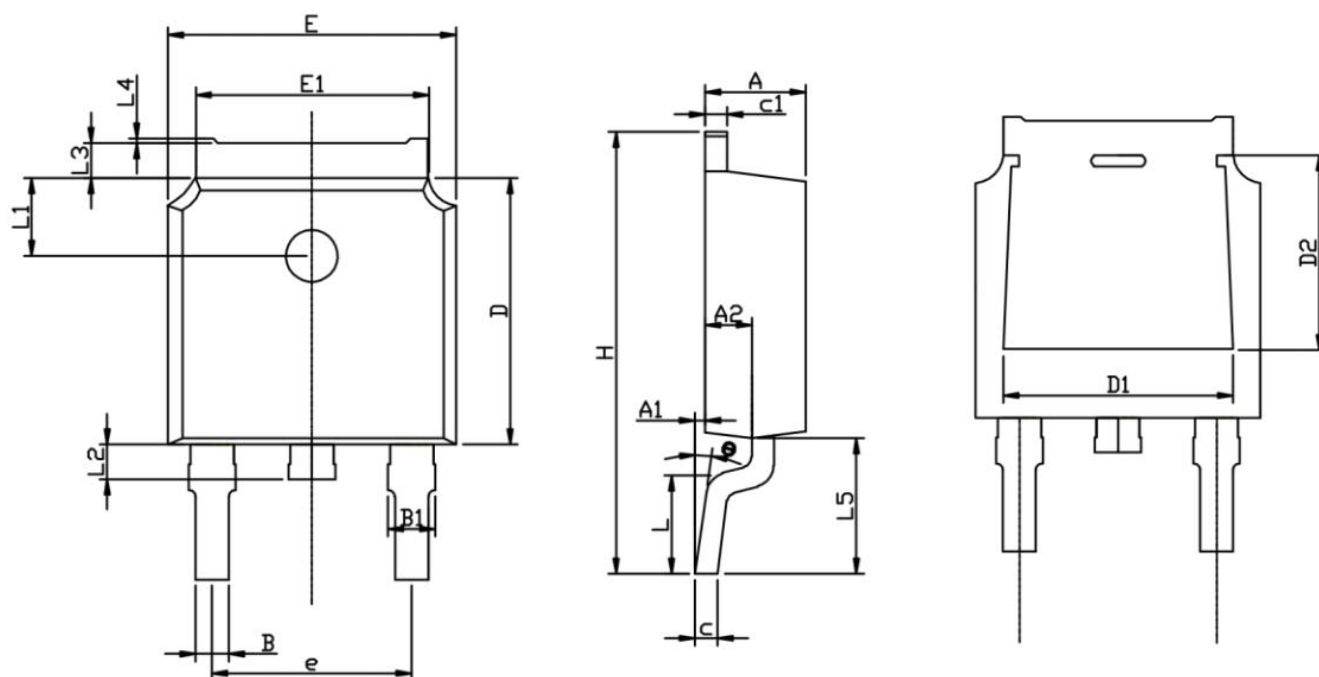


SSC0665

Package Information

TO-252

Dimensions in mm



Symbol	Min	Nom	Max	Symbol	Min	Nom	Max
A	2.15	2.30	2.45	E1	5.12	5.32	5.52
A1	0.05	0.10	0.20	L	-	1.65	-
A2	0.91	1.07	1.22	L1	1.58	1.78	1.98
B	0.66	0.76	0.86	L2	0.60	0.80	1.00
B1	0.93	1.08	1.23	L3	0.70	0.85	1.00
C	0.40	0.50	0.60	L4	0.00	0.05	0.20
C1	0.40	0.50	0.60	L5	2.80	3.10	3.40
D	5.95	6.10	6.25	H	9.80	10.10	10.40
D1	4.8 REF			θ	0°	-	8°
D2	3.8 REF			e	4.572 REF		
E	6.45	6.60	6.75				



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