

SCP3060S

30A, 600V SiC Schottky Barrier Diode

Features

- Typical Forward Voltage: $V_F=1.47V$ @ $I_F=30A$
- Reverse Voltage: $V_{RRM}=600V$
- Shorter Recovery Time
- Avalanche Energy Rated

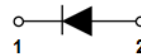
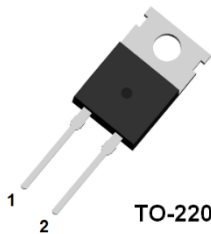
Applications

- Solar Inverter
- Uninterruptible Power Supply
- Power Factor Correction
- Switch Mode Power Supply

Description

The SCP3060S is a SiC Schottky Barrier diode with higher speed switching behavior over Si diodes. Loading of cooling system will be decreased due to the improved efficiency. This device can be used in UPS, PFC, SMPS and solar inverter.

Package Type & Internal Circuit



1. Cathode 2. Anode

Absolute Maximum Ratings per device at $T_C=25^\circ C$ unless otherwise noted

Symbol	Parameter		Ratings	Unit
V_{RRM}	Peak Repetitive Reverse Voltage		600	V
V_{RWM}	Working Peak Reverse Voltage		600	V
V_R	DC Blocking Voltage		600	V
$I_{F(AV)}$	Average Rectified Forward Current	$T_J=125^\circ C$	30	A
I_{FSM}	Non-repetitive Peak Forward Surge Current	$t_p=10ms$, half sine wave	150	A
		$t_p=200\mu s$, square wave	600	A
P_D	Power Dissipation		110	W
T_J	Operating Junction Temperature Range		-55~+150	$^\circ C$
T_{STG}	Storage Temperature Range		-55~+150	$^\circ C$

Thermal Characteristics

Symbol	Parameter	Ratings	Unit
$R_{th(J-C)}$	Thermal Resistance, Junction to case	1.14	$^\circ C/W$

Electrical Characteristics per device @T_C=25 °C unless otherwise noted

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V _F	Forward Voltage Drop	I _F =30A	-	1.47	1.8	V
		I _F =30A, T _J =125°C	-	1.6	2.0	V
I _R	Reverse Leakage Current	V _R =600V,	-		10	uA
Q _C	Total Capacitive Charge	V _R =300V, I _F =30A, di/dt=-200A/us	-	40	-	nC
C	Total Capacitance	V _R =0V, f=1MHz	-	870	-	pF
		V _R =200V, f=1MHz	-	80	-	
		V _R =400V, f=1MHz	-	64	-	
t _c	Switching time	V _R =300V, I _F =30A, di/dt=-200A/us	-	25	-	ns

Typical Performance Characteristics

Fig. 1. Typical Characteristics: V_F vs. I_F

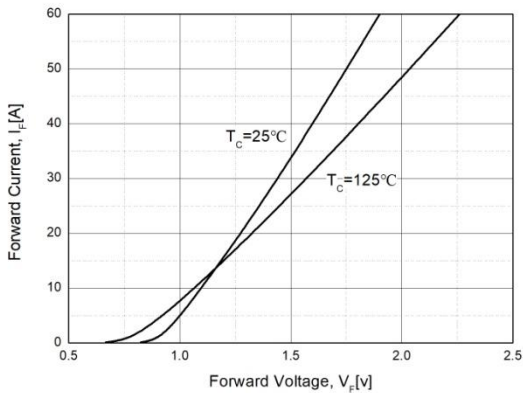


Fig. 3. Typical Characteristics: V_R vs. I_R

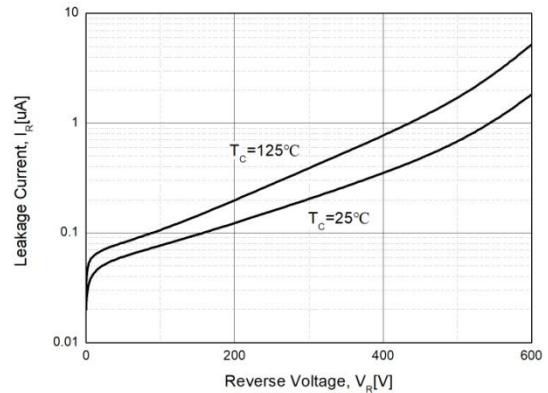


Fig. 3. Typical Characteristics: Q_C vs. V_R

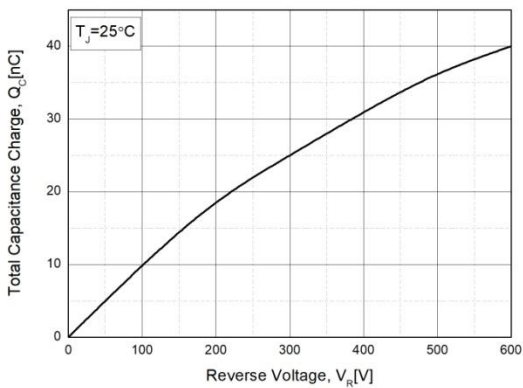
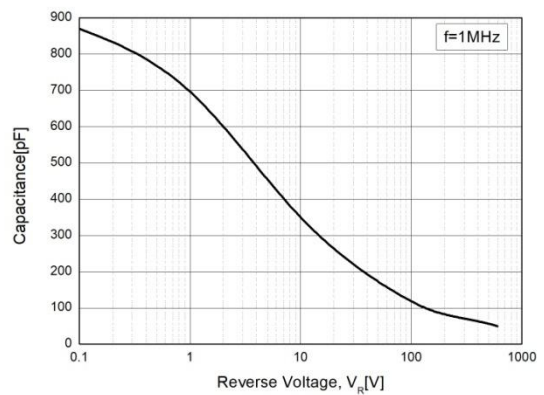


Fig. 4. Typical Characteristics: V_R vs. C_t



Package Dimensions

TO-220-2L

(Dimensions in Millimeters)

