

Silicon Carbide Schottky Diode

QSD200HCSX750

VRRM	= 750 V
QC	= 473 nC

Features

- 750V Schottky Rectifier Zero Reverse
- Recovery Current High-Frequency Operation
- Temperature-Independent Switching Behavior
- Extremely Fast Switching
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Benefits

- Replace Bipolar with Unipolar Rectifiers
- Essentially No Switching Losses
- Higher Efficiency
- Reduction of Heat Sink Requirements
- Parallel Devices Without Thermal Runaway

Applications

- Switch Mode Power Supplies (SMPS)
- Power Factor Correction
- Motor Drives

Package



Part Number	Anode	Cathode
QSD200HCSX750	Ti/Al	Ti/Ni/Ag

Maximum Rated Values (TC=25°C unless otherwise specified)

Symbol	Parameter	Value	Unit	Test Conditions	Note
V _{RRM}	Repetitive Peak Reverse Voltage	750	V		
VR	DC Peak Reverse Voltage	750	V		
T _J	Operating Temperature	-55 to +175	°C		
T _{stg}	Storage Temperature	-55 to +175	°C		

Electrical Characteristics (T_J=25°C)

Symbol	Parameter	Value			Unit	Test Conditions	Note
		Min.	Typ.	Max.			
V _F	Forward Voltage		1.5		V	IF=200A, T _J =25°C	Fig. 1
I _R	Reverse Current		5		μA	VR=750V, T _J =25°C	Fig. 2
QC	Total Capacitive Charge		473		nC	VR=400V, T _J =25°C	Fig. 3
C	Total Capacitance		11000		pF	VR=0V, T _J =25°C, f=1MHz	Fig. 4
			887			VR=200V, T _J =25°C, f=1MHz	
			644			VR=400V, T _J =25°C, f=1MHz	
E _c	Capacitance Stored Energy		61		μJ	VR=400 V	Fig. 5

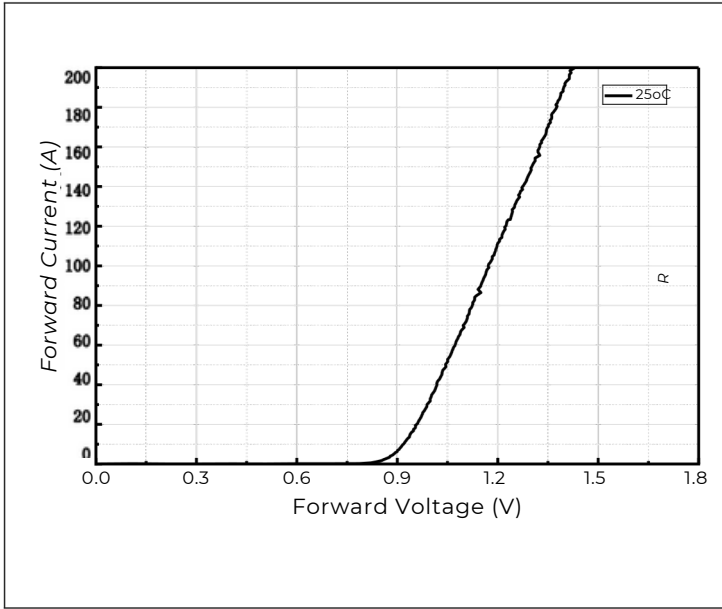


Figure 1. Forward Characteristics

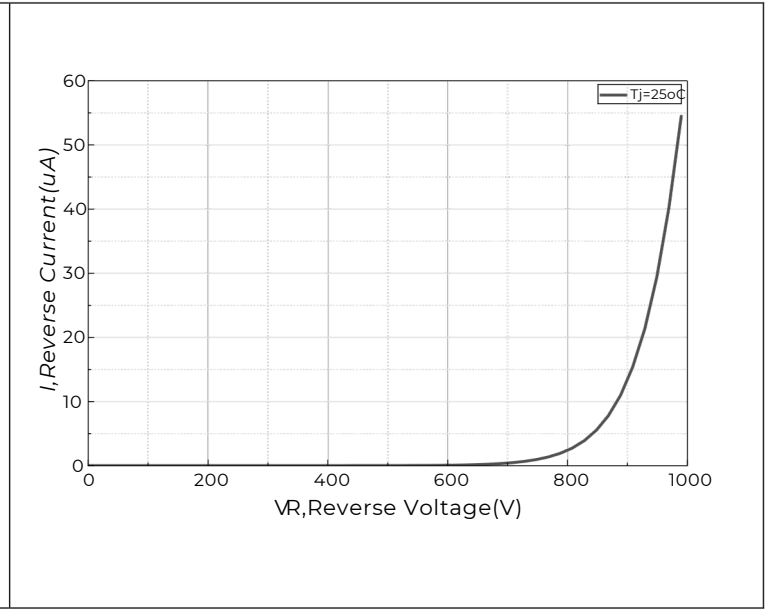


Figure 2. Reverse Characteristics

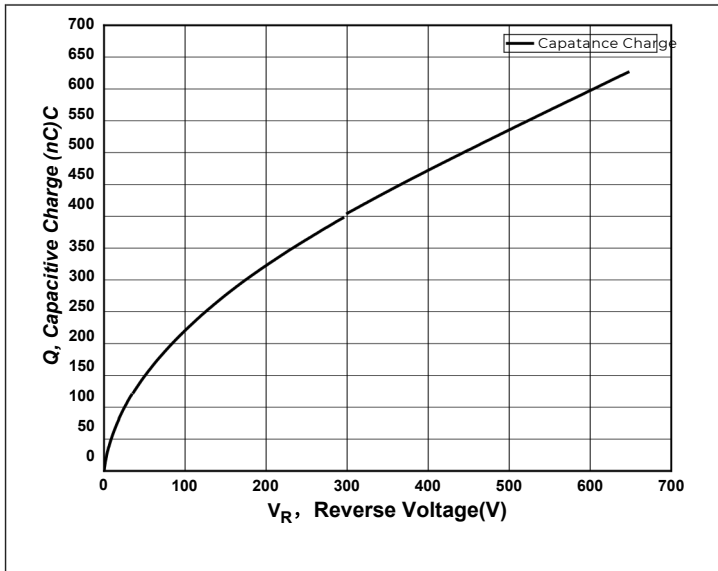


Figure 3. Capacitive Charge Vs. Reverse Voltage

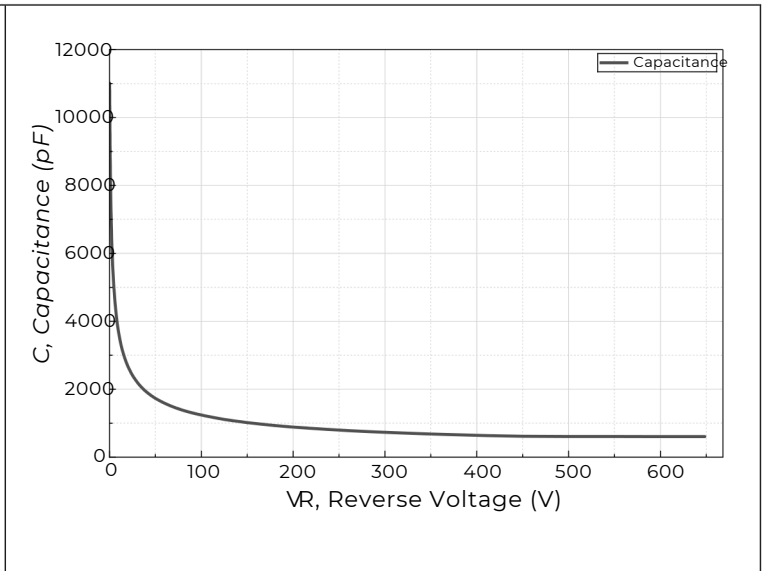


Figure 4. Capacitance Vs. Reverse Voltage

QSD200HCSX750

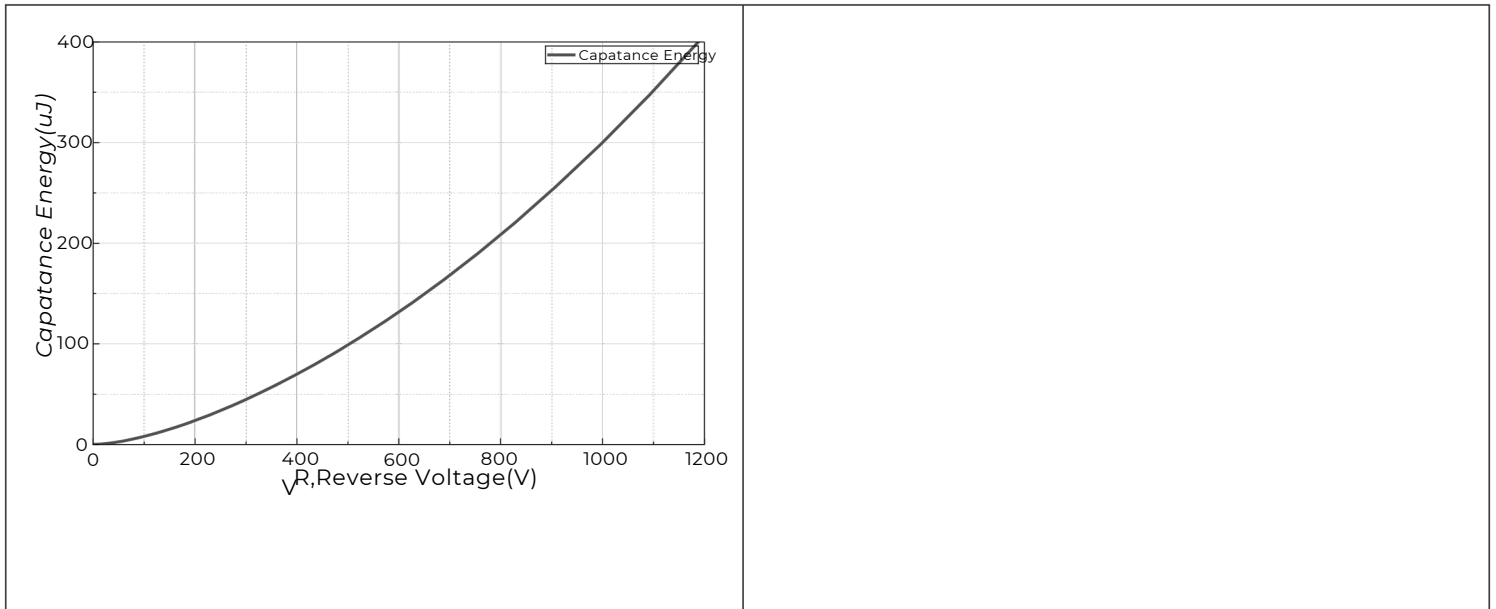


Figure 5. Capacitance Stored Energy

Product Dimensions
QSD200HCSX750

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Parameter	Typical	Units
Die Size (Lx W)	9.7 x 5.2	mm
Anode Pad Opening	9.32 x 4.82	mm
Die Thickness ¹	364 ± 10%	µm
Topside Anode Metalization (Al)	4± 10%	µm
Backside Cathode Metalization (Ti/Ni/Ag)	2± 10%	µm
Frontside Passivation	SiO ₂ Polyimide	

Attention

- Specifications of any and all products described or contained herein stipulate the performance, characteristics, and functions of the described products in the independent state, and are not guarantees of the performance, characteristics, and functions of the described products as mounted in the customer's products or equipment. To verify symptoms and states that cannot be evaluated in an independent device, the customer should always evaluate and test devices mounted in the customer's products or equipment.
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