



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

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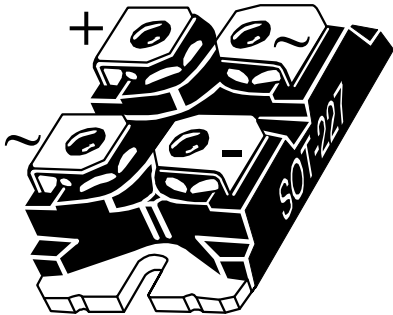
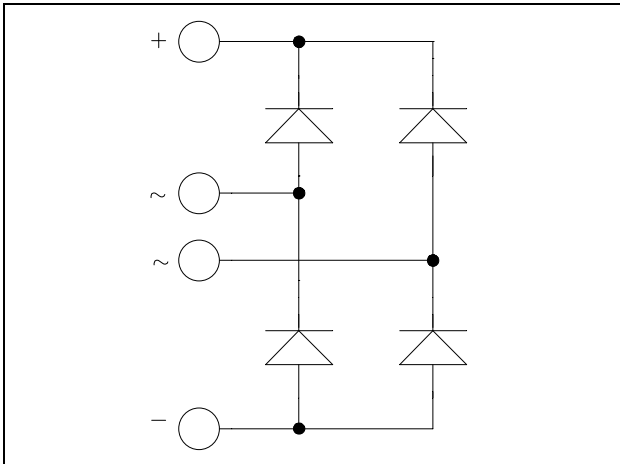
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## ISOTOP<sup>®</sup> Fast Diode Full Bridge Power Module

$V_{RRM} = 1000V$   
 $I_C = 30A @ T_c = 80^{\circ}C$



### Application

- Switch mode power supplies rectifier
- Induction heating
- Welding equipment
- High speed rectifiers

### Features

- Ultra fast recovery times
- Soft recovery characteristics
- High blocking voltage
- High current
- Low leakage current
- Very low stray inductance
- High level of integration
- ISOTOP<sup>®</sup> Package (SOT-227)

### Benefits

- Outstanding performance at high frequency operation
- Low losses
- Low noise switching
- Direct mounting to heatsink (isolated package)
- Low junction to case thermal resistance
- RoHS Compliant

### Absolute maximum ratings

Symbol	Parameter	Max ratings	Unit		
$V_R$	Maximum DC reverse Voltage	1000	V		
$V_{RRM}$	Maximum Peak Repetitive Reverse Voltage				
$I_{F(AV)}$	Maximum Average Forward Current	Duty cycle = 50%	$T_C = 25^{\circ}C$	45	A
			$T_C = 80^{\circ}C$	30	
$I_{FSM}$	Non-Repetitive Forward Surge Current	8.3ms	$T_J = 45^{\circ}C$	210	

**CAUTION:** These Devices are sensitive to Electrostatic Discharge. Proper Handling Procedures Should Be Followed. See application note APT0502 on [www.microsemi.com](http://www.microsemi.com)

All ratings @  $T_j = 25^\circ\text{C}$  unless otherwise specified

**Electrical Characteristics**

Symbol	Characteristic	Test Conditions	Min	Typ	Max	Unit
$V_F$	Diode Forward Voltage	$I_F = 40\text{A}$		2.5	3	V
		$I_F = 80\text{A}$		3.1		
		$I_F = 40\text{A}$	$T_j = 125^\circ\text{C}$		2	
$I_{RM}$	Maximum Reverse Leakage Current	$V_R = 1000\text{V}$	$T_j = 25^\circ\text{C}$		100	$\mu\text{A}$
			$T_j = 125^\circ\text{C}$		500	
$C_T$	Junction Capacitance	$V_R = 200\text{V}$		28		pF

**Dynamic Characteristics**

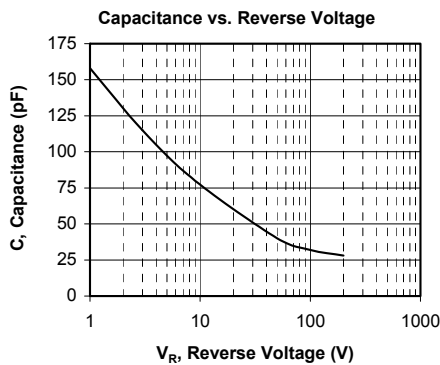
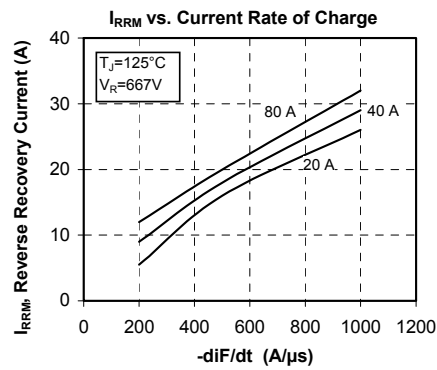
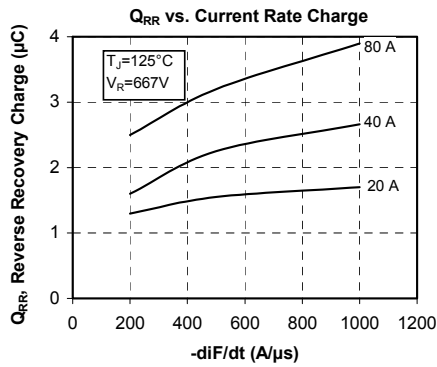
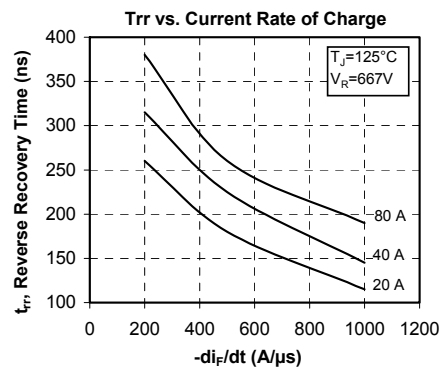
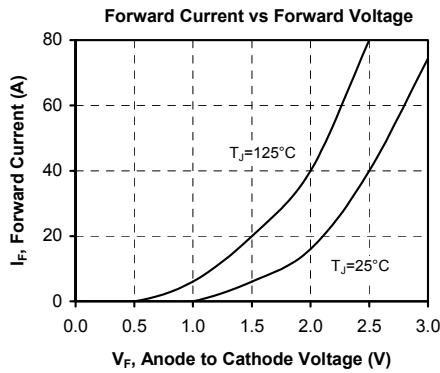
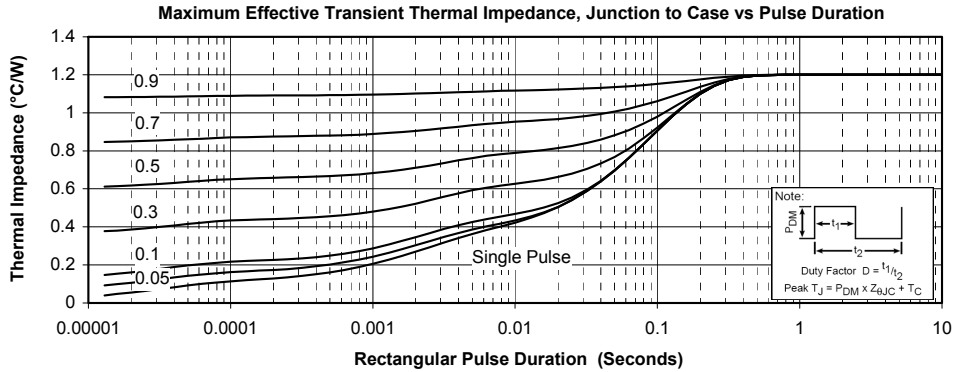
Symbol	Characteristic	Test Conditions	Min	Typ	Max	Unit
$t_{rr}$	Reverse Recovery Time	$I_F = 40\text{A}$ $V_R = 667\text{V}$ $di/dt = 200\text{A}/\mu\text{s}$	$T_j = 25^\circ\text{C}$		250	ns
			$T_j = 125^\circ\text{C}$		315	
$Q_{rr}$	Reverse Recovery Charge		$T_j = 25^\circ\text{C}$		415	nC
			$T_j = 125^\circ\text{C}$		1650	
$I_{RRM}$	Reverse Recovery Current		$T_j = 25^\circ\text{C}$		4	A
			$T_j = 125^\circ\text{C}$		9	
$t_{rr}$	Reverse Recovery Time	$I_F = 40\text{A}$ $V_R = 667\text{V}$ $di/dt = 1000\text{A}/\mu\text{s}$	$T_j = 125^\circ\text{C}$		150	ns
$Q_{rr}$	Reverse Recovery Charge				2660	nC
$I_{RRM}$	Reverse Recovery Current				29	A

**Thermal and package characteristics**

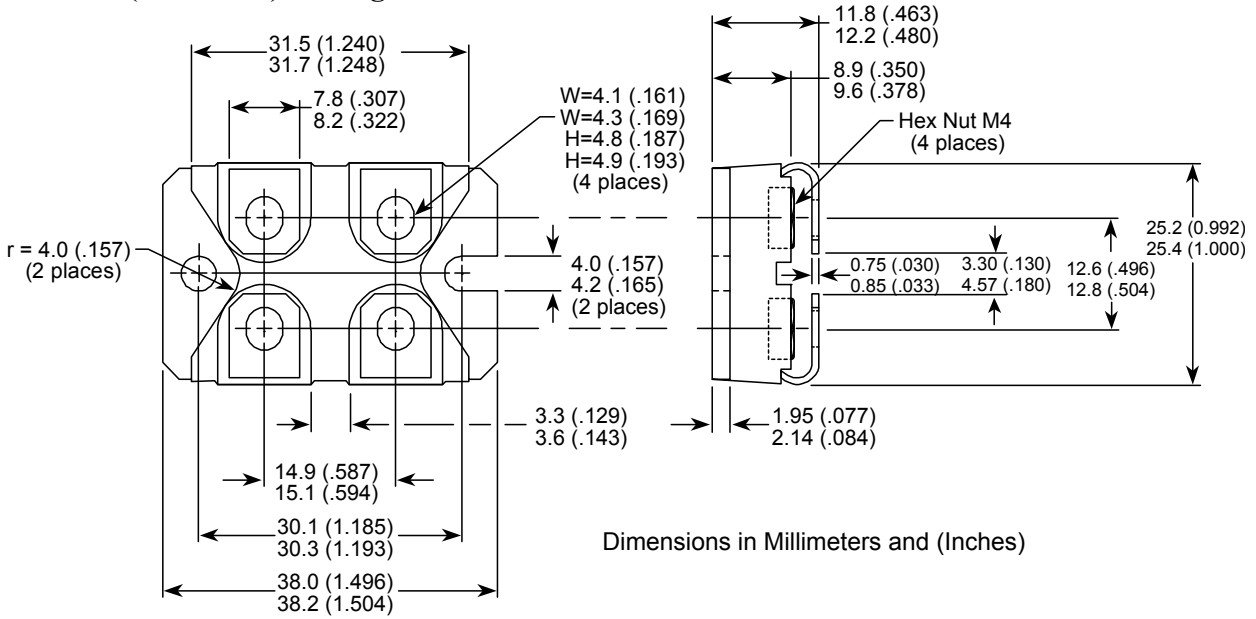
Symbol	Characteristic	Min	Typ	Max	Unit
$R_{thJC}$	Junction to Case Thermal resistance			1.2	$^\circ\text{C}/\text{W}$
$R_{thJA}$	Junction to Ambient			20	$^\circ\text{C}/\text{W}$
$V_{ISOL}$	RMS Isolation Voltage, any terminal to case $t = 1\text{ min.}, 50/60\text{Hz}$	2500			V
$T_J, T_{STG}$	Storage Temperature Range	-55		175	$^\circ\text{C}$
$T_L$	Max Lead Temp for Soldering: 0.063" from case for 10 sec			300	$^\circ\text{C}$
Torque	Mounting torque (Mounting = 8-32 or 4mm Machine and terminals = 4mm Machine)			1.5	N.m
Wt	Package Weight		29.2		g



## Typical Performance Curve



**SOT-227 (ISOTOP®) Package Outline**



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