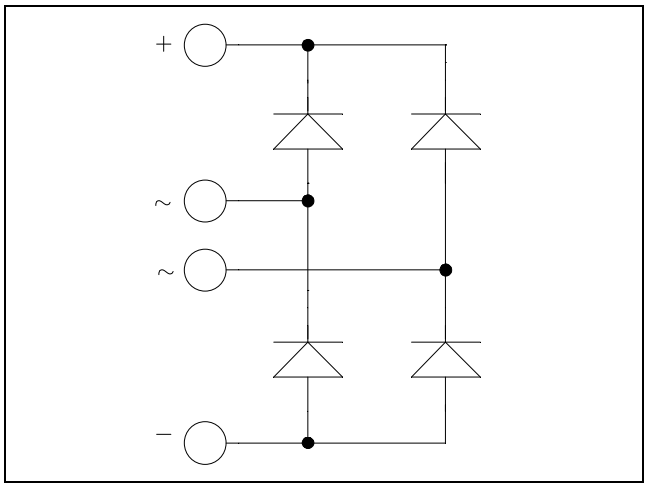
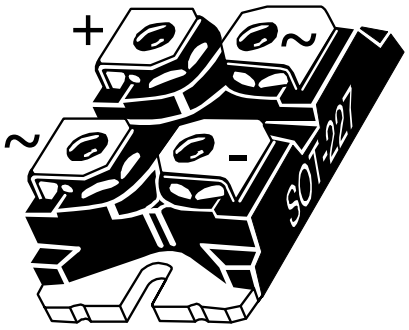
ISOTOP® Fast Diode Full Bridge Power Module

V_{RRM} = 200V
I_F = 60A @ Tc = 80°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® 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			200	V
V_{RRM}	Maximum Peak Repetitive Reverse Voltage				
$I_{F(AV)}$	Maximum Average Forward Current	Duty cycle = 50%	T_C = 25°C	90	A
			T_C = 80°C	60	
I_{FSM}	Non-Repetitive Forward Surge Current	8.3ms	T_J = 45°C	500	

CAUTION: These Devices are sensitive to Electrostatic Discharge. Proper Handling Procedures Should Be Followed. See application note APT0502 on www.microsemi.com

All ratings @ T_j = 25°C unless otherwise specified

Electrical Characteristics

Symbol	*Characteristic*	*Test Conditions*		*Min*	*Typ*	*Max*	*Unit*
V_F	Diode Forward Voltage	I_F = 60A			1.1	1.15	V
		I_F = 120A			1.4		
		I_F = 60A	T_j = 125°C		0.9		
I_{RM}	Maximum Reverse Leakage Current	V_R = 200V	T_j = 25°C			250	µA
			T_j = 125°C			500	
C_T	Junction Capacitance	V_R = 200V			210		pF

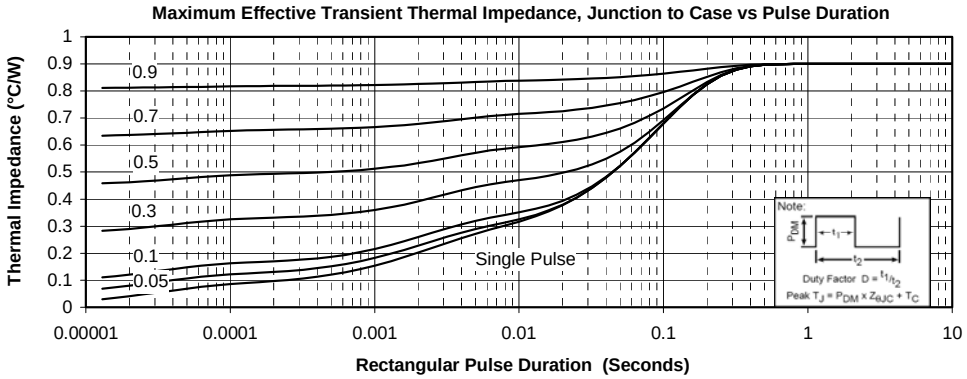
Dynamic Characteristics

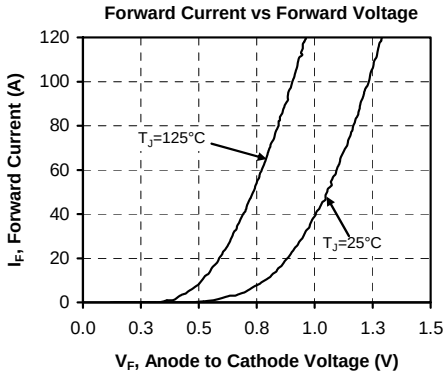
Symbol	*Characteristic*	*Test Conditions*		*Min*	*Typ*	*Max*	*Unit*
t_{rr}	Reverse Recovery Time	I_F = 60A V_R = 133V di/dt = 200A/µs	T_j = 25°C		31		ns
			T_j = 125°C		60		
Q_{rr}	Reverse Recovery Charge		T_j = 25°C		60		nC
			T_j = 125°C		250		
I_{RRM}	Reverse Recovery Current		T_j = 25°C		3		A
			T_j = 125°C		7		
t_{rr}	Reverse Recovery Time	I_F = 60A V_R = 133V di/dt=1000A/µs	T_j = 125°C		40		ns
Q_{rr}	Reverse Recovery Charge				540		nC
I_{RRM}	Reverse Recovery Current				24		A

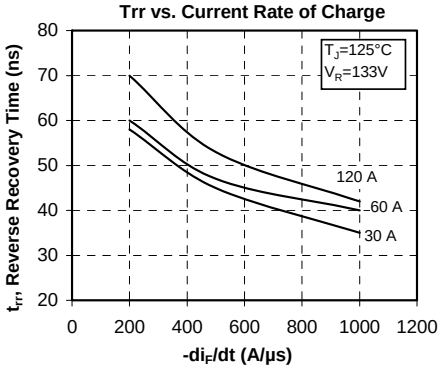
Thermal and package characteristics

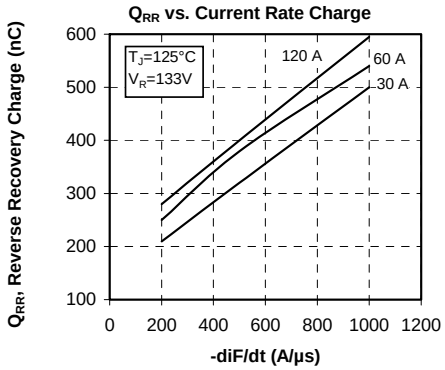
Symbol	*Characteristic*	*Min*	*Typ*	*Max*	*Unit*
R_{thJC}	Junction to Case Thermal resistance			0.9	°C/W
R_{thJA}	Junction to Ambient			20	
V_{ISOL}	RMS Isolation Voltage, any terminal to case t =1 min, I isol<1mA, 50/60Hz	2500			V
T_J,T_{STG}	Storage Temperature Range	-55		150	°C
T_L	Max Lead Temp for Soldering:0.063" from case for 10 sec			300	
Torque	Mounting torque (Mounting = 8-32 or 4mm Machine and terminals = 4mm Machine)			1.5	N.m
Wt	Package Weight		29.2		g

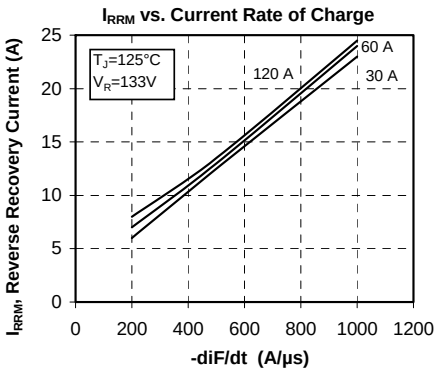
Typical Performance Curve

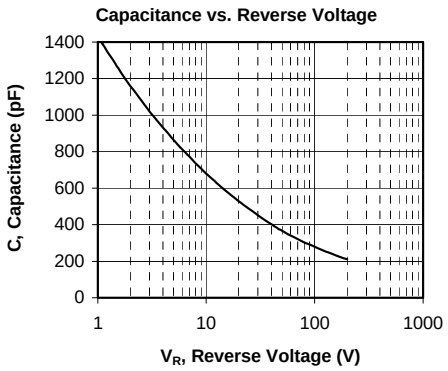




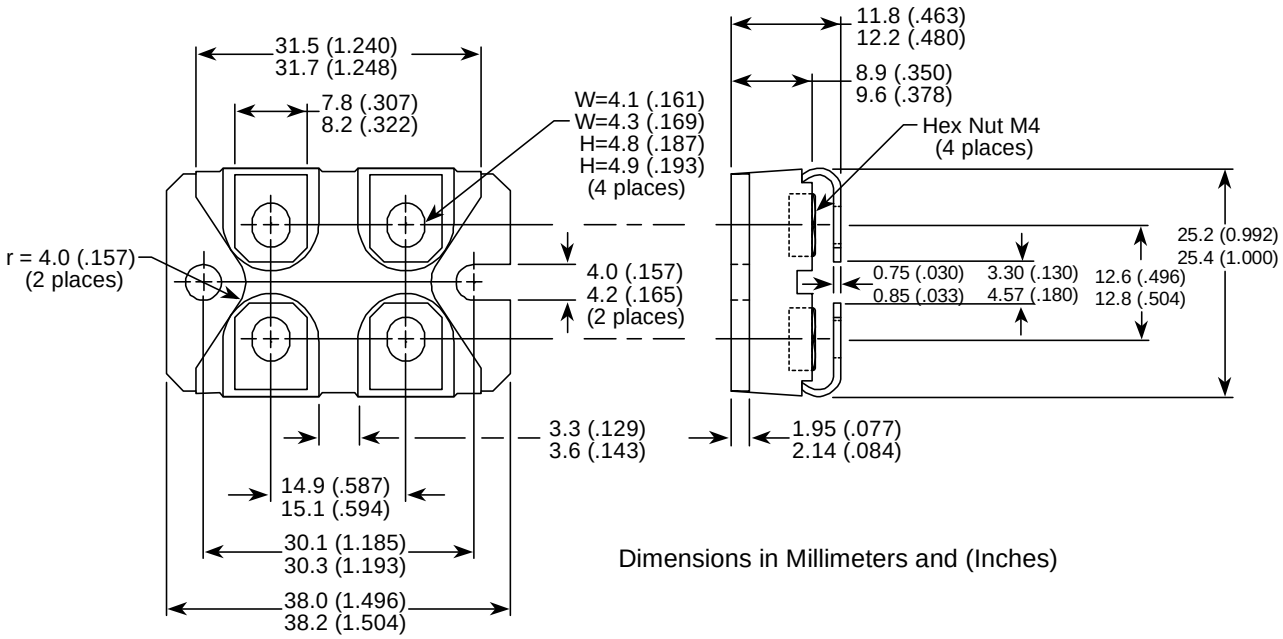








SOT-227 (ISOTOP®) Package Outline



Dimensions in Millimeters and (Inches)

ISOTOP® is a registered trademark of ST Microelectronics NV

Microsemi reserves the right to change, without notice, the specifications and information contained herein

Microsemi's products are covered by one or more of U.S patents 4,895,810 5,045,903 5,089,434 5,182,234 5,019,522 5,262,336 6,503,786 5,256,583 4,748,103 5,283,202 5,231,474 5,434,095 5,528,058 6,939,743 7,352,045 5,283,201 5,801,417 5,648,283 7,196,634 6,664,594 7,157,886 6,939,743 7,342,262 and foreign patents. U.S and Foreign patents pending. All Rights Reserved.