# 阅读申明

- 1.本站收集的数据手册和产品资料都来自互联网,版权归原作者所有。如读者和版权方有任何异议请及时告之,我们将妥善解决。
- 2.本站提供的中文数据手册是英文数据手册的中文翻译,其目的是协助用户阅读,该译文无法自动跟随原稿更新,同时也可能存在翻译上的不当。建议读者以英文原稿为参考以便获得更精准的信息。
- 3.本站提供的产品资料,来自厂商的技术支持或者使用者的心得体会等,其内容可能存在描 叙上的差异,建议读者做出适当判断。
- 4.如需与我们联系,请发邮件到marketing@iczoom.com,主题请标有"数据手册"字样。

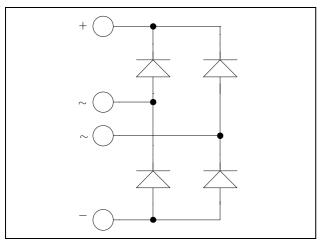
# **Read Statement**

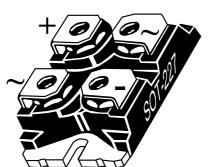
- 1. The datasheets and other product information on the site are all from network reference or other public materials, and the copyright belongs to the original author and original published source. If readers and copyright owners have any objections, please contact us and we will deal with it in a timely manner.
- 2. The Chinese datasheets provided on the website is a Chinese translation of the English datasheets. Its purpose is for reader's learning exchange only and do not involve commercial purposes. The translation cannot be automatically updated with the original manuscript, and there may also be improper translations. Readers are advised to use the English manuscript as a reference for more accurate information.
- 3. All product information provided on the website refer to solutions from manufacturers' technical support or users the contents may have differences in description, and readers are advised to take the original article as the standard.
- 4. If you have any questions, please contact us at marketing@iczoom.com and mark the subject with "Datasheets".



# ISOTOP® Fast Diode Full Bridge Power Module

$$V_{RRM} = 600V$$
  
 $I_F = 30A$  @  $Tc = 80$ °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			600	V	
$V_{RRM}$	Maximum Peak Repetitive Revers	e Voltage			000	V
$I_{F(AV)}$	Maximum Average Forward Current	Duty cycle = 50%		$T_C = 80$ °C	30	A
$I_{FRM}$	Maximum repetitive forward curre by T <sub>Jmax</sub>	ent limited	8.3ms	$T_J = 45$ °C	60	11

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
$V_{\mathrm{F}}$	Diode Forward Voltage	$I_F = 30A$	$T_i = 25^{\circ}C$		1.6	2	V
			$T_{j} = 150^{\circ}C$		1.5		
$I_{RM}$	Maximum Reverse Leakage Current	$V_R = 600V$	$T_i = 25^{\circ}C$			250	μΑ
		v <sub>R</sub> – 000 v	$T_j = 150$ °C			500	

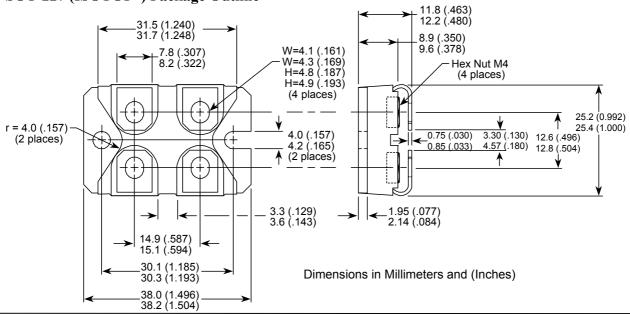
#### **Dynamic Characteristics**

Symbol	Characteristic	Test Conditions		Min	Тур	Max	Unit
t <sub>rr</sub>	Reverse Recovery Time		$T_j = 25$ °C		100		- ns
		$I_F = 30A$ $V_R = 300V$ $di/dt = 1800A/\mu s$	$T_{i} = 150^{\circ}C$		150		
Q <sub>rr</sub>	Reverse Recovery Charge		$T_j = 25^{\circ}C$		1.5		μС
			$T_j = 150$ °C		3.1		
E <sub>rr</sub>	Reverse Recovery Energy		$T_j = 25^{\circ}C$		0.34		mJ
			$T_j = 150$ °C		0.65		1113

#### Thermal and package characteristics

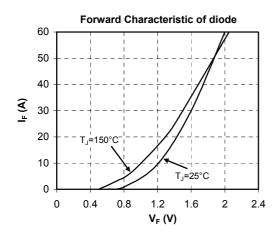
Symbol	Characteristic	Min	Typ	Max	Unit
$R_{thJC}$	Junction to Case Thermal resistance			2.45	°C/W
$R_{thJA}$	Junction to Ambient			20	C/ VV
$V_{ISOL}$	RMS Isolation Voltage, any terminal to case t = 1 min, 50/60Hz	2500			V
$T_{J}, T_{STG}$	Storage Temperature Range	-55		175	°C
$T_{ m L}$	Max Lead Temp 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

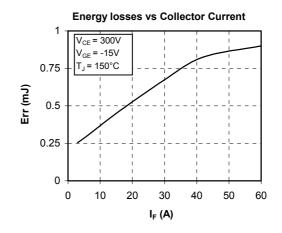
### **SOT-227 (ISOTOP®) Package Outline**

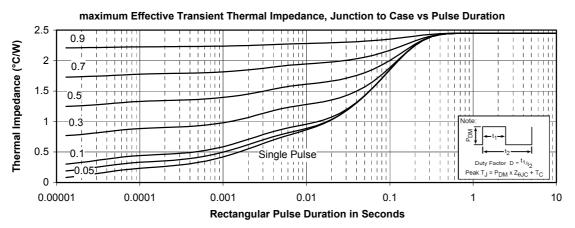




#### **Typical Performance Curve**







ISOTOP® is a registered trademark of ST Microelectronics NV



#### **DISCLAIMER**

The information contained in the document (unless it is publicly available on the Web without access restrictions) is PROPRIETARY AND CONFIDENTIAL information of Microsemi and cannot be copied, published, uploaded, posted, transmitted, distributed or disclosed or used without the express duly signed written consent of Microsemi. If the recipient of this document has entered into a disclosure agreement with Microsemi, then the terms of such Agreement will also apply. This document and the information contained herein may not be modified, by any person other than authorized personnel of Microsemi. No license under any patent, copyright, trade secret or other intellectual property right is granted to or conferred upon you by disclosure or delivery of the information, either expressly, by implication, inducement, estoppels or otherwise. Any license under such intellectual property rights must be approved by Microsemi in writing signed by an officer of Microsemi.

Microsemi reserves the right to change the configuration, functionality and performance of its products at anytime without any notice. This product has been subject to limited testing and should not be used in conjunction with life-support or other mission-critical equipment or applications. Microsemi assumes no liability whatsoever, and Microsemi disclaims any express or implied warranty, relating to sale and/or use of Microsemi products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright or other intellectual property right. Any performance specifications believed to be reliable but are not verified and customer or user must conduct and complete all performance and other testing of this product as well as any user or customers final application. User or customer shall not rely on any data and performance specifications or parameters provided by Microsemi. It is the customer's and user's responsibility to independently determine suitability of any Microsemi product and to test and verify the same. The information contained herein is provided "AS IS, WHERE IS" and with all faults, and the entire risk associated with such information is entirely with the User. Microsemi specifically disclaims any liability of any kind including for consequential, incidental and punitive damages as well as lost profit. The product is subject to other terms and conditions which can be located on the web at http://www.microsemi.com/legal/tnc.asp

#### Life Support Application

Seller's Products are not designed, intended, or authorized for use as components in systems intended for space, aviation, surgical implant into the body, in other applications intended to support or sustain life, or for any other application in which the failure of the Seller's Product could create a situation where personal injury, death or property damage or loss may occur (collectively "Life Support Applications").

Buyer agrees not to use Products in any Life Support Applications and to the extent it does it shall conduct extensive testing of the Product in such applications and further agrees to indemnify and hold Seller, and its officers, employees, subsidiaries, affiliates, agents, sales representatives and distributors harmless against all claims, costs, damages and expenses, and attorneys' fees and costs arising, directly or directly, out of any claims of personal injury, death, damage or otherwise associated with the use of the goods in Life Support Applications, even if such claim includes allegations that Seller was negligent regarding the design or manufacture of the goods.

Buyer must notify Seller in writing before using Seller's Products in Life Support Applications. Seller will study with Buyer alternative solutions to meet Buyer application specification based on Sellers sales conditions applicable for the new proposed specific part.