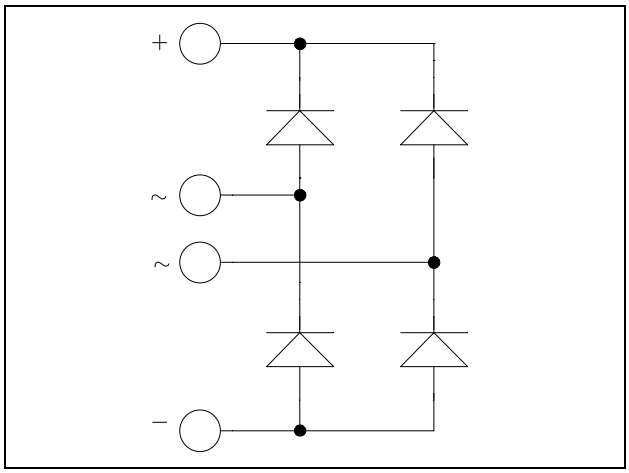
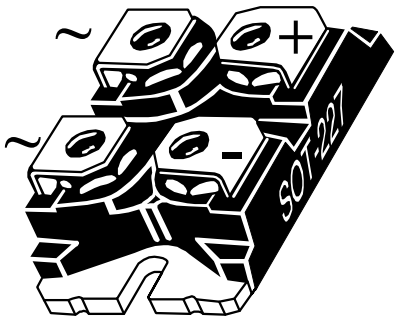
APT90DR160HJ

ISOTOP® Rectifier diode full bridge Power Module

V_{RRM} = 1600V
I_F = 90A @ Tc = 80°C





Application

- Input mains rectifier

Features

- Planar double passivated chips
- 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			1600	V
V_{RRM}	Maximum Peak Repetitive Reverse Voltage				
I_F	DC Forward Current		T_C = 90°C	80	A
I_{FSM}	Non-Repetitive Forward Surge Current	t=10ms	T_J = 45°C	850	

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

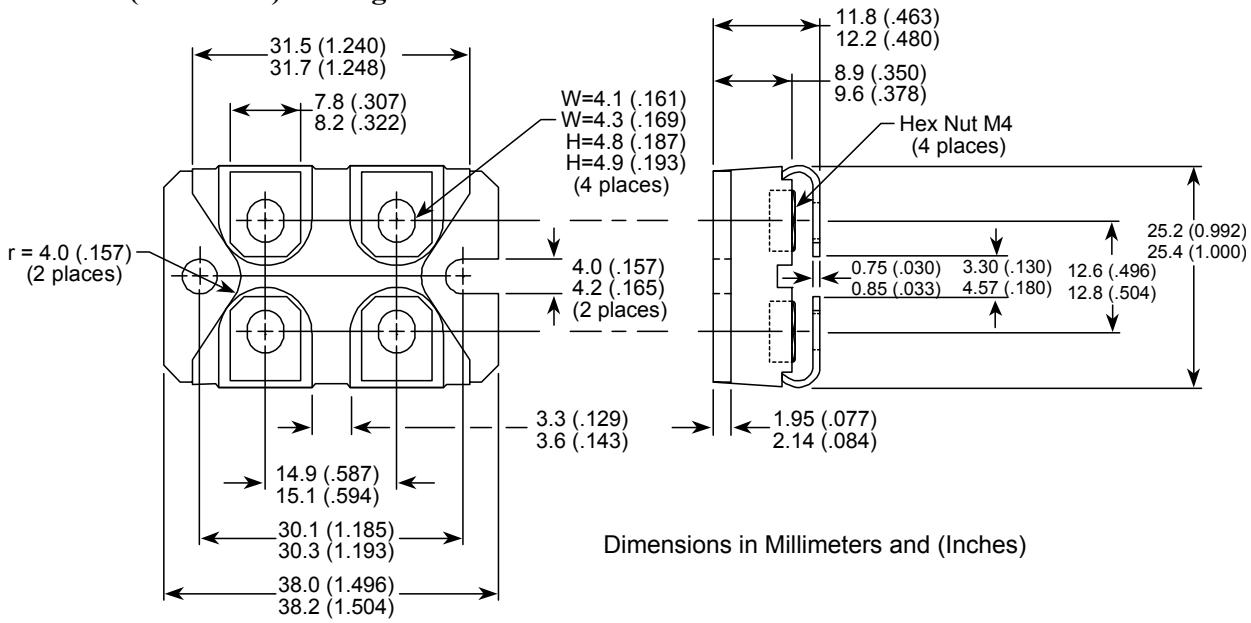
Electrical Characteristics

Symbol	*Characteristic*	*Test Conditions*		*Min*	*Typ*	*Max*	*Unit*
I_R	Reverse Current	V_R = 1600V	T_j = 25°C		50		µA
			T_j = 125°C		4		mA
V_F	Forward Voltage	I_F = 90A	T_j = 25°C		1.3		V
			T_j = 125°C		1.1		
V_T	On – state Voltage				0.8		V
r_T	On – state Slope resistance				4.8		mΩ

Thermal and package characteristics

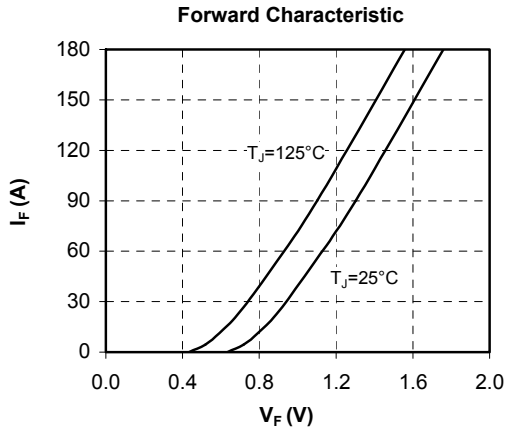
Symbol	*Characteristic*	*Min*	*Typ*	*Max*	*Unit*
R_{thJC}	Junction to Case Thermal resistance			0.85	°C/W
R_{thJA}	Junction to Ambient			20	
V_{ISOL}	RMS Isolation Voltage, any terminal to case t =1 min, 50/60Hz	2500			V
T_J,T_{STG}	Storage Temperature Range	-55		150	°C
T_L	Max Lead Temp for Soldering:0.063" 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

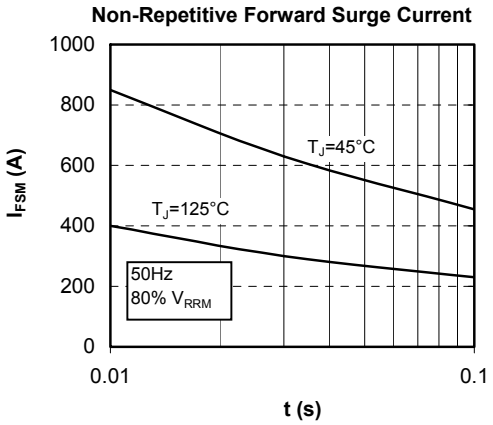
SOT-227 (ISOTOP®) Package Outline

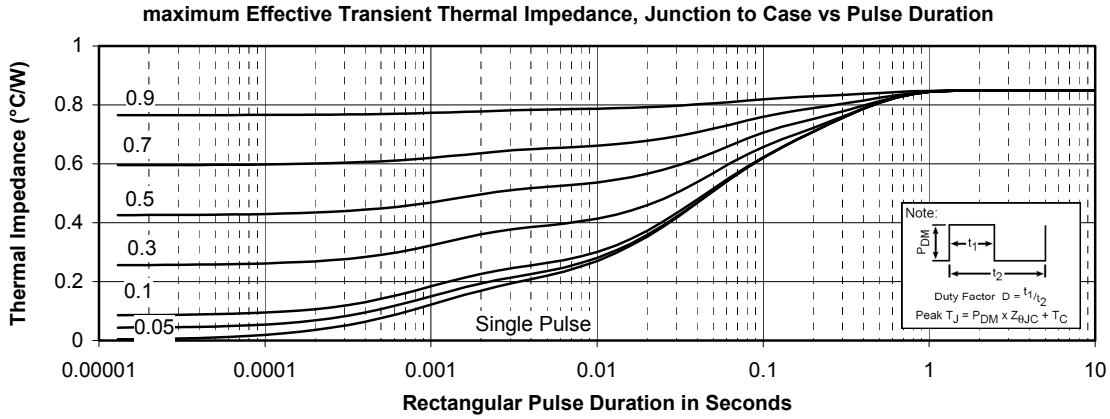


Dimensions in Millimeters and (Inches)

Typical Performance Curve







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