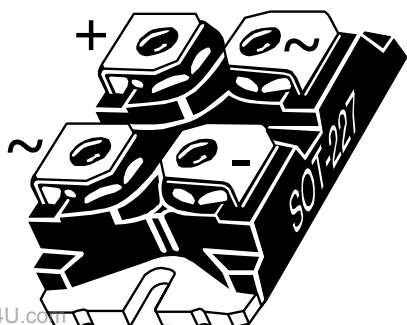
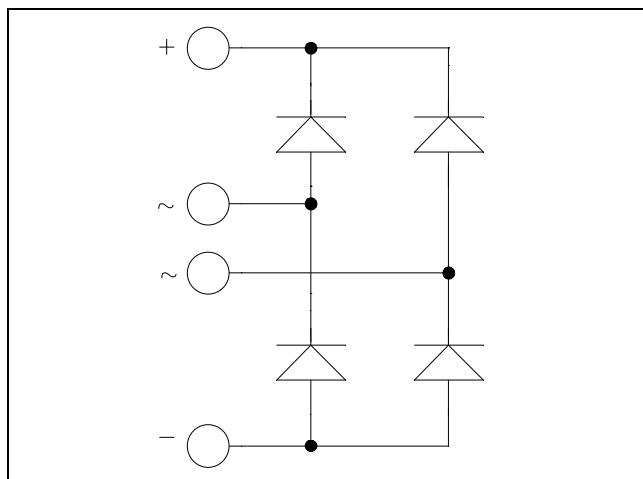


APT75DF170HJ

ISOTOP® Fast Diode Full Bridge Power Module

$$V_{RRM} = 1700V$$

$$I_F = 75A @ T_c = 80^{\circ}C$$



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® 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			1700	V
V _{RRM}	Maximum Peak Repetitive Reverse Voltage				
I _{F(AV)}	Maximum Average Forward Current	Duty cycle = 50%	T _C = 80°C	75	A
I _{FRM}	Maximum repetitive forward current limited by T _{Jmax}	8.3ms	T _J = 45°C	150	

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

APT75DF170HJ

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 = 75A	T _j = 25°C		1.8	2.2	V
			T _j = 125°C		1.9		
I _{RM}	Maximum Reverse Leakage Current	V _R = 1700V	T _j = 25°C			250	μA
			T _j = 125°C			500	

Dynamic Characteristics

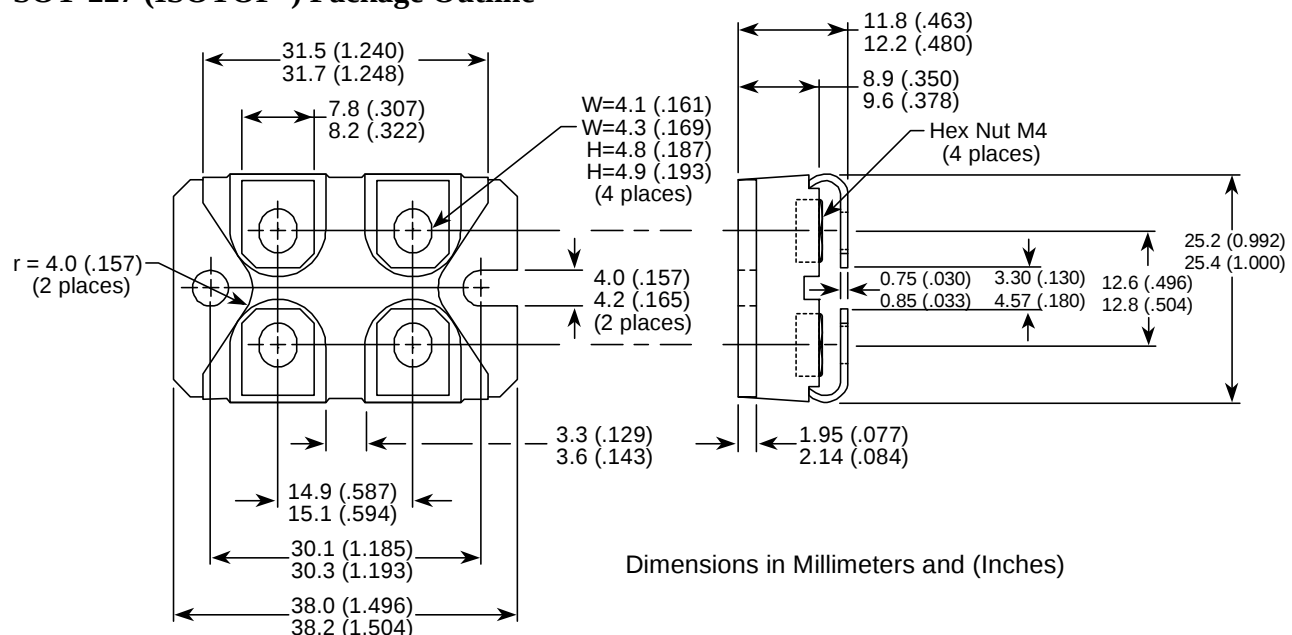
Symbol	Characteristic	Test Conditions		Min	Typ	Max	Unit
t _{rr}	Reverse Recovery Time	I _F = 75A V _R = 900V di/dt = 800A/μs	T _j = 25°C		385		ns
			T _j = 125°C		490		
Q _{rr}	Reverse Recovery Charge		T _j = 25°C		19		μC
			T _j = 125°C		31		
E _{rr}	Reverse Recovery Energy		T _j = 25°C		9		mJ
			T _j = 125°C		18		

Thermal and package characteristics

Symbol	Characteristic	Min	Typ	Max	Unit
R_{thJC}	Junction to Case Thermal resistance			0.5	$^\circ\text{C}/\text{W}$
R_{thJA}	Junction to Ambient			20	
V_{ISOL}	RMS Isolation Voltage, any terminal to case $t = 1\text{ min}$, $I_{isol} < 1\text{mA}$, 50/60Hz	2500			V
T_j, T_{STG}	Storage Temperature Range	-55		150	$^\circ\text{C}$
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

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SOT-227 (ISOTOP®) Package Outline



APT75DF170HJ

Typical Performance Curve

