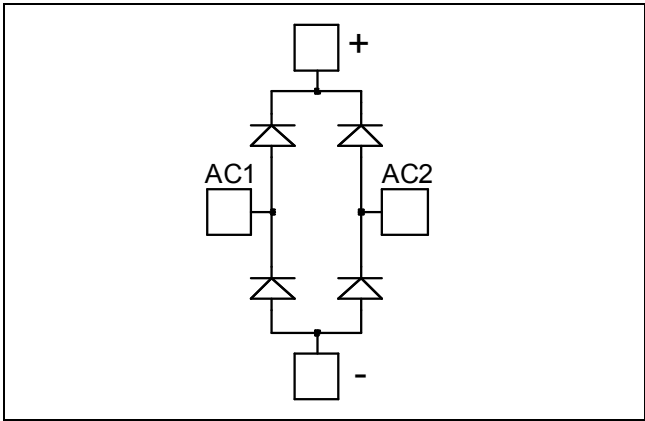


Diode Full Bridge Power Module

$V_{RRM} = 1700V$
 $I_C = 100A @ T_c = 55^\circ C$

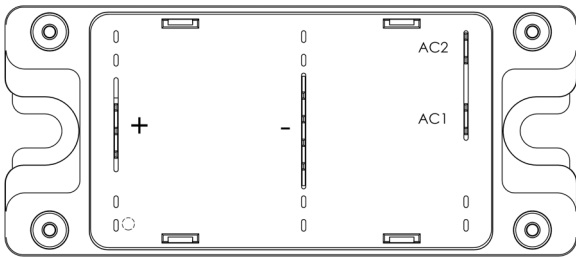


Application

- Uninterruptible Power Supply (UPS)
- 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
 - Symmetrical design
 - Lead frames for power connections
- High level of integration



Benefits

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

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

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%	A
		$T_c = 25^\circ C$	
		$T_c = 55^\circ C$	100
$I_{F(RMS)}$	RMS Forward Current	125	
I_{FSM}	Non-Repetitive Forward Surge Current	$T_j = 25^\circ C$	300

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

Electrical Characteristics

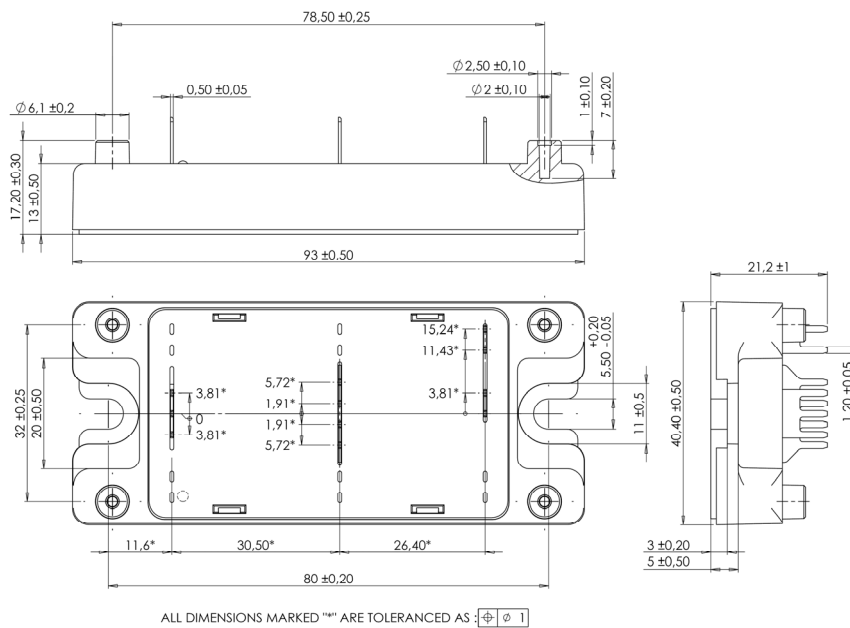
Symbol	Characteristic	Test Conditions		Min	Typ	Max	Unit
V _F	Diode Forward Voltage	I _F = 100A	T _j = 25°C		2.2	2.5	V
			T _j = 125°C		2.1		
I _{RM}	Maximum Reverse Leakage Current	V _R = 1700V	T _j = 25°C			250	μA
			T _j = 125°C			500	

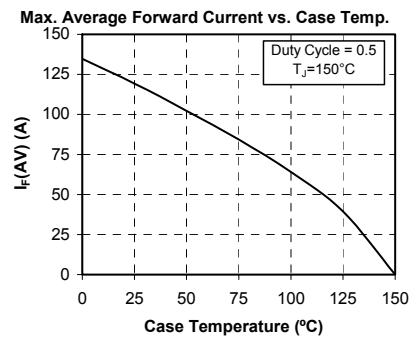
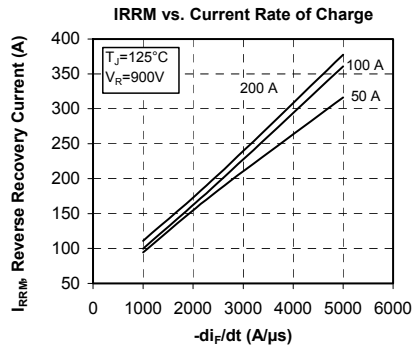
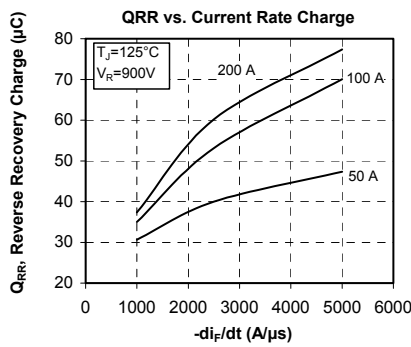
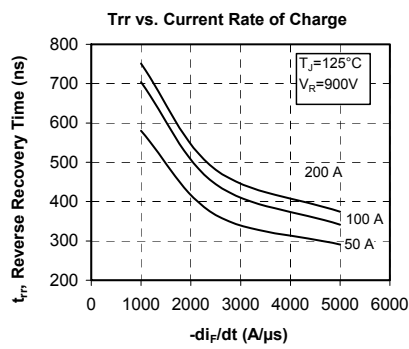
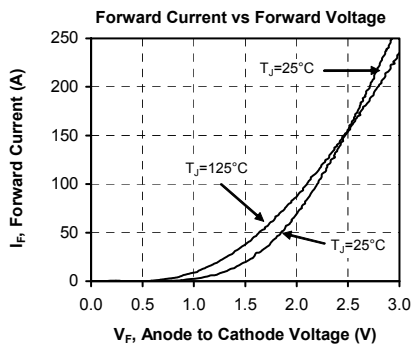
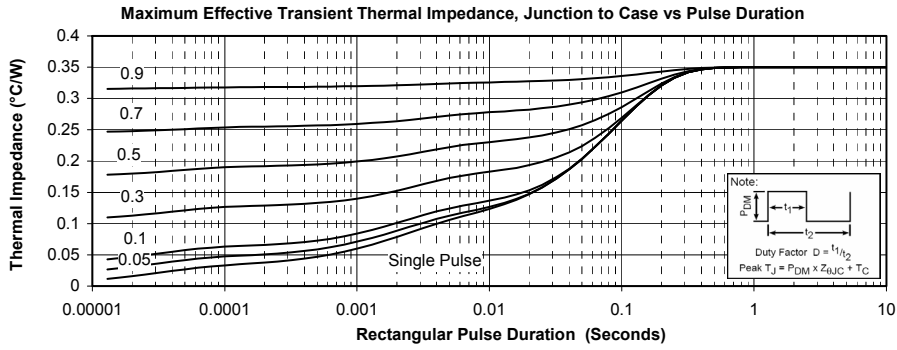
Dynamic Characteristics

Symbol	Characteristic	Test Conditions		Min	Typ	Max	Unit
t _{rr}	Reverse Recovery Time	I _F = 100A V _R = 900V di/dt = 1000A/μs	T _j = 25°C		572		ns
			T _j = 125°C		704		
Q _{rr}	Reverse Recovery Charge	I _F = 100A V _R = 900V di/dt = 1000A/μs	T _j = 25°C		20		μC
			T _j = 125°C		35		
I _{RRM}	Reverse Recovery Current	I _F = 100A V _R = 900V di/dt = 1000A/μs	T _j = 25°C		70		A
			T _j = 125°C		100		

Thermal and package characteristics

Symbol	Characteristic			Min	Typ	Max	Unit
R _{thJC}	Junction to Case Thermal Resistance					0.35	°C/W
V _{ISOL}	RMS Isolation Voltage, any terminal to case t = 1 min, 50/60Hz			4000			V
T _J	Operating junction temperature range			-40		150	°C
T _{STG}	Storage Temperature Range			-40		125	
T _C	Operating Case Temperature			-40		100	
Torque	Mounting torque	To Heatsink	M5	2.5		4.7	N.m
Wt	Package Weight					160	g

SP4 Package outline (dimensions in mm)

Typical Performance Curve



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