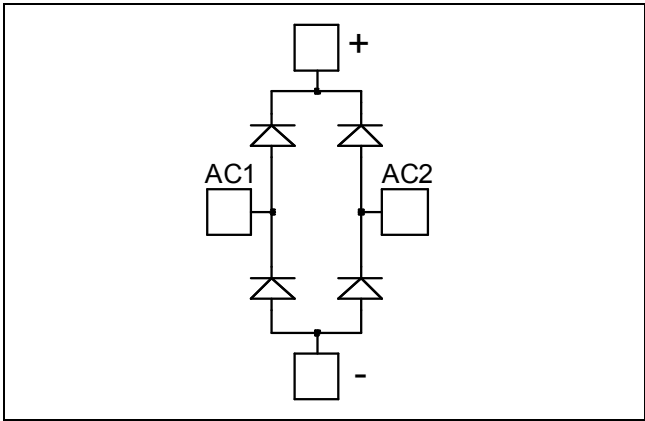


Diode Full Bridge Power Module

$V_{RRM} = 600V$
 $I_C = 200A @ T_c = 80^\circ C$

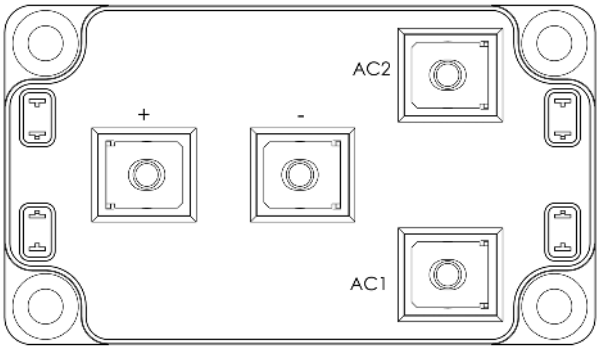


Application

- 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
 - M5 power connectors
- High level of integration



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

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

Absolute maximum ratings

Symbol	Parameter		Max ratings	Unit
V_R	Maximum DC reverse Voltage		600	V
V_{RRM}	Maximum Peak Repetitive Reverse Voltage			
$I_{F(AV)}$	Maximum Average Forward Current	Duty cycle = 50%	$T_C = 25^\circ C$	A
			$T_C = 80^\circ C$	
$I_{F(RMS)}$	RMS Forward Current	Duty cycle = 50%	$T_C = 45^\circ C$	
I_{FSM}	Non-Repetitive Forward Surge Current	8.3ms	$T_C = 45^\circ C$	

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

Electrical Characteristics

<i>Symbol</i>	<i>Characteristic</i>	<i>Test Conditions</i>		<i>Min</i>	<i>Typ</i>	<i>Max</i>	<i>Unit</i>
V _F	Diode Forward Voltage	I _F = 200A			1.6	2.0	V
		I _F = 400A			2.0		
		I _F = 200A	T _j = 125°C		1.3		
I _{RM}	Maximum Reverse Leakage Current	V _R = 600V	T _j = 25°C			350	μA
			T _j = 125°C			600	
C _T	Junction Capacitance	V _R = 600V			380		pF

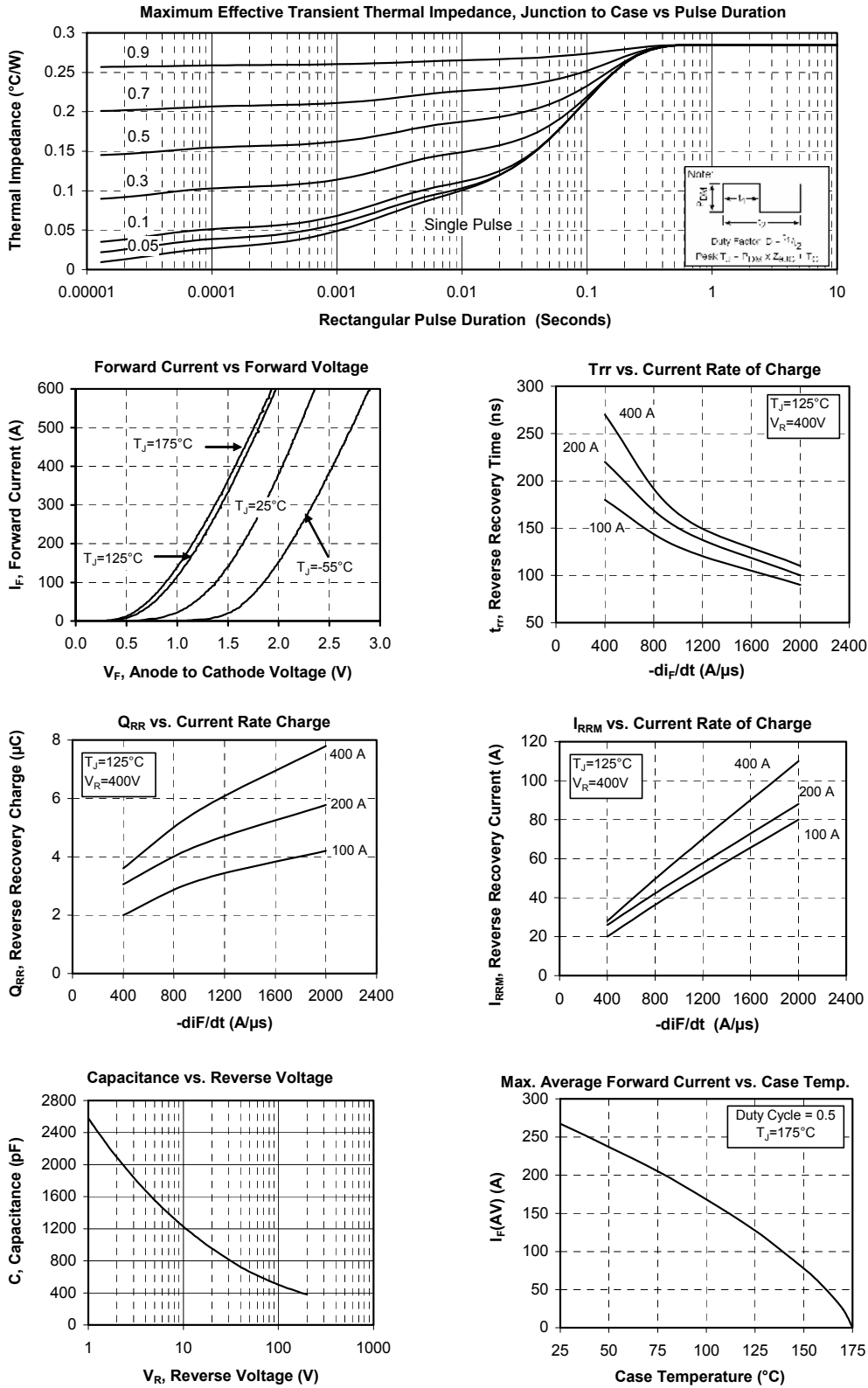
Dynamic Characteristics

<i>Symbol</i>	<i>Characteristic</i>	<i>Test Conditions</i>		<i>Min</i>	<i>Typ</i>	<i>Max</i>	<i>Unit</i>
t _{rr}	Reverse Recovery Time	I _F =1A, V _R =30V	T _j = 25°C		34		ns
t _{rr}	Reverse Recovery Time	I _F = 200A V _R = 400V di/dt = 400A/μs	T _j = 25°C		160		ns
			T _j = 125°C		220		
Q _{rr}	Reverse Recovery Charge		T _j = 25°C		580		nC
			T _j = 125°C		3060		
I _R RM	Reverse Recovery Current		T _j = 25°C		10		A
			T _j = 125°C		26		
t _{rr}	Reverse Recovery Time	I _F = 200A V _R = 400V di/dt = 2000A/μs	T _j = 125°C		100		ns
Q _{rr}	Reverse Recovery Charge				5.78		μC
I _R RM	Reverse Recovery Current				88		A

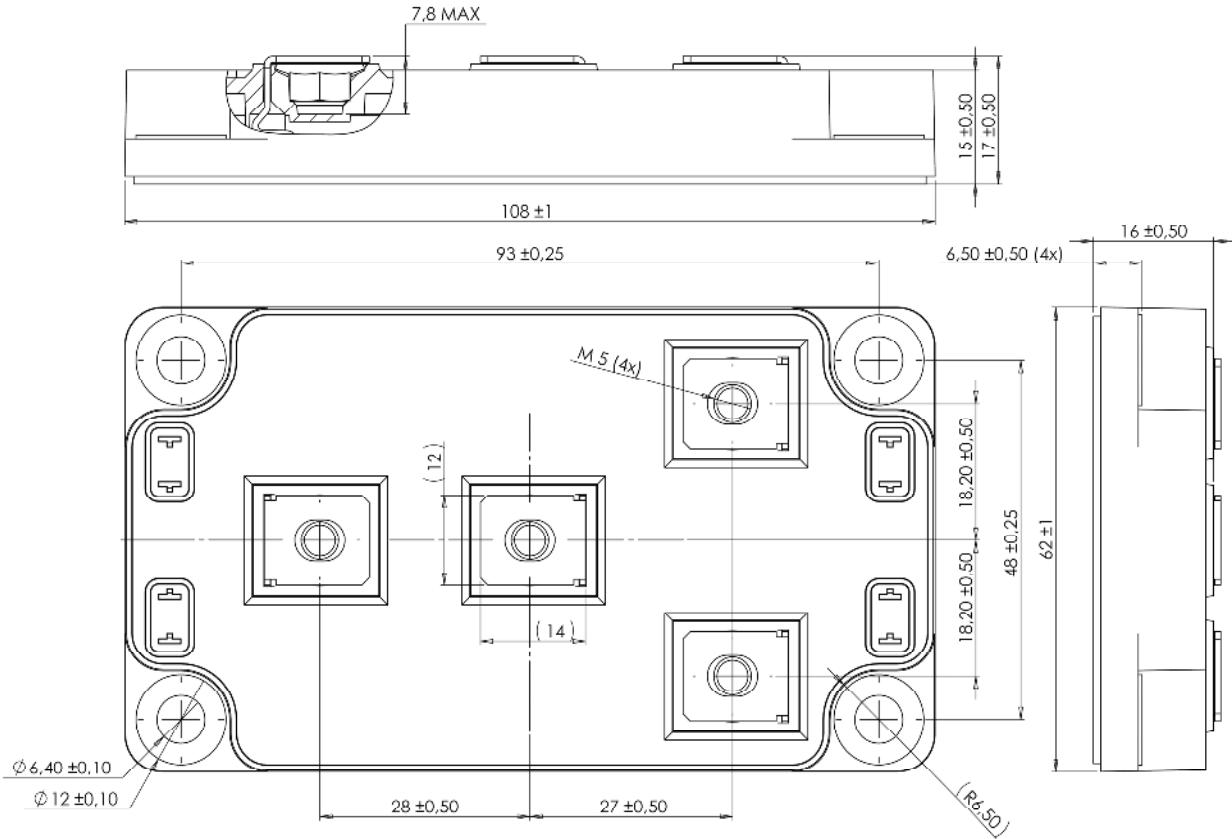
Thermal and package characteristics

<i>Symbol</i>	<i>Characteristic</i>	<i>Min</i>	<i>Typ</i>	<i>Max</i>	<i>Unit</i>	
R _{thJC}	Junction to Case Thermal Resistance			0.285	°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		175	°C	
T _{STG}	Storage Temperature Range	-40		125		
T _C	Operating Case Temperature	-40		100		
Torque	Mounting torque	To heatsink	M6	3	5	N.m
		For terminals	M5	2	3.5	
Wt	Package Weight			300	g	

Typical Performance Curve



SP6 Package outline (dimensions in mm)



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