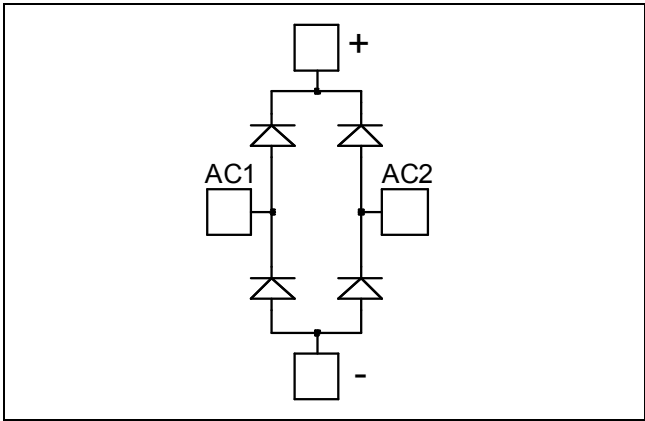


Diode Full Bridge Power Module

$V_{RRM} = 1200V$
 $I_C = 200A @ T_c = 60^\circ C$

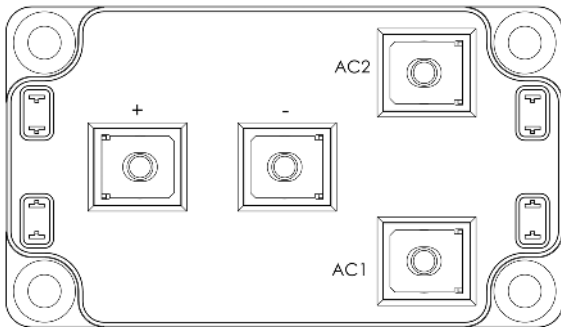


Application

- 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	1200	V
V_{RRM}	Maximum Peak Repetitive Reverse Voltage		
$I_{F(AV)}$	Maximum Average Forward Current	Duty cycle = 50% $T_C = 25^\circ C$	235
		$T_C = 60^\circ C$	200
$I_{F(RMS)}$	RMS Forward Current	Duty cycle = 50% $T_C = 45^\circ C$	235
I_{FSM}	Non-Repetitive Forward Surge Current	8.3ms $T_C = 45^\circ C$	1500

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			2.4	3.0	V
		I _F = 300A			2.7		
		I _F = 200A	T _j = 125°C		1.8		
I _{RM}	Maximum Reverse Leakage Current	V _R = 1200V	T _j = 25°C			150	μA
			T _j = 125°C			600	
C _T	Junction Capacitance	V _R = 1200V			220		pF

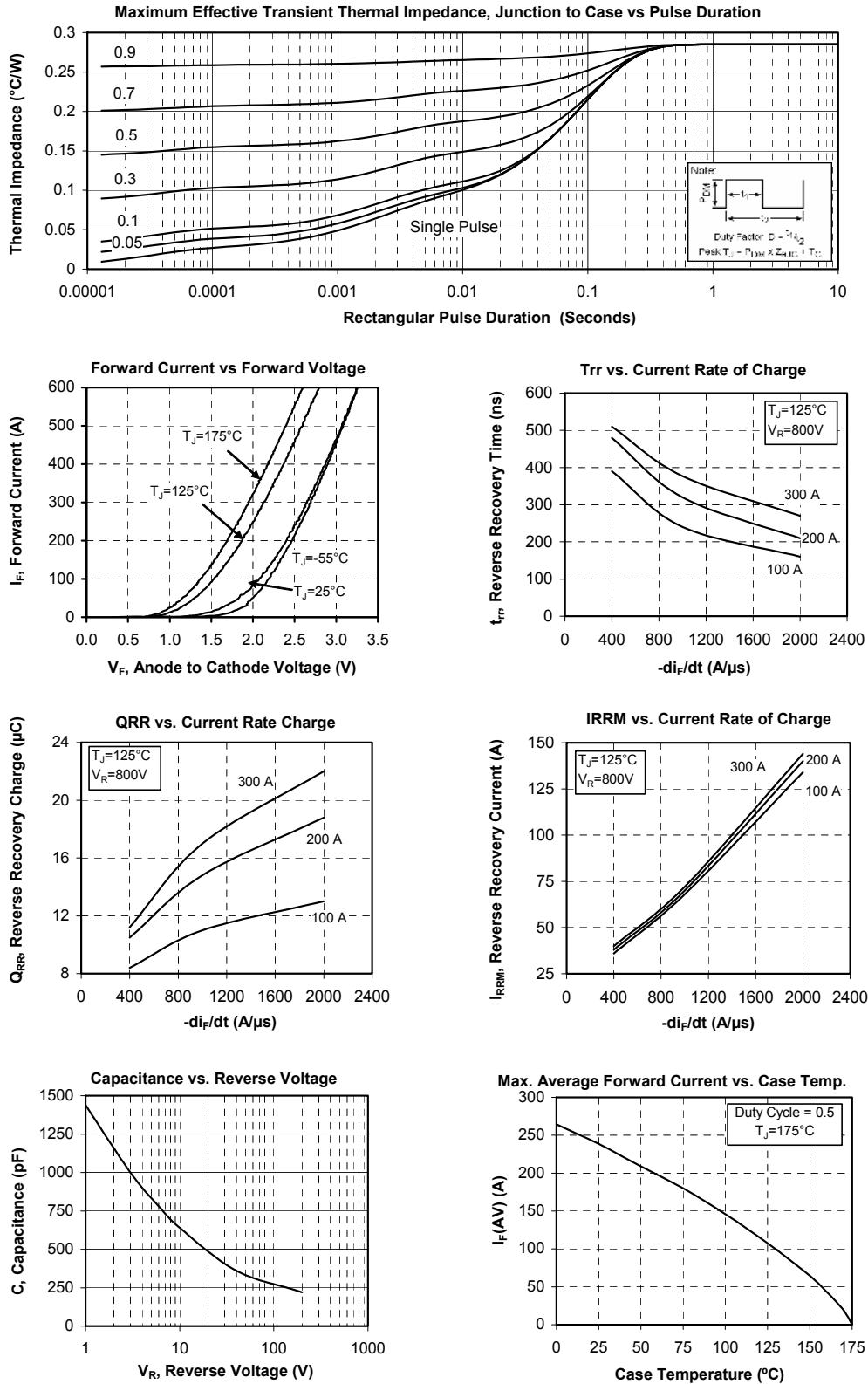
Dynamic Characteristics

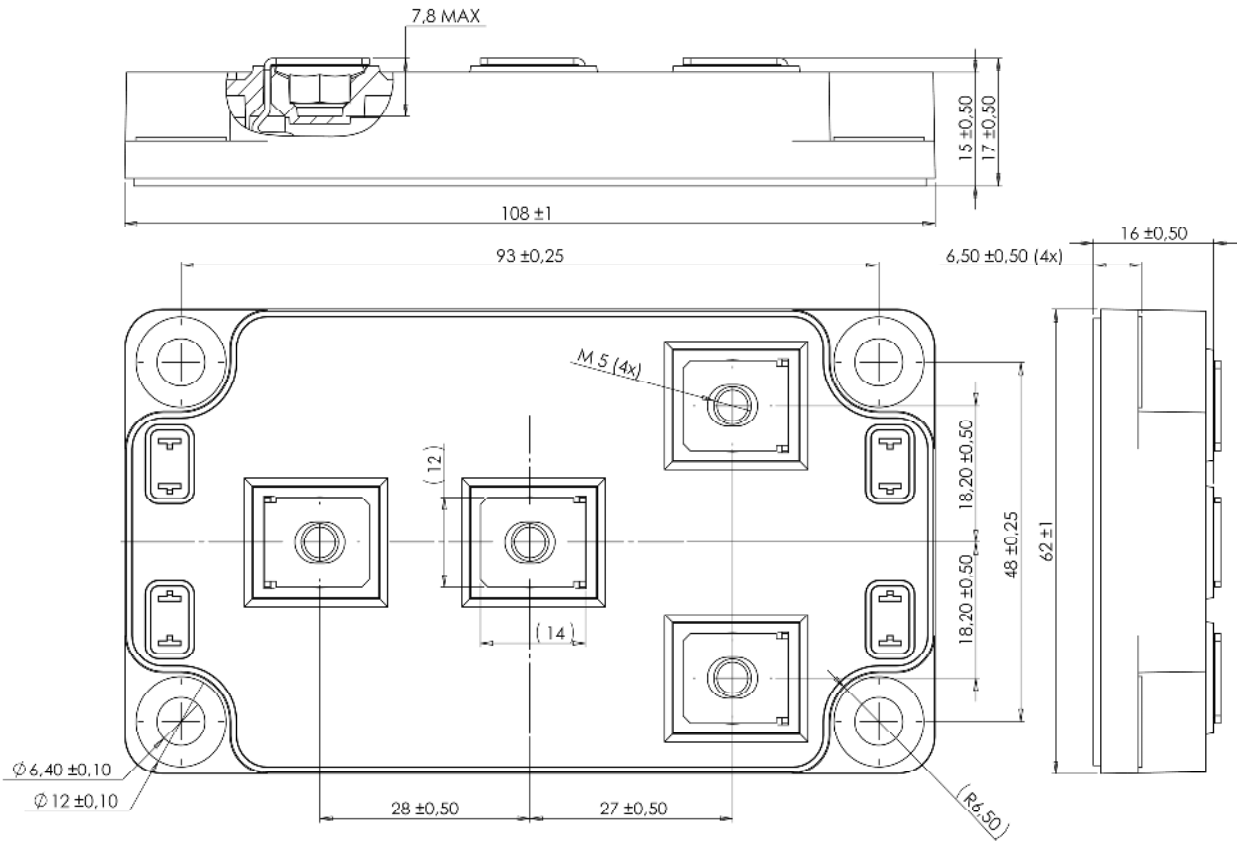
<i>Symbol</i>	<i>Characteristic</i>	<i>Test Conditions</i>		<i>Min</i>	<i>Typ</i>	<i>Max</i>	<i>Unit</i>	
t _{rr}	Reverse Recovery Time	I _F =1A, V _R =30V	T _j = 25°C		45		ns	
t _{rr}	Reverse Recovery Time	I _F = 200A V _R = 800V di/dt = 400A/μs	T _j = 25°C		385		ns	
			T _j = 125°C		480			
Q _{rr}	Reverse Recovery Charge		T _j = 25°C		2.1		μC	
			T _j = 125°C		10.5			
I _R RM	Reverse Recovery Current		T _j = 25°C		12		A	
			T _j = 125°C		38			
t _{rr}	Reverse Recovery Time		I _F = 200A V _R = 800V di/dt=2000A/μs	T _j = 125°C		210		ns
Q _{rr}	Reverse Recovery Charge					19		μC
I _R RM	Reverse Recovery Current				140		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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