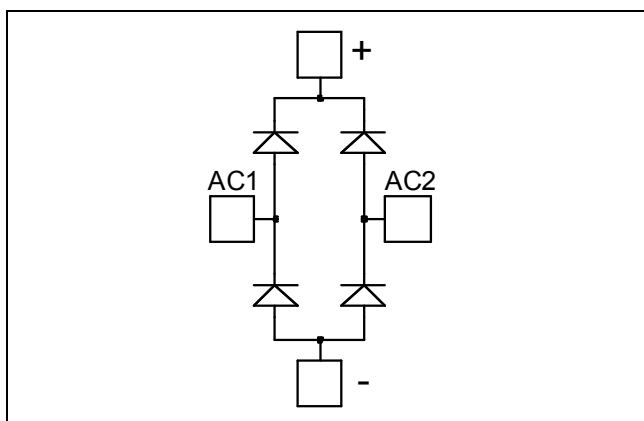


Diode Full Bridge Power Module

$$V_{RRM} = 200V$$

$$I_C = 100A @ T_c = 80^{\circ}C$$



Application

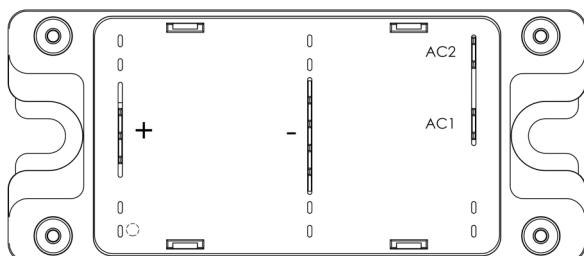
- Uninterruptible Power Supply (UPS)
- Induction heating
- Welding equipment
- High speed rectifiers

Features

- Ultra fast recovery times
- Soft recovery characteristics
- High blocking voltage
- High current
- Low leakage current
- Very low stray inductance
 - Symmetrical design
 - 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



Absolute maximum ratings

Symbol	Parameter			Max ratings	Unit
V _R	Maximum DC reverse Voltage			200	V
V _{RRM}	Maximum Peak Repetitive Reverse Voltage				
I _{F(AV)}	Maximum Average Forward Current	Duty cycle = 50%	T _C = 25°C	145	A
			T _C = 80°C	100	
I _{F(RMS)}	RMS Forward Current	Duty cycle = 50%	T _C = 45°C	145	
I _{FSM}	Non-Repetitive Forward Surge Current	8.3ms	T _C = 45°C	500	



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

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

Electrical Characteristics

Symbol	Characteristic	Test Conditions	Min	Typ	Max	Unit
V_F	Diode Forward Voltage	$I_F = 100\text{A}$		1.0	1.1	V
		$I_F = 200\text{A}$		1.4		
		$I_F = 100\text{A}$ $T_j = 125^\circ\text{C}$		0.9		
I_{RM}	Maximum Reverse Leakage Current	$V_R = 200\text{V}$	$T_j = 25^\circ\text{C}$		250	μA
			$T_j = 125^\circ\text{C}$		500	
C_T	Junction Capacitance	$V_R = 200\text{V}$		400		pF

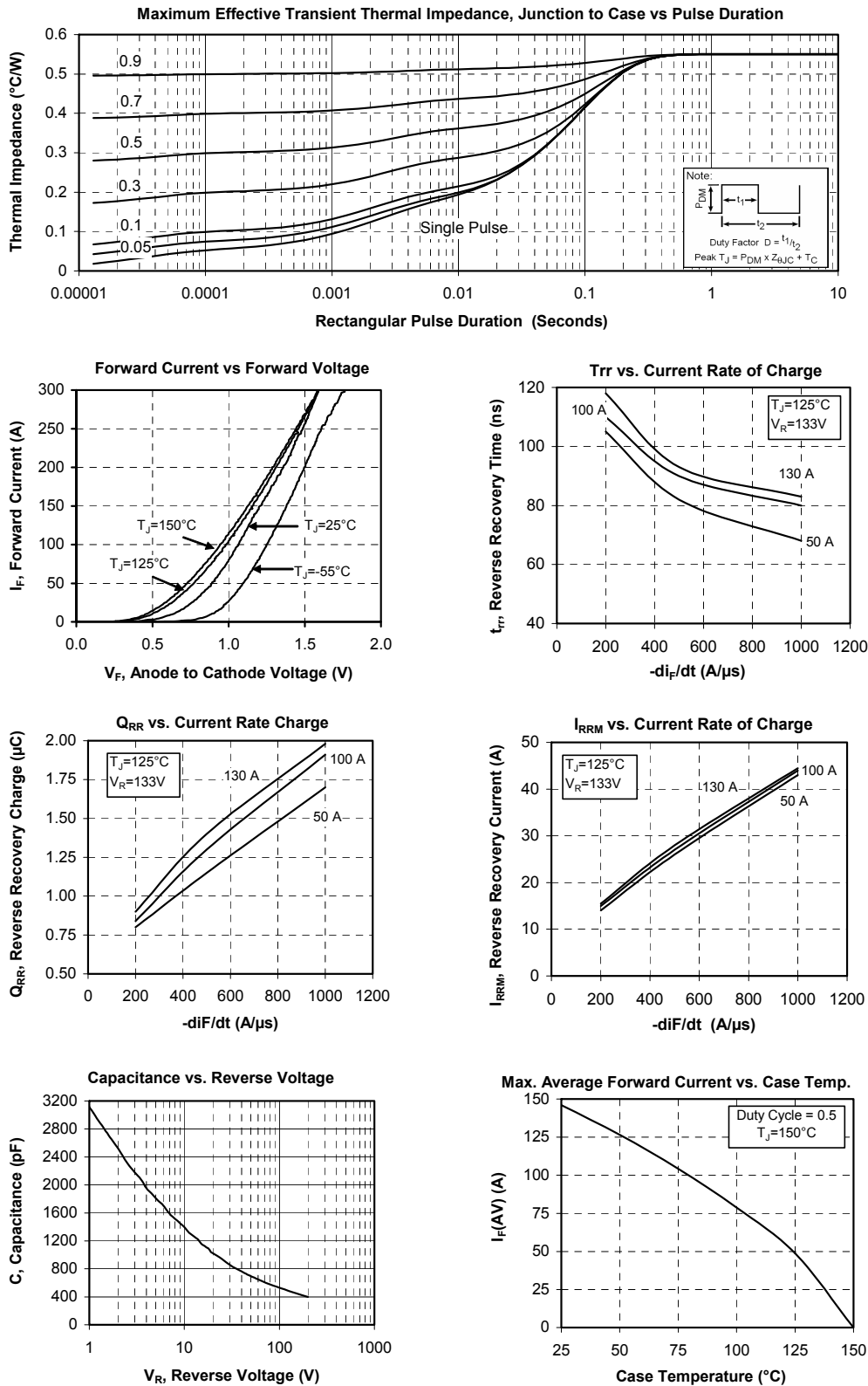
Dynamic Characteristics

Symbol	Characteristic	Test Conditions		Min	Typ	Max	Unit
t _{rr}	Reverse Recovery Time	I _F =1A, V _R =30V di/dt = 100A/μs	T _j = 25°C		39		ns
t _{rr}	Reverse Recovery Time	I _F = 100A V _R = 133V di/dt = 200A/μs	T _j = 25°C		60		ns
			T _j = 125°C		110		
Q _{rr}	Reverse Recovery Charge		T _j = 25°C		200		nC
			T _j = 125°C		840		
I _{RRM}	Reverse Recovery Current		T _j = 25°C		6		A
			T _j = 125°C		15		
t _{rr}	Reverse Recovery Time	I _F = 100A V _R = 133V di/dt=1000A/μs	T _j = 125°C		80		ns
Q _{rr}	Reverse Recovery Charge				1.91		μC
I _{RRM}	Reverse Recovery Current				44		A

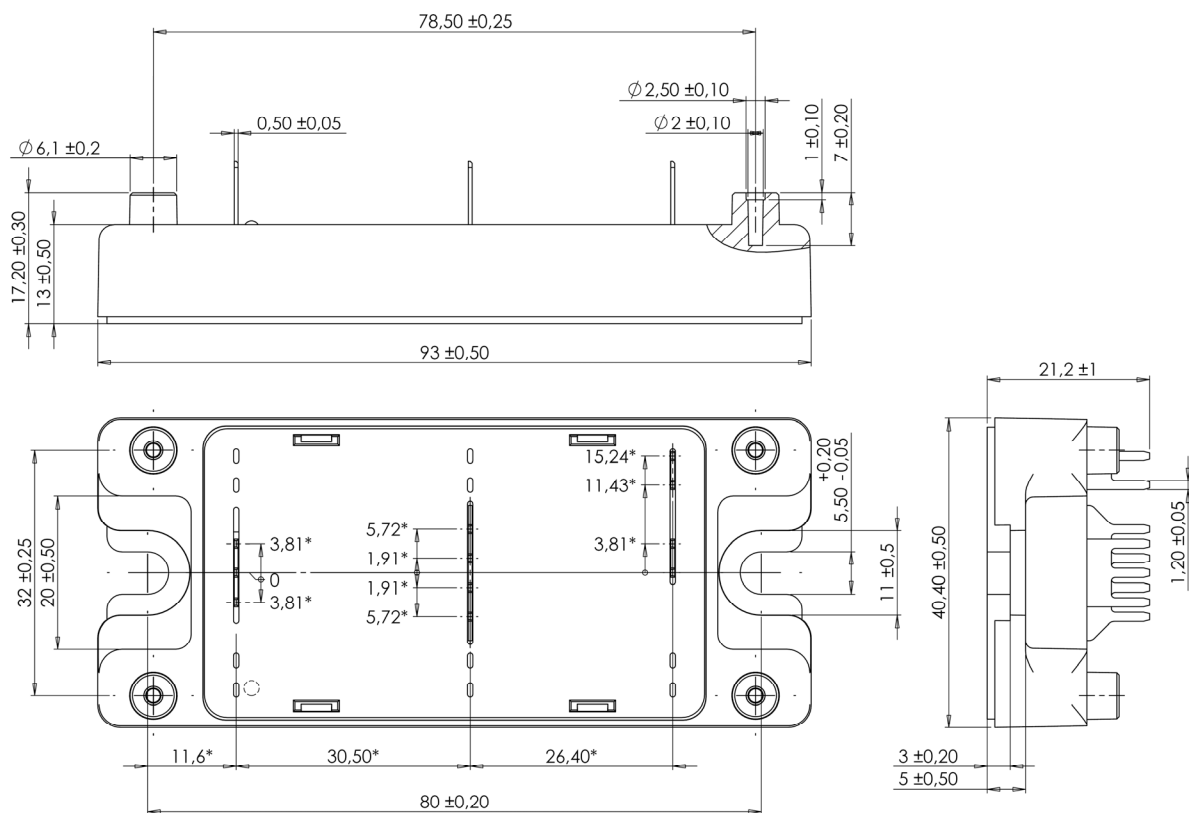
Thermal and package characteristics

Symbol				Characteristic	Min	Typ	Max	Unit
R _{thJC}		Junction to Case Thermal Resistance					0.55	°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

Typical Performance Curve



SP4 Package outline (dimensions in mm)



ALL DIMENSIONS MARKED "*" ARE TOLERANCED AS: $\pm 0,1$

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