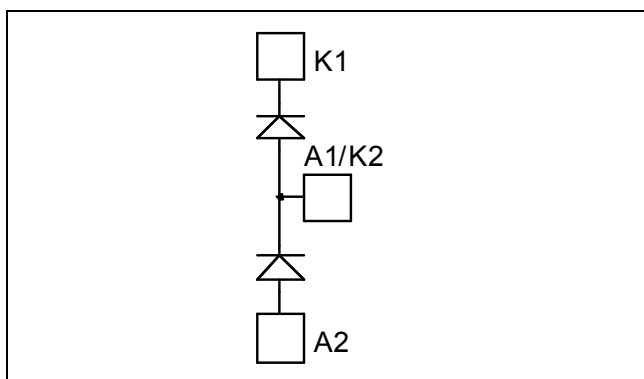


Diode Phase leg Power Module

$V_{RRM} = 1700V$
 $I_C = 400A @ T_c = 55^\circ C$



Application

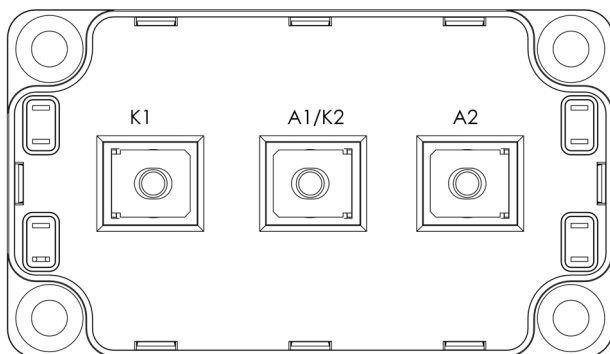
- Anti-Parallel diode
- Uninterruptible Power Supply (UPS)
- Induction heating
- Welding equipment
- High speed rectifiers

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



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 = 25°C	480	A	
			T _c = 55°C	400		
I _{F(RMS)}	RMS Forward Current			500		
I _{FSM}	Non-Repetitive Forward Surge Current		T _j = 25°C	1500		



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

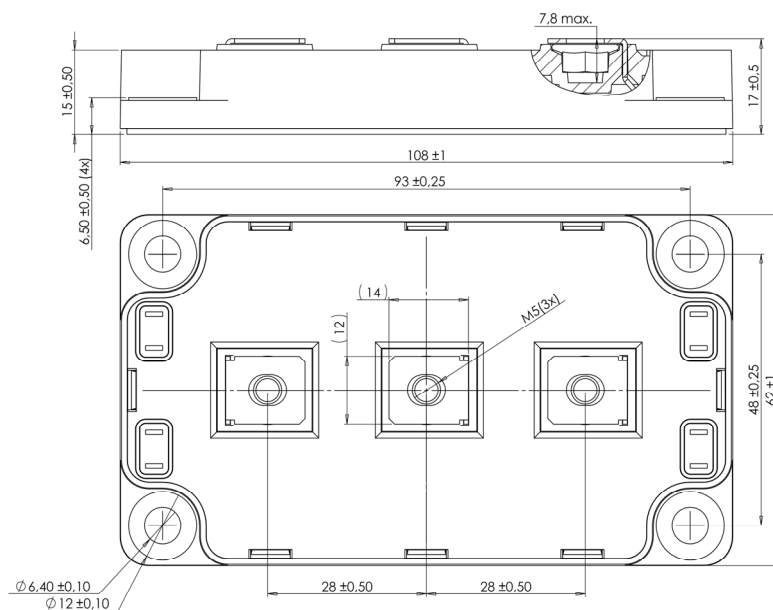
Symbol	Characteristic	Test Conditions	Min	Typ	Max	Unit
V_F	Diode Forward Voltage	$I_F = 400\text{A}$	$T_j = 25^\circ\text{C}$	2.2	2.5	V
			$T_j = 125^\circ\text{C}$	2.1		
I_{RM}	Maximum Reverse Leakage Current	$V_R = 1700\text{V}$	$T_j = 25^\circ\text{C}$		750	μA
			$T_j = 125^\circ\text{C}$		1000	

Dynamic Characteristics

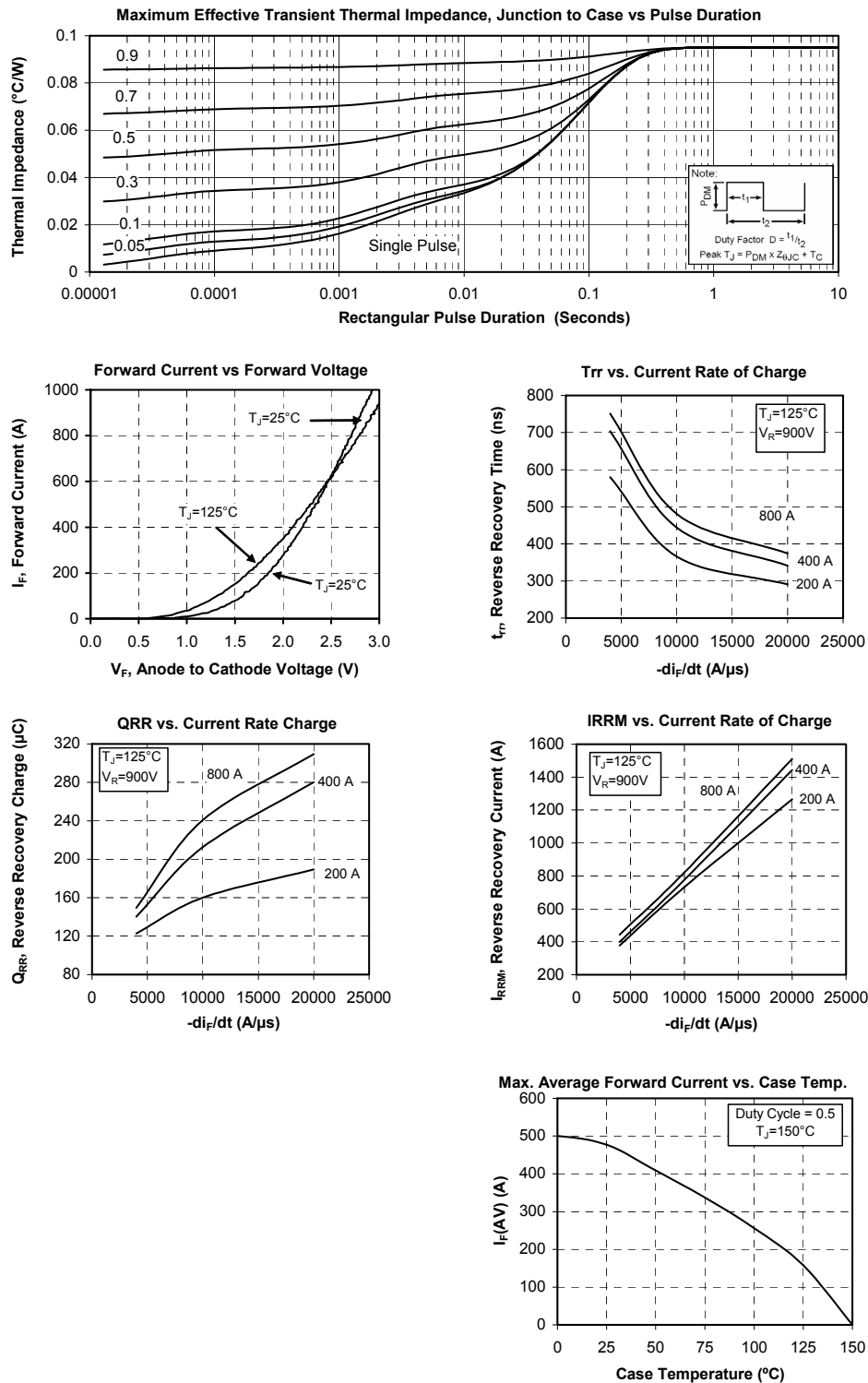
Symbol	Characteristic	Test Conditions		Min	Typ	Max	Unit
t _{rr}	Reverse Recovery Time	I _F = 400A V _R = 900V di/dt = 4000A/μs	T _j = 25°C		572		ns
			T _j = 125°C		704		
Q _{rr}	Reverse Recovery Charge		T _j = 25°C		80		μC
			T _j = 125°C		140		
I _{RRM}	Reverse Recovery Current		T _j = 25°C		280		A
			T _j = 125°C		400		

Thermal and package characteristics

Symbol	Characteristic	Min	Typ	Max	Unit
R_{thJC}	Junction to Case Thermal Resistance			0.095	$^\circ\text{C}/\text{W}$
V_{ISOL}	RMS Isolation Voltage, any terminal to case $t = 1\text{ min}$, 50/60Hz	4000			V
T_j	Operating junction temperature range	-40		150	$^\circ\text{C}$
T_{STG}	Storage Temperature Range	-40		125	
T_C	Operating Case Temperature	-40		100	
Torque	Mounting torque	To heatsink	M6	3	N.m
		For terminals	M5	2	
Wt	Package Weight			300	g

SP6 Package outline (dimensions in mm)


Typical Performance Curve



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