



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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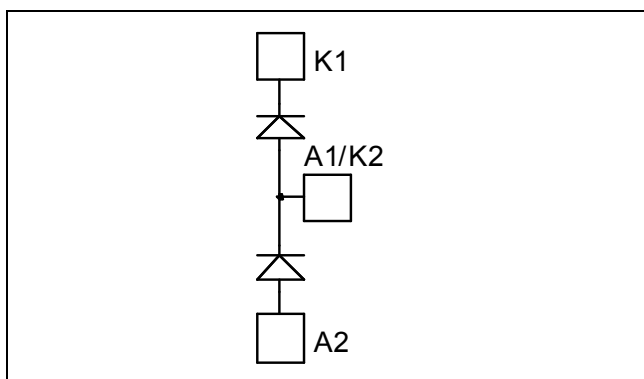
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



## Diode Phase leg Power Module

$$V_{RRM} = 200V$$

$$I_F = 400A @ T_c = 80^{\circ}C$$



### Application

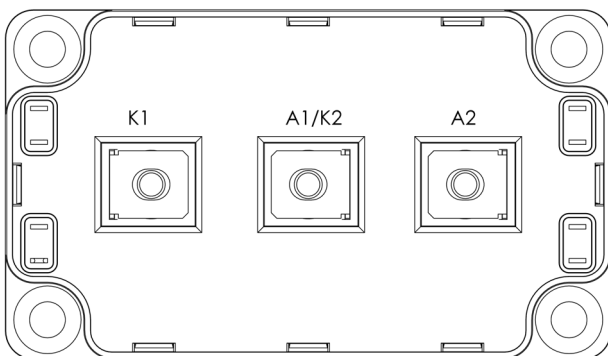
- Anti-Parallel diode
- Uninterruptible Power Supply (UPS)
- Induction heating
- Welding equipment
- High speed rectifiers

### 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 <sub>R</sub>	Maximum DC reverse Voltage				200	V
V <sub>RRM</sub>	Maximum Peak Repetitive Reverse Voltage					
I <sub>F(AV)</sub>	Maximum Average Forward Current	Duty cycle = 50%	T <sub>C</sub> = 25°C	500	A	
			T <sub>C</sub> = 80°C	400		
I <sub>F(RMS)</sub>	RMS Forward Current	Duty cycle = 50%	T <sub>C</sub> = 45°C	500		
I <sub>FSM</sub>	Non-Repetitive Forward Surge Current	8.3ms	T <sub>C</sub> = 45°C	3000		

**CAUTION:** These Devices are sensitive to Electrostatic Discharge. Proper Handling Procedures Should Be Followed. See application note APT0502 on [www.microsemi.com](http://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	$I_F = 400\text{A}$			1.0	1.1	V
		$I_F = 800\text{A}$			1.4		
		$I_F = 400\text{A}$	$T_j = 125^\circ\text{C}$		0.9		
$I_{RM}$	Maximum Reverse Leakage Current	$V_R = 200\text{V}$	$T_j = 25^\circ\text{C}$			750	$\mu\text{A}$
			$T_j = 125^\circ\text{C}$			1000	
$C_T$	Junction Capacitance	$V_R = 200\text{V}$			1600		pF

**Dynamic Characteristics**

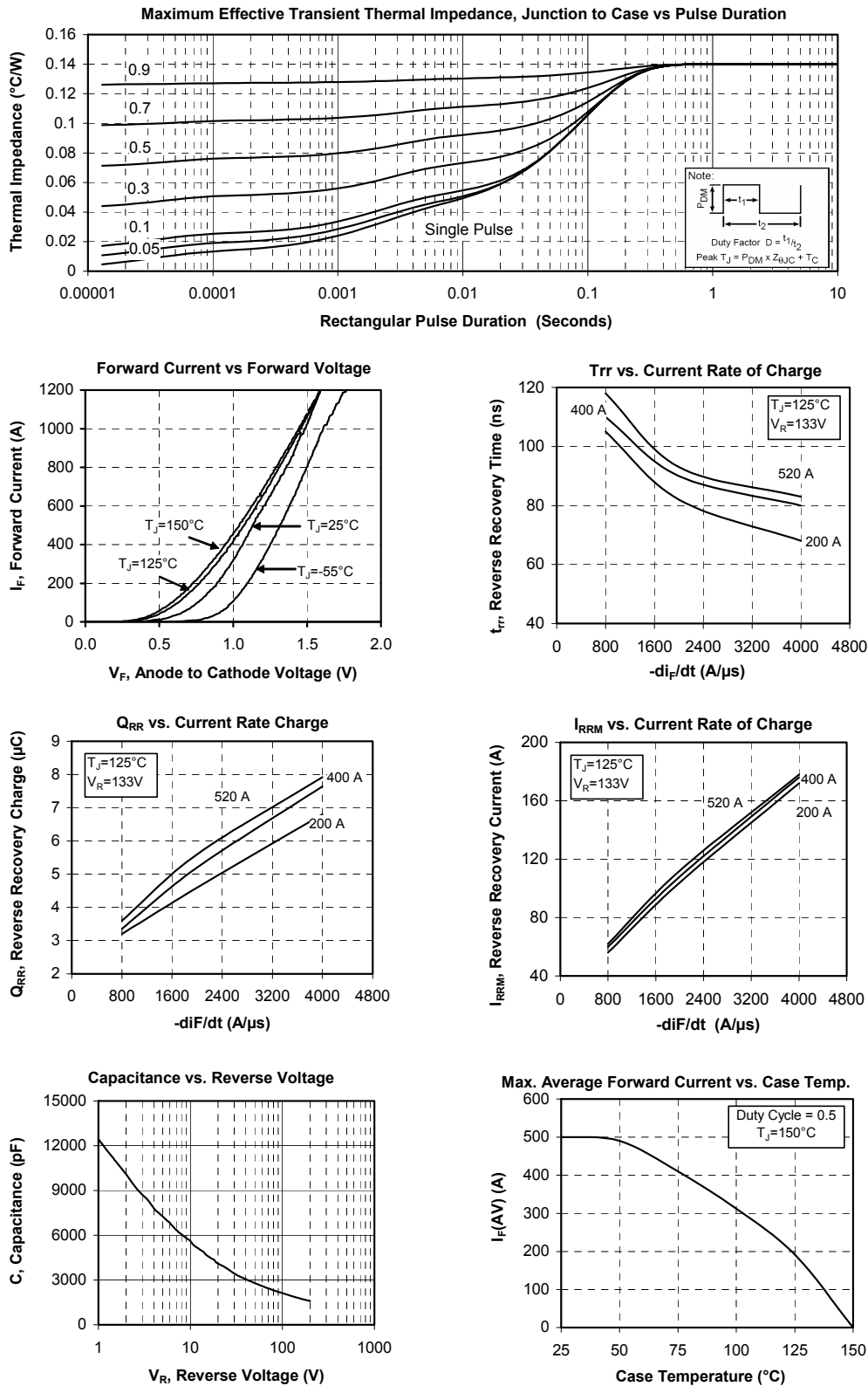
Symbol	Characteristic	Test Conditions		Min	Typ	Max	Unit
t <sub>rr</sub>	Reverse Recovery Time	I <sub>F</sub> =1A, V <sub>R</sub> =30V di/dt = 400A/μs	T <sub>j</sub> = 25°C		39		ns
t <sub>rr</sub>	Reverse Recovery Time	I <sub>F</sub> = 400A V <sub>R</sub> = 133V di/dt = 800A/μs	T <sub>j</sub> = 25°C		60		ns
			T <sub>j</sub> = 125°C		110		
Q <sub>rr</sub>	Reverse Recovery Charge		T <sub>j</sub> = 25°C		800		nC
			T <sub>j</sub> = 125°C		3360		
I <sub>RRM</sub>	Reverse Recovery Current		T <sub>j</sub> = 25°C		24		A
			T <sub>j</sub> = 125°C		60		
t <sub>rr</sub>	Reverse Recovery Time	I <sub>F</sub> = 400A V <sub>R</sub> = 133V di/dt = 4000A/μs	T <sub>j</sub> = 125°C		80		ns
Q <sub>rr</sub>	Reverse Recovery Charge				7.64		μC
I <sub>RRM</sub>	Reverse Recovery Current				176		A

**Thermal and package characteristics**

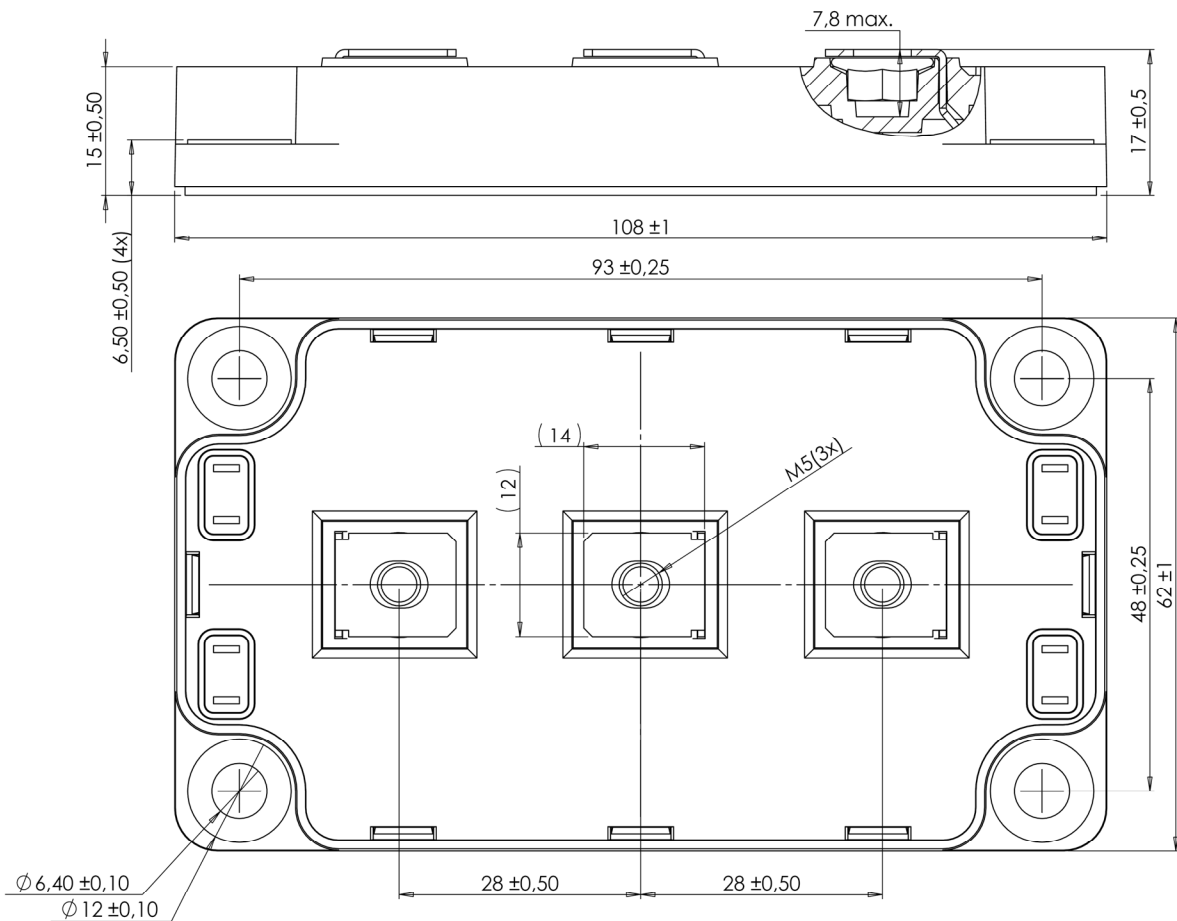
Symbol	Characteristic	Min		Typ	Max	Unit
$R_{thJC}$	Junction to Case Thermal Resistance				0.14	$^\circ\text{C}/\text{W}$
$V_{ISOL}$	RMS Isolation Voltage, any terminal to case $t = 1\text{ min}, 50/60\text{Hz}$	4000				V
$T_j$	Operating junction temperature range	-40			150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature Range	-40			125	
$T_C$	Operating Case Temperature	-40			100	
Torque	Mounting torque	To heatsink	M6	3	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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