



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!



Contact us

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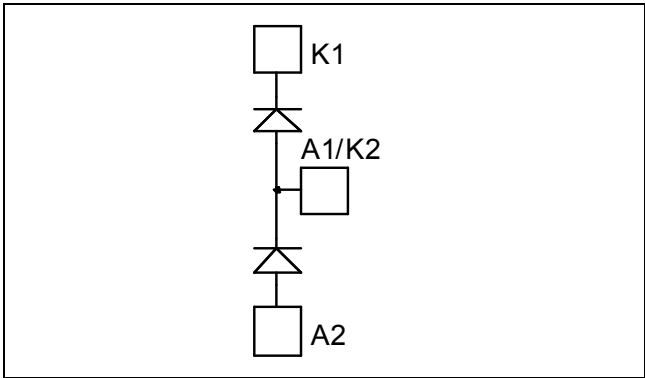
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Diode Phase leg Power Module

$V_{RRM} = 1200V$
 $I_C = 400A @ T_c = 60^\circ C$

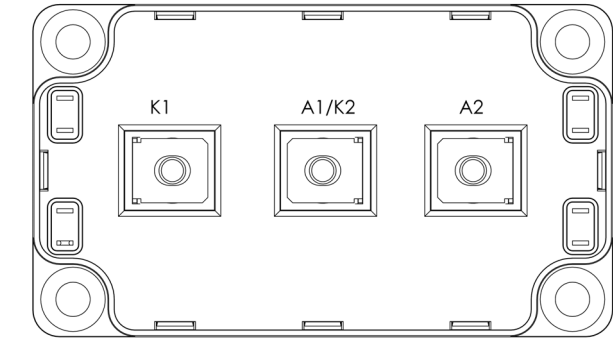


Application

- 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		1200	V	
V_{RRM}	Maximum Peak Repetitive Reverse Voltage				
$I_{F(AV)}$	Maximum Average Forward Current	Duty cycle = 50%	$T_c = 25^\circ C$	470	A
			$T_c = 60^\circ C$	400	
$I_{F(RMS)}$	RMS Forward Current	Duty cycle = 50%	$T_c = 45^\circ C$	500	
I_{FSM}	Non-Repetitive Forward Surge Current	8.3ms	$T_c = 45^\circ C$	3000	

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	$I_F = 400\text{A}$		2.4	3.0	V
		$I_F = 600\text{A}$		2.7		
		$I_F = 400\text{A}$	$T_j = 125^\circ\text{C}$	1.8		
I_{RM}	Maximum Reverse Leakage Current	$V_R = 1200\text{V}$	$T_j = 25^\circ\text{C}$		250	μA
			$T_j = 125^\circ\text{C}$		1000	
C_T	Junction Capacitance	$V_R = 1200\text{V}$		440		pF

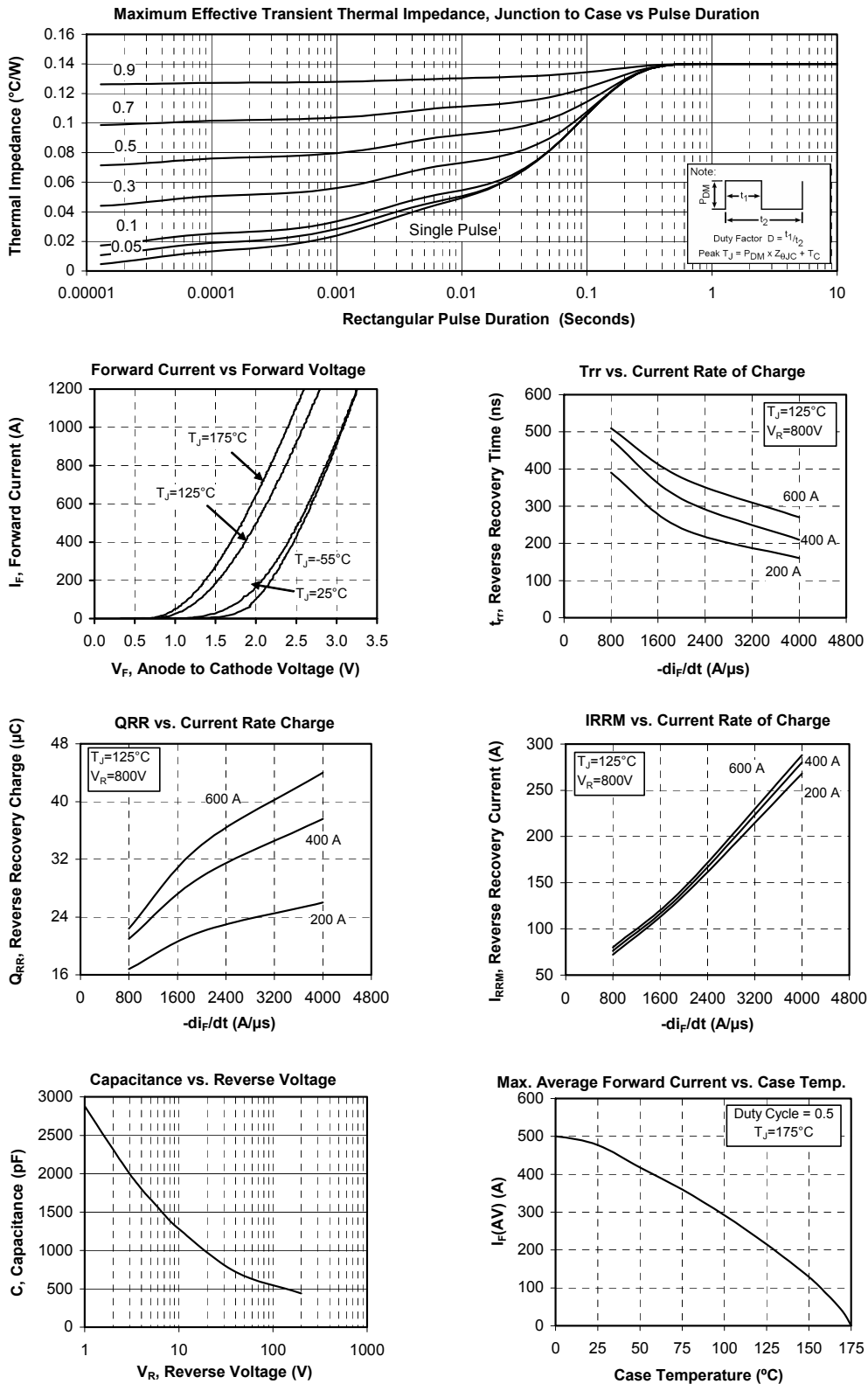
Dynamic Characteristics

Symbol	Characteristic	Test Conditions	Min	Typ	Max	Unit
t_{rr}	Reverse Recovery Time	$I_F = 1\text{A}, V_R = 30\text{V}$ $di/dt = 400\text{A}/\mu\text{s}$	$T_j = 25^\circ\text{C}$		45	ns
t_{rr}	Reverse Recovery Time		$T_j = 25^\circ\text{C}$		385	ns
			$T_j = 125^\circ\text{C}$		480	
Q_{rr}	Reverse Recovery Charge	$I_F = 400\text{A}$ $V_R = 800\text{V}$ $di/dt = 800\text{A}/\mu\text{s}$	$T_j = 25^\circ\text{C}$		4.2	μC
			$T_j = 125^\circ\text{C}$		20.9	
I_{RRM}	Reverse Recovery Current		$T_j = 25^\circ\text{C}$		24	A
			$T_j = 125^\circ\text{C}$		76	
t_{rr}	Reverse Recovery Time	$I_F = 400\text{A}$ $V_R = 800\text{V}$ $di/dt = 4000\text{A}/\mu\text{s}$	$T_j = 125^\circ\text{C}$		210	ns
Q_{rr}	Reverse Recovery Charge				38	μC
I_{RRM}	Reverse Recovery Current				280	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		175	$^\circ\text{C}$	
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



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