



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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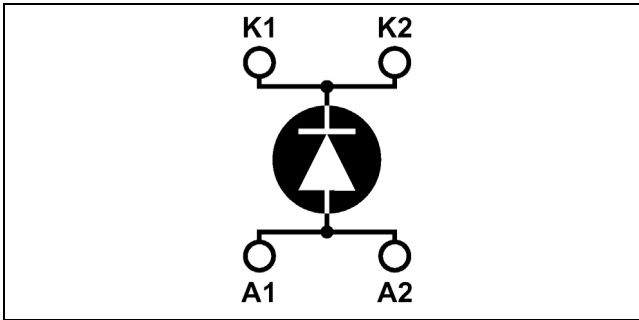
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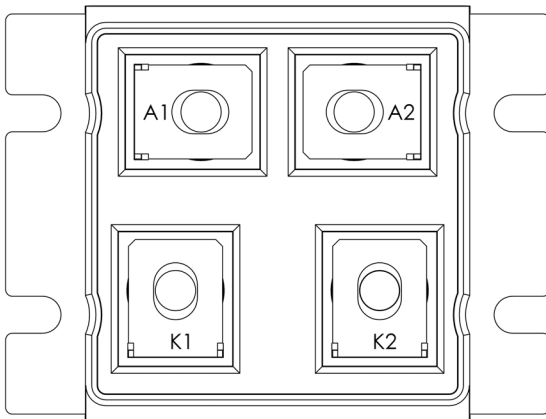
Single diode Power Module

$V_{CES} = 1200V$
 $I_C = 400A @ T_c = 80^\circ C$



Application

- Anti-Parallel diode
 - Switchmode Power Supply
 - Inverters
- Snubber diode
- Uninterruptible Power Supply (UPS)
- Induction heating
- Welding equipment
- High speed rectifiers
- Electric vehicles



Features

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

Benefits

- 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%	$T_c = 25^\circ C$	450	A
			$T_c = 80^\circ C$	400	
$I_{F(RMS)}$	RMS Forward Current			750	
I_{FSM}	Non-Repetitive Forward Surge Current	$T_j = 25^\circ C$		5000	

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

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

Electrical Characteristics

Symbol	Characteristic	Test Conditions		Min	Typ	Max	Unit
V _F	Diode Forward Voltage	I _F = 500A				2.5	V
		I _F = 1000A			2.5		
		I _F = 500A	T _j = 150°C			2.0	
I _{RM}	Maximum Reverse Leakage Current	V _R = 1200V	T _j = 25°C			2500	μA
			T _j = 125°C			5000	
C _T	Junction Capacitance	V _R = 200V			600		pF

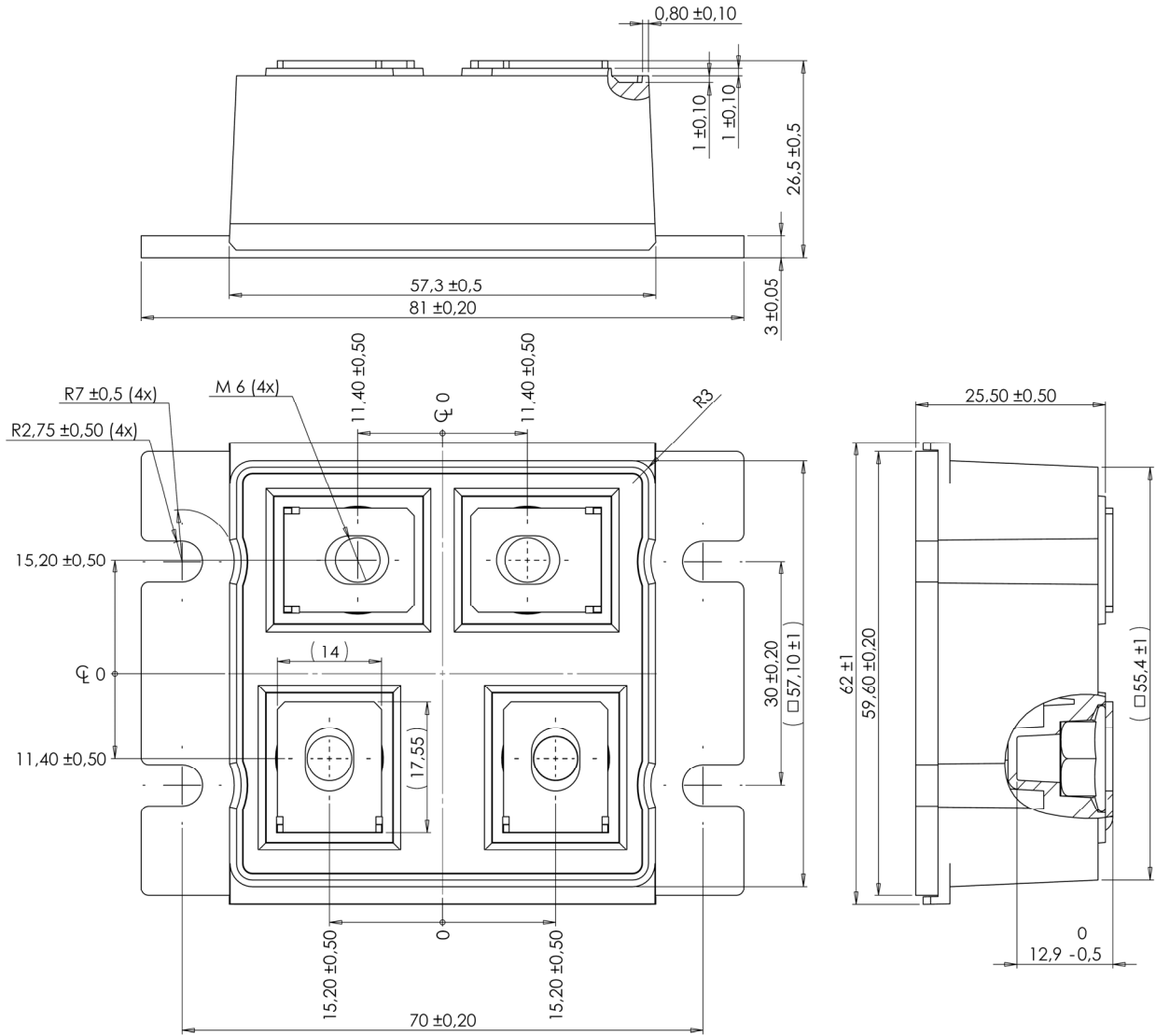
Dynamic Characteristics

Symbol	Characteristic	Test Conditions		Min	Typ	Max	Unit	
t _{rr1}	Reverse Recovery Time	I _F =1A, V _R =30V di/dt = 15A/μs	T _j = 25°C		90		ns	
t _{rr2}			I _F = 500A	T _j = 25°C		110		
t _{rr3}			V _R = 650V di/dt=1000A/μs	T _j = 100°C		175		
t _{fr1}	Forward Recovery Time	I _F = 500A V _R = 650V di/dt=1000A/μs	T _j = 25°C		220		ns	
t _{fr2}			T _j = 100°C		220			
I _{RRM1}	Reverse Recovery Current		T _j = 25°C		70		A	
I _{RRM2}			T _j = 100°C		120			
Q _{rr1}	Reverse Recovery Charge		T _j = 25°C		10		μC	
Q _{rr2}			T _j = 100°C		30			
V _{fr1}	Forward Recovery Voltage		T _j = 25°C		26		V	
V _{fr2}			T _j = 100°C		26			
d _{IM/dt}	Rate of Fall of Recovery Current		T _j = 25°C		1200		A/μs	
			T _j = 100°C		800			

Thermal and package characteristics

Symbol	Characteristic	Min	Typ	Max	Unit	
R _{thJC}	Junction to Case Thermal Resistance			0.08	°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	3.5	N.m
		For terminals	M6	3	4	
Wt	Package Weight			250	g	

LP4 Package outline (dimensions in mm)



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