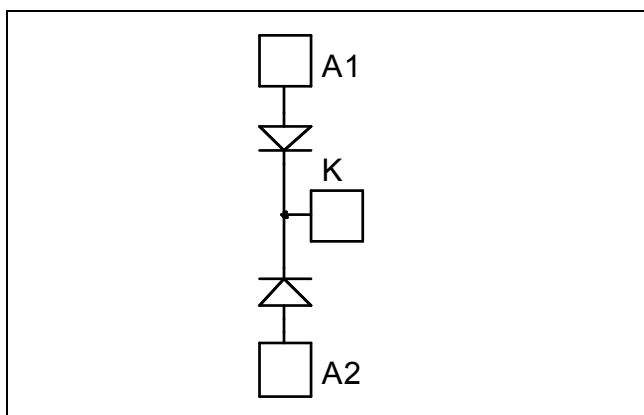


Dual Common Cathode diodes Power Module

$$V_{RRM} = 1000V$$

$$I_C = 400A @ T_c = 70^{\circ}C$$



Application

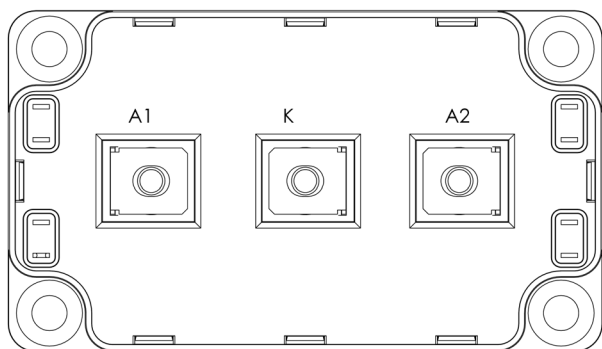
- Uninterruptible Power Supply (UPS)
- Induction heating
- Welding equipment
- High speed rectifiers

Features

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

<i>Symbol</i>	<i>Parameter</i>				<i>Max ratings</i>	<i>Unit</i>
V _R	Maximum DC reverse Voltage				1000	V
V _{RRM}	Maximum Peak Repetitive Reverse Voltage					
I _{F(AV)}	Maximum Average Forward Current	Duty cycle = 50%	T _C = 25°C	500	A	
			T _C = 70°C	400		
I _{F(RMS)}	RMS Forward Current	Duty cycle = 50%	T _C = 45°C	500		
I _{FSM}	Non-Repetitive Forward Surge Current		8.3ms	T _C = 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

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	$I_F = 400\text{A}$		2.1	2.7	V
		$I_F = 600\text{A}$		2.3		
		$I_F = 400\text{A}$ $T_j = 125^\circ\text{C}$		1.7		
I_{RM}	Maximum Reverse Leakage Current	$V_R = 1000\text{V}$	$T_j = 25^\circ\text{C}$		250	μA
			$T_j = 125^\circ\text{C}$		1000	
C_T	Junction Capacitance	$V_R = 1000\text{V}$		480		pF

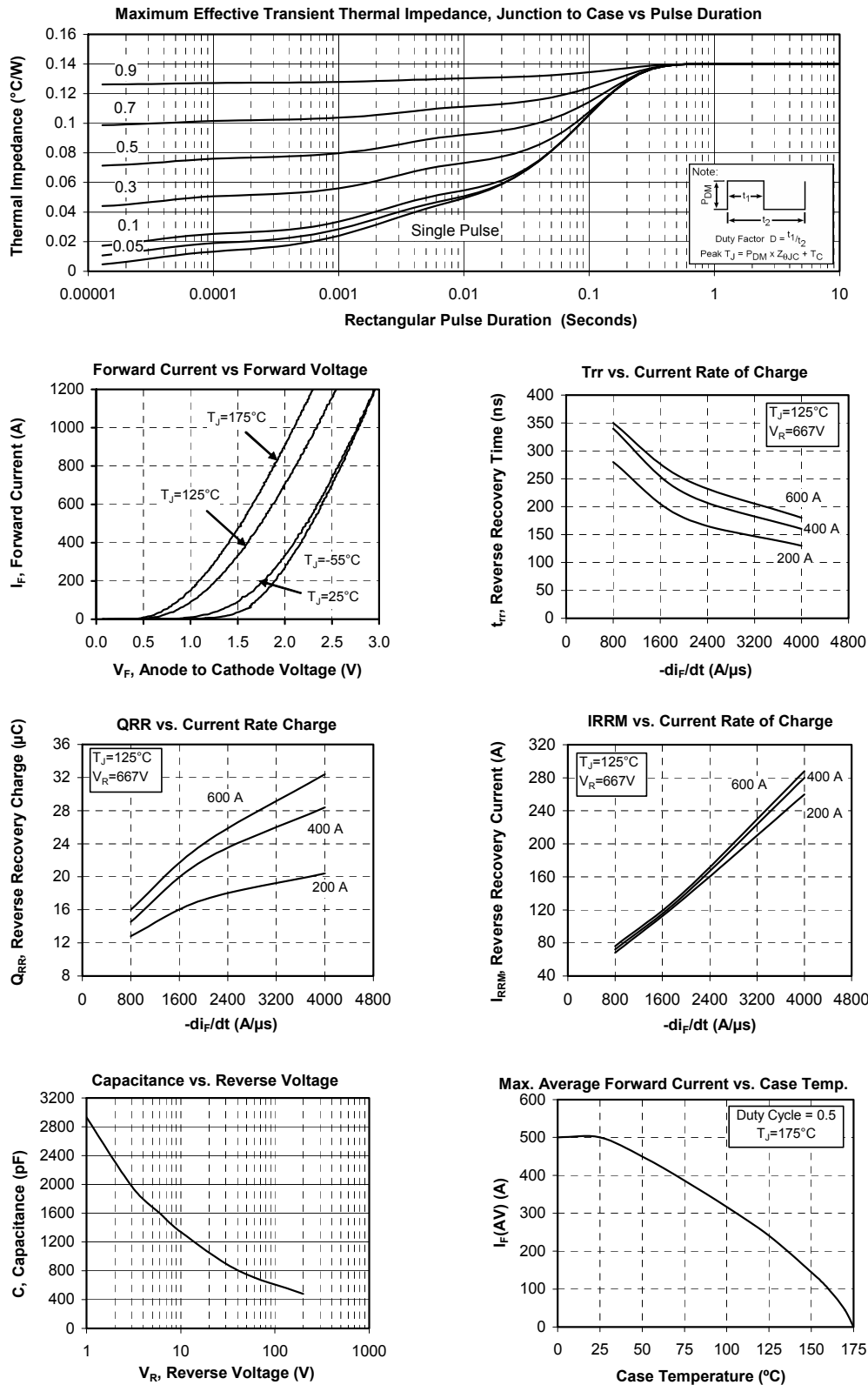
Dynamic Characteristics

Symbol	Characteristic	Test Conditions		Min	Typ	Max	Unit	
t _{rr}	Reverse Recovery Time	I _F =1A, V _R =30V di/dt = 400A/μs	T _j = 25°C		45		ns	
t _{rr}	Reverse Recovery Time	I _F = 400A V _R = 667V di/dt = 800A/μs	T _j = 25°C		290		ns	
			T _j = 125°C		340			
Q _{rr}	Reverse Recovery Charge		T _j = 25°C		2.7		μC	
			T _j = 125°C		14.6			
I _{RRM}	Reverse Recovery Current		T _j = 25°C		24		A	
			T _j = 125°C		72			
t _{rr}	Reverse Recovery Time	I _F = 400A V _R = 667V di/dt = 4000A/μs	T _j = 125°C		160		ns	
Q _{rr}	Reverse Recovery Charge				28.4		μC	
I _{RRM}	Reverse Recovery Current				280		A	

Thermal and package characteristics

Symbol	Characteristic	Min	Typ	Max	Unit
R_{thJC}	Junction to Case			0.14	$^\circ\text{C}/\text{W}$
V_{ISOL}	RMS Isolation Voltage, any terminal to case $t = 1\text{ min}$, 50/60Hz	4000			V
T_J	Operating junction temperature range	-40		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	N.m
		For terminals	M5	2	
Wt	Package Weight			300	g

Typical Performance Curve



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