



MMD110A120DK

1200V 110A Rectifier Diode Module
RoHS Compliant

July 2009

PRELIMINARY

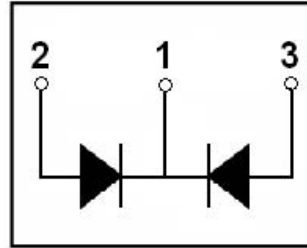
PRODUCT FEATURES

- Glass Passivated Chip
- Aluminum Oxide Ceramic Isolated Metal Baseplate
- Low Reverse Recovery Loss
- Low Forward Voltage
- High Surge Current Capability
- Low Inductance Package



APPLICATIONS

- Field Supply For DC Motors
- Line Rectifiers For Transistorized AC Motor Controllers
- Non-controllable Rectifiers For AC/DC Converter



ABSOLUTE MAXIMUM RATINGS

$T_C=25^{\circ}\text{C}$ unless otherwise specified

Symbol	Parameter	Test Conditions	Max.	Unit
V_{RRM}	Repetitive Reverse Voltage		1200	V
$I_{F(AV)}$	Average Forward Current	$T_C=85^{\circ}\text{C}$ Rectangular, $d=0.5$	110	A
$I_{F(RMS)}$	RMS Forward Current	$T_C=85^{\circ}\text{C}$ Rectangular, $d=0.5$	160	A
I_{FSM}	Non-Repetitive Surge Forward Current	$T_J=45^{\circ}\text{C}$, $t=10\text{ms}$, 50Hz, Sine	2500	A
		$T_J=45^{\circ}\text{C}$, $t=8.3\text{ms}$, 60Hz, Sine	2700	A
I^2t	I^2t (For Fusing)	$T_J=45^{\circ}\text{C}$, $t=10\text{ms}$, 50Hz, Sine	31250	A^2s
		$T_J=45^{\circ}\text{C}$, $t=8.3\text{ms}$, 60Hz, Sine	36450	A^2s
P_D	Power Dissipation		416	W
T_J	Junction Temperature		-40 to +150	$^{\circ}\text{C}$
T_{STG}	Storage Temperature Range		-40 to +125	$^{\circ}\text{C}$
V_{isol}	Insulation Test Voltage	AC, 50Hz, $t=1\text{min}$	3000	V
Weight			101	g

ELECTRICAL AND THERMAL CHARACTERISTICS

$T_C=25^{\circ}\text{C}$ unless otherwise specified

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{RM}	Reverse Leakage Current	$V_R=1600\text{V}$	--	--	200	μA
		$V_R=1600\text{V}$, $T_J=125^{\circ}\text{C}$	--	--	5	mA
V_F	Forward Voltage	$I_F=200\text{A}$	--	1.3	1.5	V
		$I_F=200\text{A}$, $T_J=125^{\circ}\text{C}$	--	1.25	--	V
$R_{\theta JC}$	Thermal Resistance	Junction-to-Case	--	--	0.30	$^{\circ}\text{C}/\text{W}$

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MECHANICAL CHARACTERISTICS

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Torque	Module-to-Sink	Recommended (M6)	3		5	N · m
Torque	Module Electrodes	Recommended (M5)	2.5		5	N · m

DA Package Outline (Dimensions in mm)

