



MACMIC

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PRELIMINARY

MMD70E120X

1200V 70A Rectifier Module

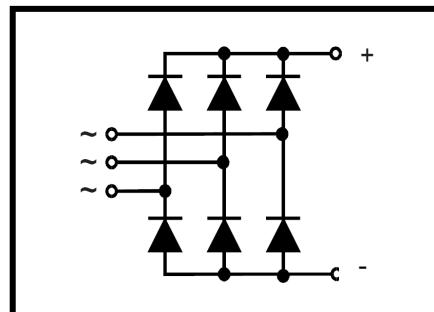
RoHS Compliant

Features

- Package with screw terminals
- Isolation voltage 3000 V~
- Planar passivated chips
- Blocking voltage up to 1200 V
- Low forward voltage drop
- UL registered E332185

**Applications**

- Supplies for DC power equipment
- Input rectifiers for PWM inverter
- Battery DC power supplies
- Field supply for DC motors

**Advantages**

- Easy to mount with two screws
- Space and weight savings
- Improved temperature and power cycling

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

Symbol	Test Condition	Value	Unit
V_{RRM}		1200	V
$I_{d(AV)}$	$T_C=100^\circ\text{C}$, module	70	A
I_{FSM}	$T_J=45^\circ\text{C}$; $t=10\text{ms}$ (50Hz), sine	700	A
	$V_R=0$ $t=8.3\text{ms}$ (60Hz), sine	750	A
	$T_J=150^\circ\text{C}$; $t=10\text{ms}$ (50Hz), sine	590	A
	$V_R=0$ $t=8.3\text{ms}$ (60Hz), sine	620	A
I^2t	$T_J=45^\circ\text{C}$; $t=10\text{ms}$ (50Hz), sine	2450	A^2s
	$V_R=0$ $t=8.3\text{ms}$ (60Hz), sine	2812	A^2s
	$T_J=150^\circ\text{C}$; $t=10\text{ms}$ (50Hz), sine	1740	A^2s
	$V_R=0$ $t=8.3\text{ms}$ (60Hz), sine	1920	A^2s
T_J, T_{STG}		-40 to +150	$^\circ\text{C}$
T_{JM}		150	$^\circ\text{C}$
V_{ISOL}	50/60Hz RMS $t=1$ min	2500	V~
	$I_{ISOL}\leq 1\text{mA}$ $t=1$ s	3000	V~
M_d	Mounting torque(M5)	$5\pm 15\%$	N·m
	Terminal connection torque(M5)	$5\pm 15\%$	N·m
Weight	typical	130	g

ELECTRICAL AND THERMAL CHARACTERISTICS $T_c=25^\circ\text{C}$ unless otherwise specified

Symbol	Test Condition	Value	Unit
I_R	$V_R = V_{RRM}; T_J = 25^\circ\text{C}$	≤ 0.5	mA
	$V_R = V_{RRM}; T_J = T_{JM}$	≤ 3	mA
V_F	$I_F = 150\text{A}; T_J = 125^\circ\text{C}$	1.33	V
V_{TO}	For power-loss calculations only	0.8	V
R_{thJC}	per diode; DC current	1.1	K/W
	Per module	0.18	K/W
R_{thCS}	per diode; DC current	0.42	K/W
	per module	0.07	K/W
d_S	Creeping distance on surface	10	mm
d_A	Cree page distance in air	9.4	mm
a	Max. allowable acceleration	50	m/s^2

NOTE: Data according to IEC 60747 and refer to a single diode unless otherwise stated.

Package Outline (Dimensions in mm)