



# RUNAU

Jiangsu Runau Electronics Manufacturing Co.,Ltd

# MDC110 MDA110 MDK110 MDX110

1200-2000V<sub>RRM</sub>

## GENERAL PURPOSE DIODE MODULE

### Features:

- . Electrical insulation between chip and base plate, 2500V AC insulation
- . Compress structure
- . Excellent temperature characteristics and power cycling capability
- . Small size & light weight

### Typical application:

- . AC / DC motor control
- . Various rectification power supplies
- . Frequency converter



## ELECTRICAL CHARACTERISTICS AND RATINGS

Symbol	Parameter	Conditions	Tj(°C)	Data			Unit
				Min	Typ	Max	
I <sub>F(AV)</sub>	Mean forward current	Sinewave 180°,50Hz Single side cooling, Tc=85°C	125			110	A
I <sub>F(RMS)</sub>	RMS forward current		125			173	A
V <sub>RRM</sub>	Repetitive peak off-state voltage Repetitive peak reverse voltage	V <sub>DRM</sub> &V <sub>RRM</sub> tp=10ms V <sub>DSM</sub> &V <sub>RSM</sub> =V <sub>DRM</sub> &V <sub>RRM</sub> +200V	25	1200		2000	V
I <sub>RRM</sub>	Repetitive peak off-state current	V <sub>DM</sub> = V <sub>DRM</sub>	125			10	mA
I <sub>RRM</sub>	Repetitive peak reverse current	V <sub>RM</sub> = V <sub>RRM</sub>					
I <sub>FSM</sub>	Surge forward current	10ms bottom width, half sine wave	125			2.6	KA
I <sup>2</sup> t	I squared t	V <sub>R</sub> =0.6V <sub>RRM</sub>					
V <sub>FO</sub>	Forward threshold voltage		125			0.8	V
r <sub>F</sub>	Slope resistance						
V <sub>FM</sub>	Peak forward voltage	I <sub>TM</sub> =330A	25			1.30	V
R <sub>th(j-c)</sub>	Thermal impedance(junction to case)	180°sine wave, Single side heat dissipation				0.350	°C /W
R <sub>th(c-h)</sub>	Thermal impedance(case to heatsink)	180°sine wave, Single side heat dissipation				0.15	°C /W
V <sub>iso</sub>	Insulation voltage	50Hz,R.M.S,t=1min,I <sub>iso</sub> :1mA(MAX)		2500			V
F <sub>m</sub>	Electrode mounting torque (M6)					4	N·m
	Base plate mounting torque (M6)					6	N·m
T <sub>stg</sub>	Storage temperature			-40		125	°C
W <sub>t</sub>	Weight					160	g

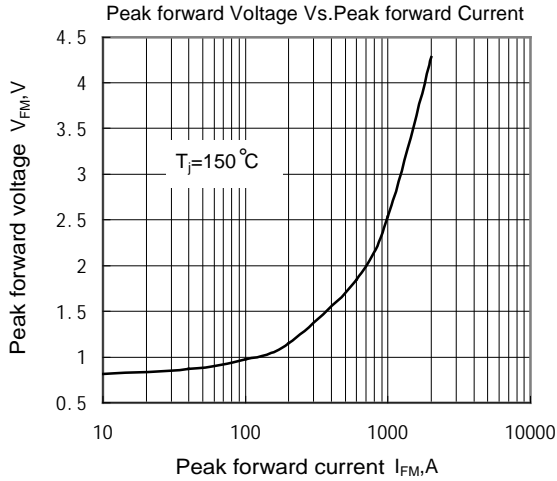


Fig.1 Forward Volt-ampere Characteristic Curve

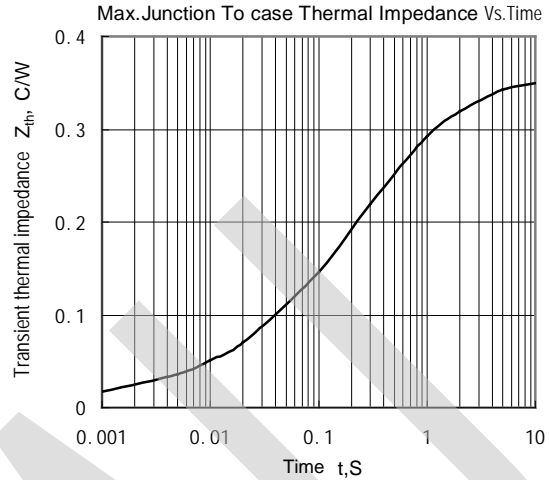


Fig.2 Transient Thermal Impedance Curve

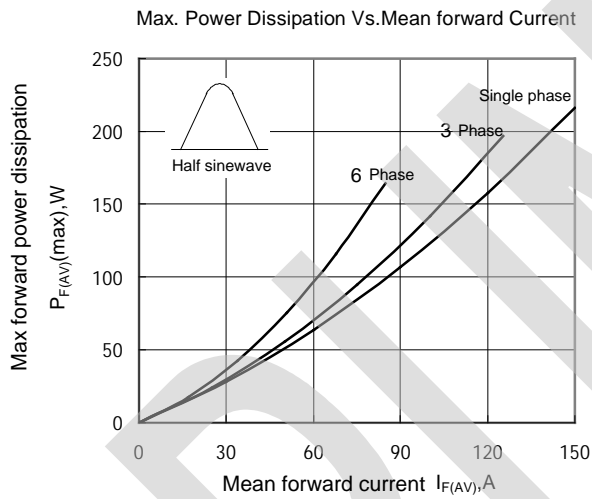


Fig.3 Max Power Dissipation Vs. Mean Forward Current

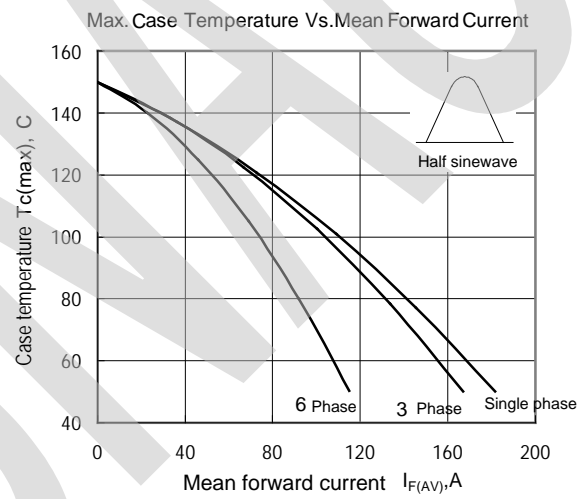


Fig.4 Max Case Temperature Vs. Mean Forward Current

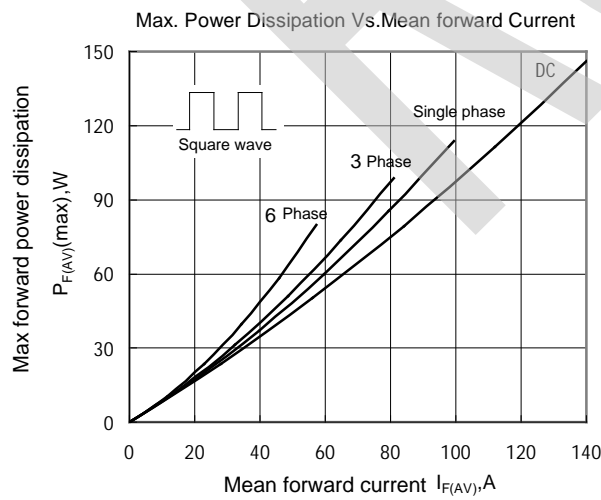


Fig.5 Max Power Dissipation Vs. Mean Forward Current

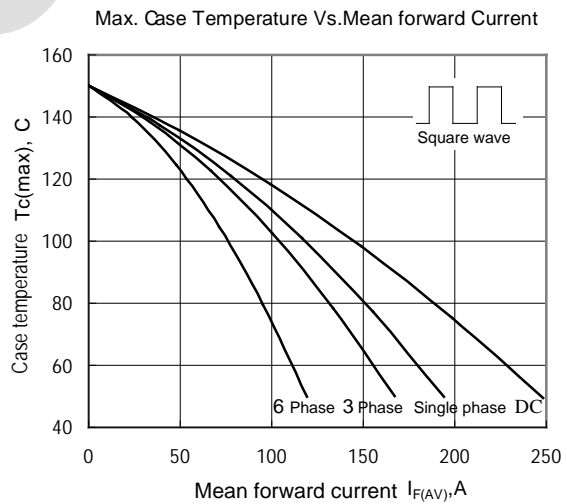


Fig.6 Max Case Temperature Vs. Mean Forward Current

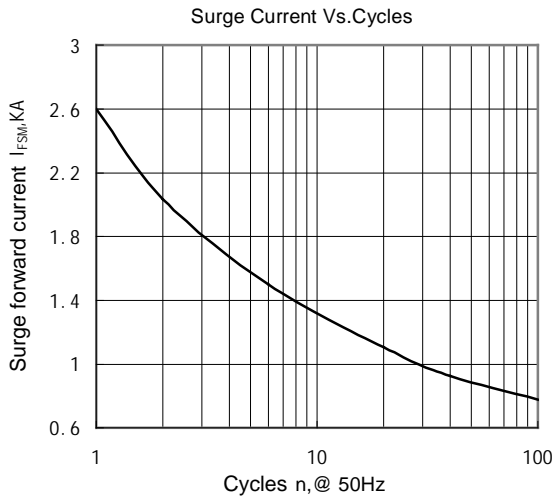


Fig.7 Surge Current Vs.Cycles Curve

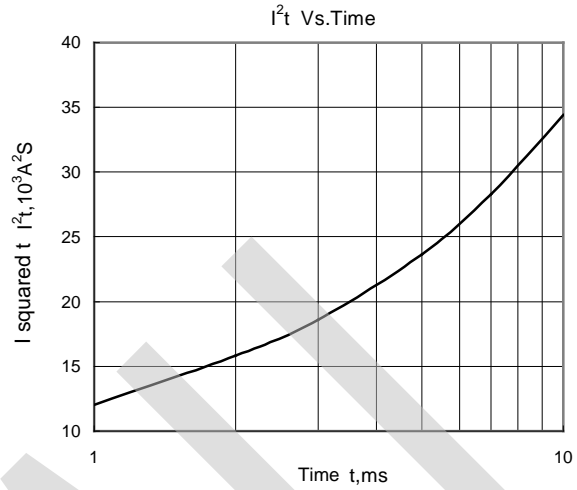
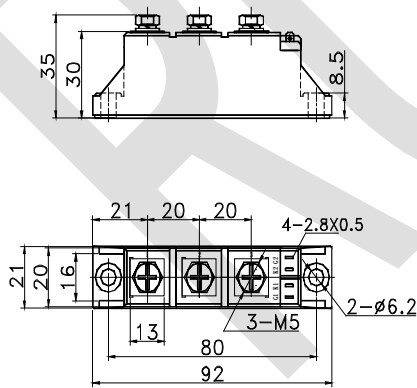


Fig.8 I<sup>2</sup>t Vs.Time Curve

**OUTLINE**



**M220F**

