

Glass Passivated Rectifier Diode Module

VRRM 800 to 2000V
IFAV 60 A

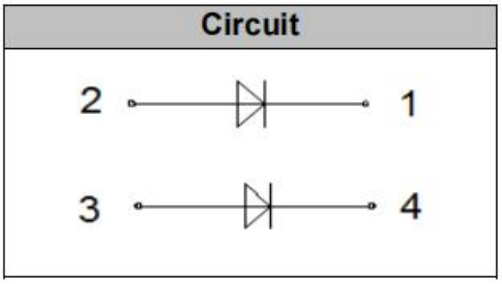
Applications

- Non-controllable rectifiers for AC/AC converters
- Line rectifiers for transistorized AC motor controllers
- Field supply for DC motors

Features

- Blocking voltage:800 to 2000V
- Heat transfer through aluminum oxide DBC ceramic isolated metal baseplate
- Glass passivated chip

Circuit



Module Type

TYPE	VRRM	VRSM
MD60DU08FJ	800V	900V
MD60DU12FJ	1200V	1300V
MD60DU16FJ	1600V	1700V
MD60DU18FJ	1800V	1900V
MD60DU20FJ	2000V	2100V

Maximum Ratings

Symbol	Conditions	Values	Units
I_{FAV}	Tc=100℃,Per Diode	30	A
	Tc=100℃,Per Module	60	A
I_{FSM}	t=10ms T_J=25℃	650	A
I^2t	t=10ms T_J=25℃	2100	A^2s
V_{ISO}	AC 50Hz/60Hz; R.M.S; 1min	3000	V
T_J		-40 to +150	℃
Tstg		-40 to +125	℃
Mt	To Terminals(M4)	2±15%	N·m
Ms	To Heatsink(M4)	2±15%	N·m
Weight		30	g

Thermal Characteristics

Symbol	Conditions	Values	Units
Rth(j-c)	Junction to Case(Per Diode)	0.6	℃/W
Rth(c-s)	Case to Heat Sink	0.3	℃/W

Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
V_{FM}	T_J=25℃ I_F =100A	—	1.2	1.4	V
I_{RD}	T_J=150℃ V_R=V_{RRM}	—	—	5	mA
r_F	T_J=125℃		4.5		mΩ
VF0			0.8		V

Performance Curves

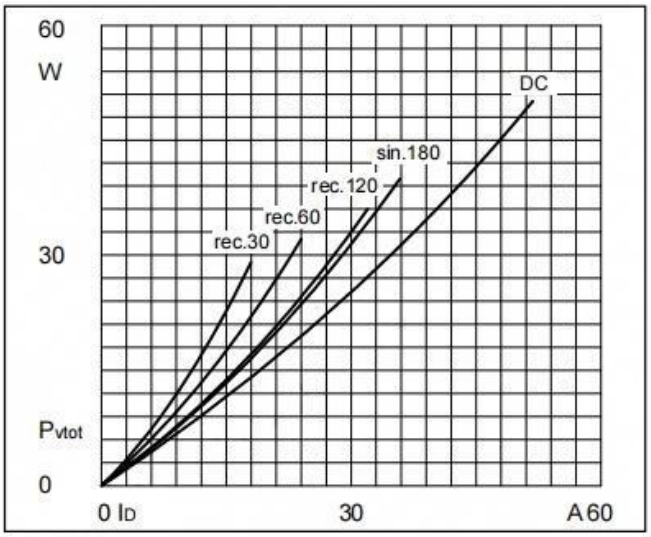


Fig1. Power dissipation

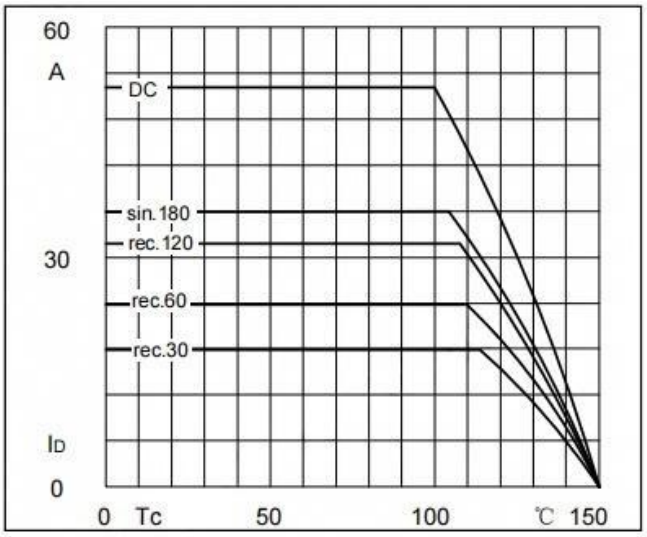


Fig2.Forward Current Derating Curve

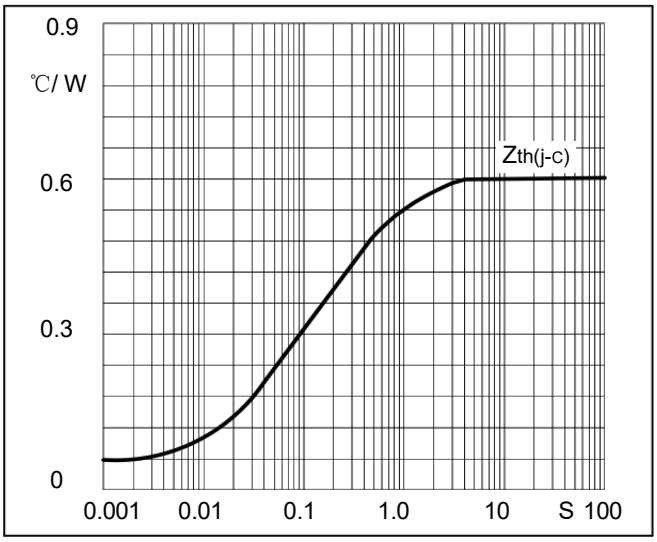


Fig3. Transient thermal impedance

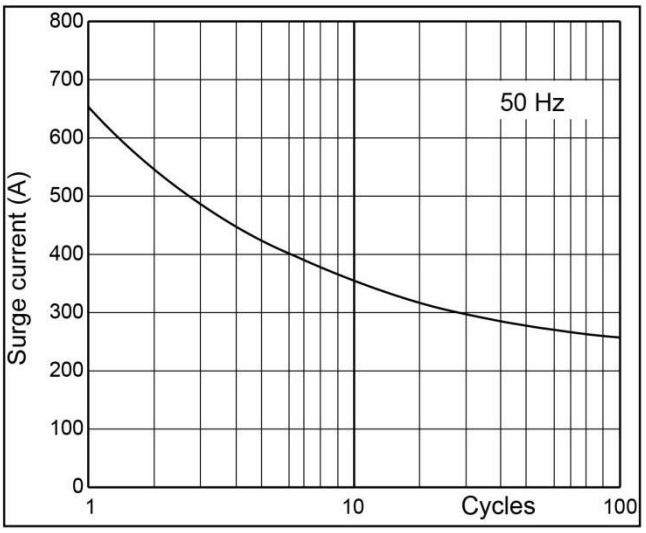


Fig4. Max Non-Repetitive Forward Surge Current

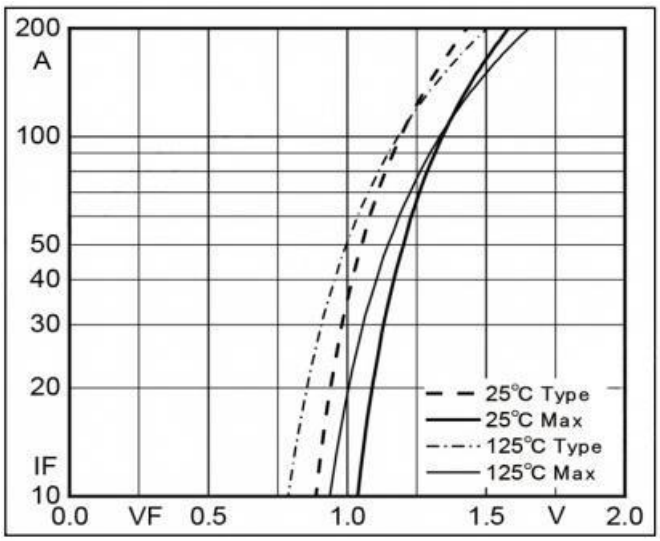
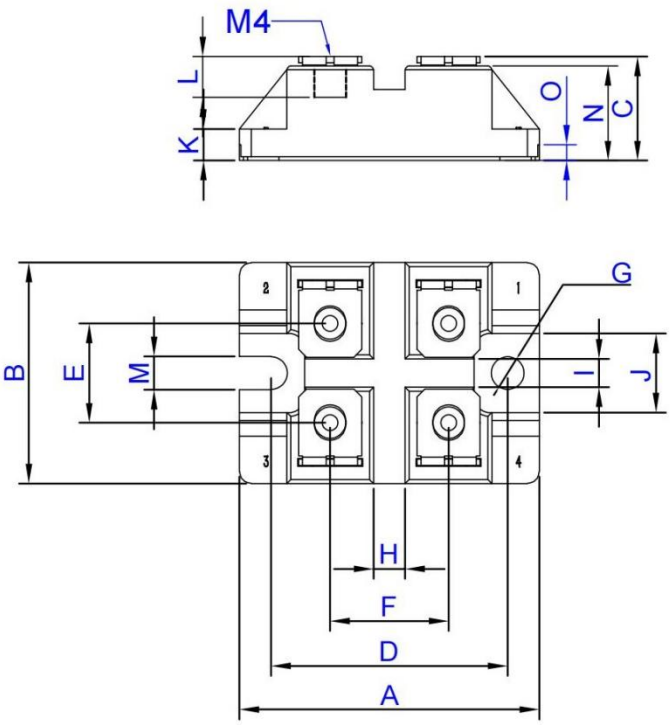


Fig5. Forward Characteristics

Package Outline Information

CASE: FJ



DIM	Min (mm)	Max (mm)	Note
A	37.5	38.5	
B	27.5	28.5	
C	12.8	13.5	
D	29.5	30.5	
E	12.1	13.1	
F	14.5	15.5	
G	4.0	4.4	Ø
H	3.7	4.3	
I	3.3	3.9	
J	9.5	10.5	
K	3.7	4.3	
L	5.0	5.5	
M	4.0	4.4	
N	11.7	12.3	
O	1.8	2.2	

Packing Standard

Item	Length: A(mm)	Width: B(mm)	Height: C (mm)	Quantity (PCS)
Inner Box	290	252	40	25
Outer Carton	300	270	280	150

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