



Glass Passivated Rectifier Diode Modules

VRRM 800 to 1800V
IFAV 2×30 A

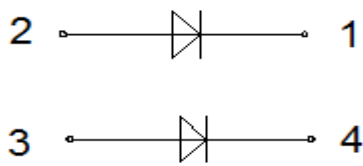
Applications

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

Features

- Blocking voltage:800 to 1800V
- 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

Maximum Ratings

Symbol	Conditions	Values	Units
I_{FAV}	Per diode $T_c=104^{\circ}\text{C}$	30	A
	Per module $T_c=104^{\circ}\text{C}$	60	
I_{FSM}	$t=10\text{ms}$ $T_{vj}=45^{\circ}\text{C}$	650	A
i^2t	$t=10\text{ms}$ $T_{vj}=45^{\circ}\text{C}$	2100	A^2s
V_{isol}	a.c.50HZ;r.m.s.;1min	3000	V
T_{vj}		-40 to +150	$^{\circ}\text{C}$
T_{stg}		-40 to +125	$^{\circ}\text{C}$
Torque	To Sink Recommended (M4)	0.7~1.5	N·m
Torque	To Terminal Recommended (M4)	0.7~1.1	N·m
Weight	Module (Approximately)	27	g

Thermal Characteristics

Symbol	Conditions	Values	Units
$R_{th(j-c)}$	Per diode	0.6	$^{\circ}\text{C/W}$
$R_{th(j-c)}$	Per Module	0.3	$^{\circ}\text{C/W}$

Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
V_{FM}	$T=25^{\circ}\text{C}$ $I_F=100\text{A}$	—	1.25	1.40	V
I_{RD}	$T_{vj}=150^{\circ}\text{C}$ $V_{RD}=V_{RRM}$	—	—	2	mA

Performance Curves

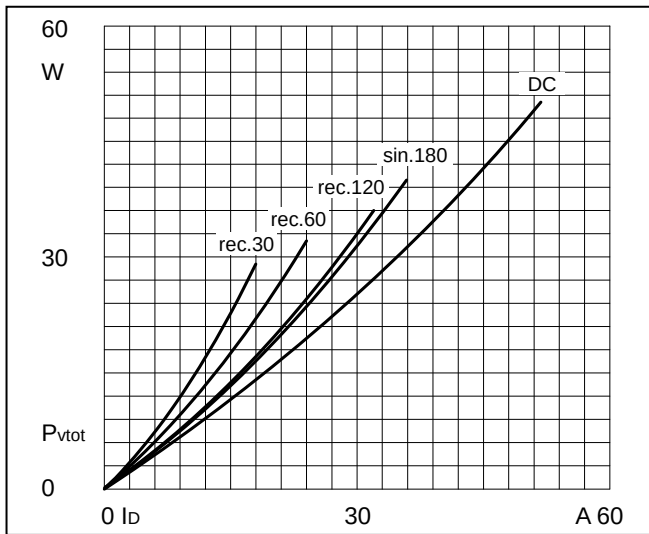


Fig1. Power dissipation

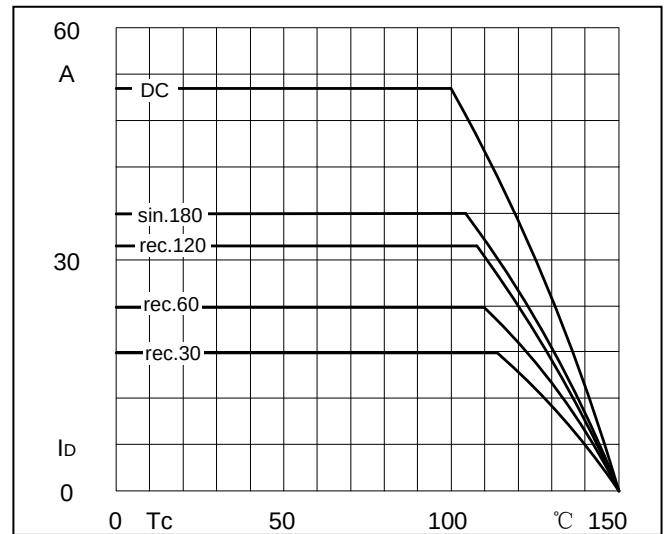


Fig2. Forward Current Derating Curve

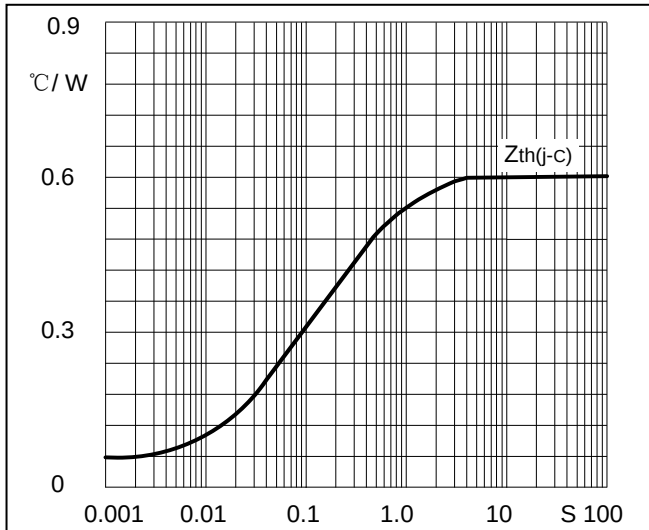


Fig3. Transient thermal impedance

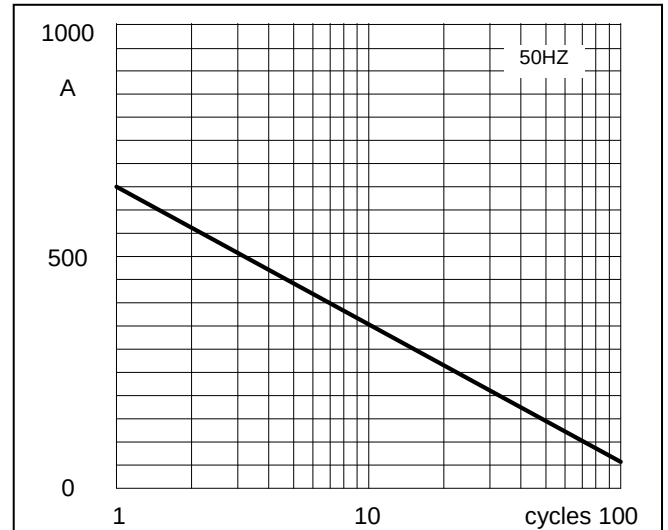


Fig4. Max Non-Repetitive Forward Surge Current

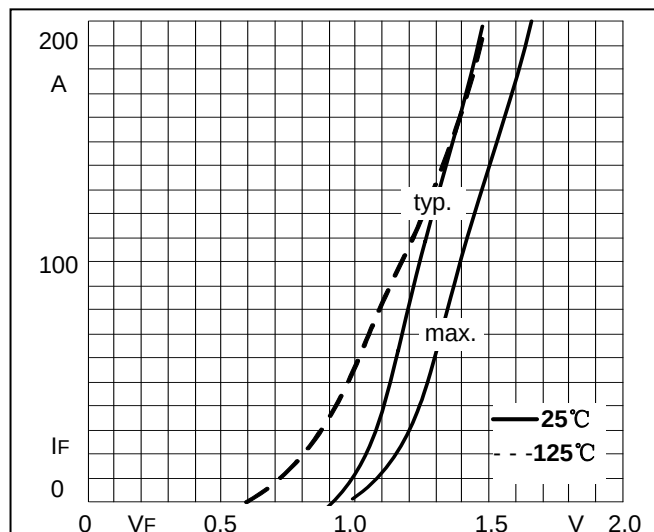


Fig5. Forward Characteristics

