



Glass Passivated Rectifier Diode Modules

VRRM 800 to 1800V
IFAV 36 A

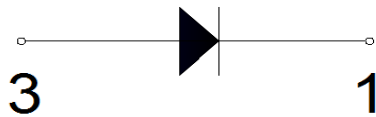
Applications

- 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
MD36U08D1	800V	900V
MD36U12D1	1200V	1300V
MD36U16D1	1600V	1700V
MD36U18D1	1800V	1900V

Maximum Ratings

Symbol	Conditions	Values	Units
I_{FAV}	Single phase ,half wave 180° conduction $T_c=104^{\circ}\text{C}$	36	A
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	$^{\circ}\text{C}$
M_t	To terminals(M5)	$3\pm 15\%$	Nm
M_s	To heatsink(M6)	$5\pm 15\%$	Nm
Weight	Module (Approximately)	100	g

Thermal Characteristics

Symbol	Conditions	Values	Units
$R_{th(j-c)}$	Per diode	0.6	$^{\circ}\text{C/W}$
$R_{th(c-s)}$	Module	0.1	$^{\circ}\text{C/W}$

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}	$T_{vj}=150^{\circ}\text{C}$ $V_{RD}=V_{RRM}$	—	—	5	mA

Performance Curves

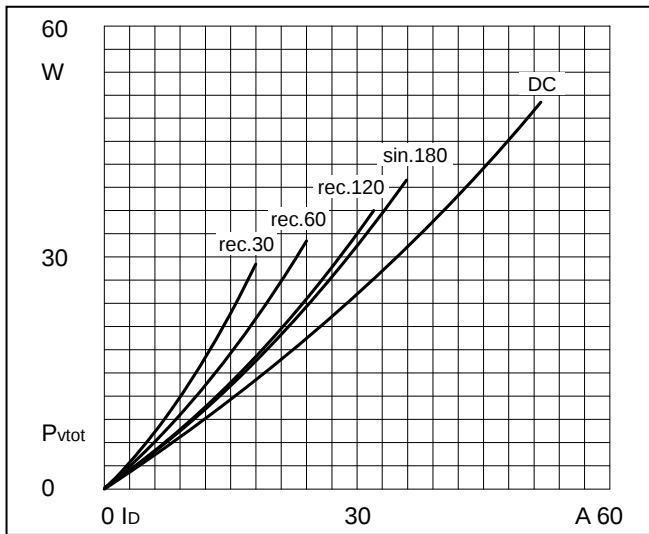


Fig1. Power dissipation

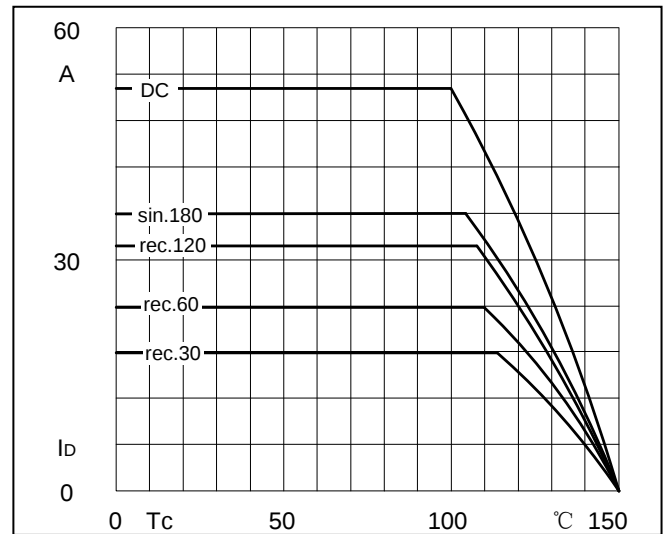


Fig2. Forward Current Derating Curve

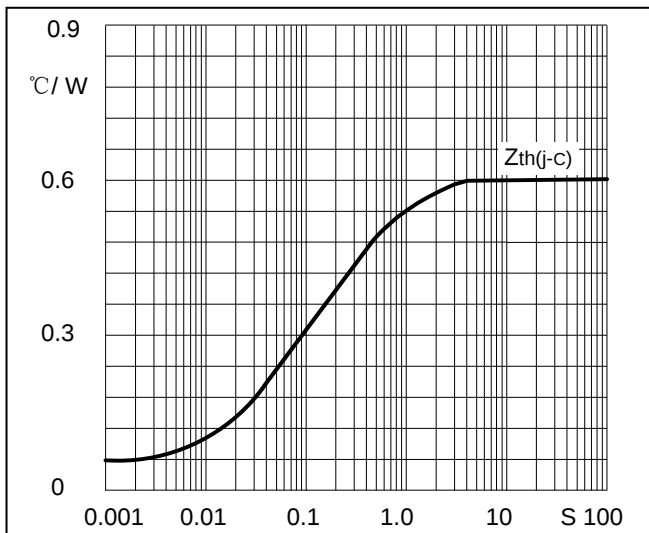


Fig3. Transient thermal impedance

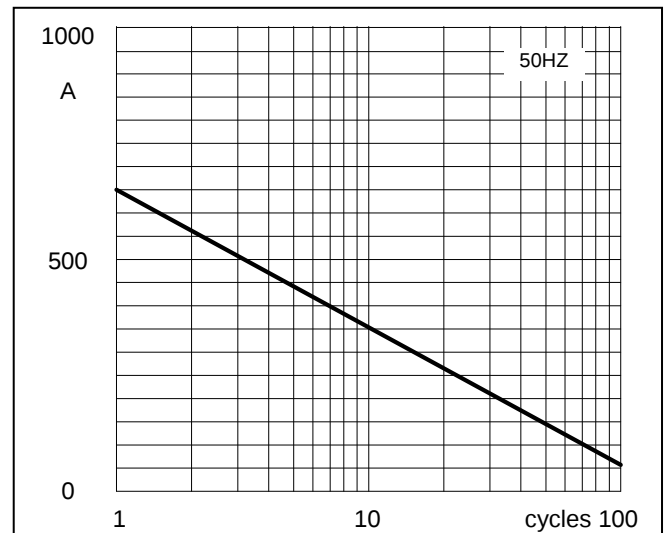


Fig4. Max Non-Repetitive Forward Surge Current

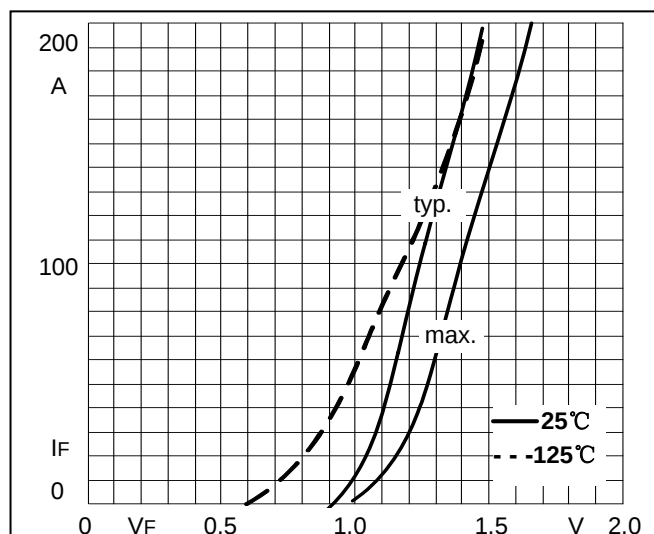
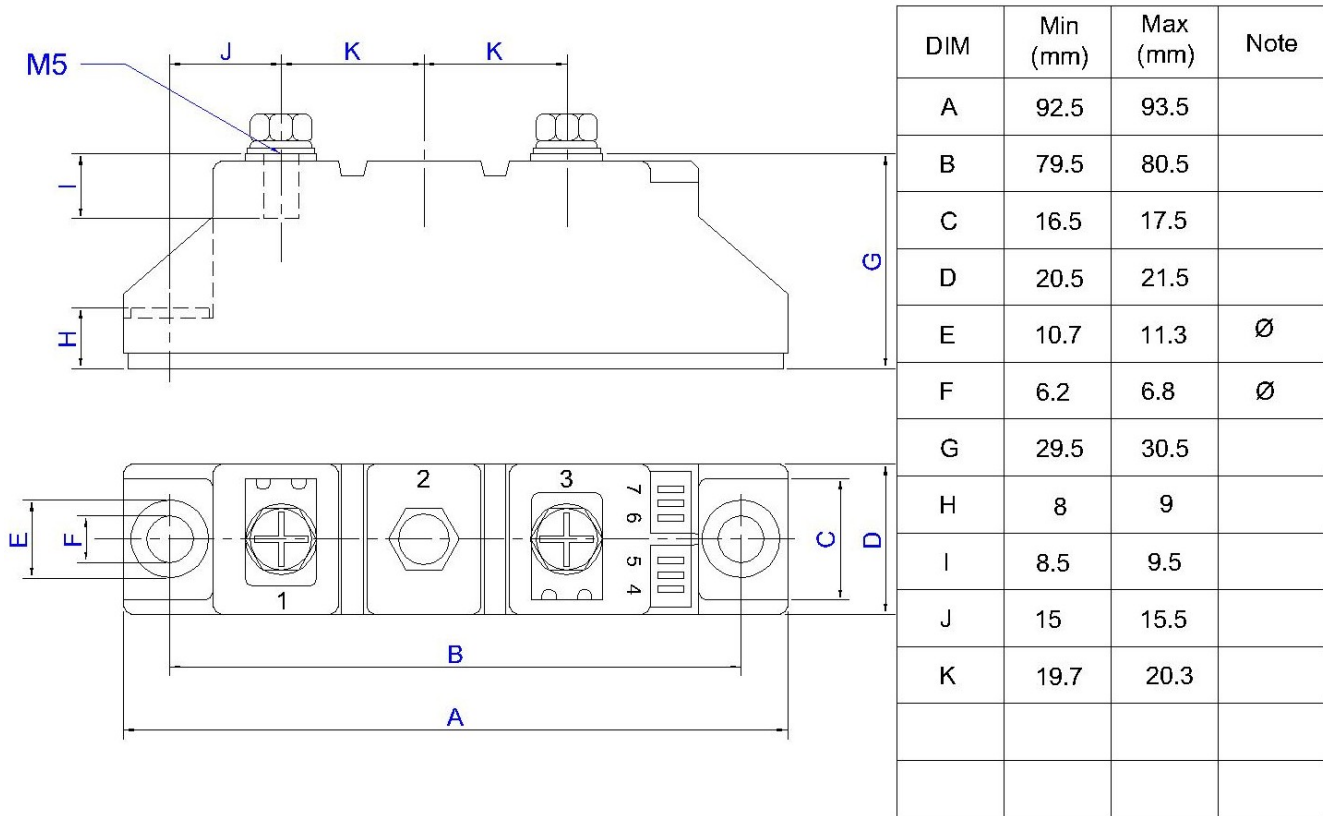


Fig5. Forward Characteristics

Package Outline Information

CASE: D1



Packing Standard

Item	Length: A (mm)	Width: B (mm)	Height: C (mm)	Quantity (PCS)
Inner Box	276	258	40	10
Outer Carton	545	295	240	120



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