

## Glass Passivated Rectifier Diode Modules



**VRRM** 800 to 1800V  
**IFAV** 36 A

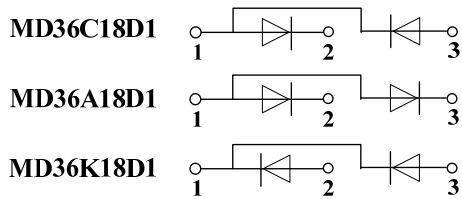
### Applications

- 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
- UL recognized applied for file no. E360040

### Circuit



### Module Type

TYPE			VRRM	VRSM
MD36C08D1	MD36A08D1	MD36K08D1	800V	900V
MD36C12D1	MD36A12D1	MD36K12D1	1200V	1300V
MD36C16D1	MD36A16D1	MD36K16D1	1600V	1700V
MD36C18D1	MD36A18D1	MD36K18D1	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	$\text{A}^2\text{s}$
$V_{isol}$	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	$^{\circ}\text{C}/\text{W}$
$R_{th(j-c)}$	Per Module	0.3	$^{\circ}\text{C}/\text{W}$
$R_{th(c-s)}$	Module	0.1	$^{\circ}\text{C}/\text{W}$

### Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
$V_{FM}$	$T=25^{\circ}\text{C}$ $I_F=75\text{A}$	—	1.0	1.18	V
$V_{FM}$	$T=25^{\circ}\text{C}$ $I_F=100\text{A}$	—	1.25	1.40	V
$I_{RD}$	$T_{vj}=150^{\circ}\text{C}$ $V_{RD}=V_{RRM}$	—	—	5	mA



Performance Curves

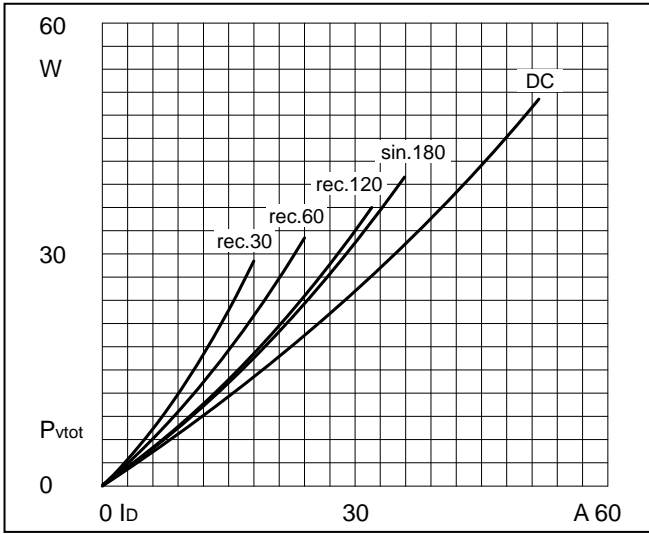


Fig1. Power dissipation

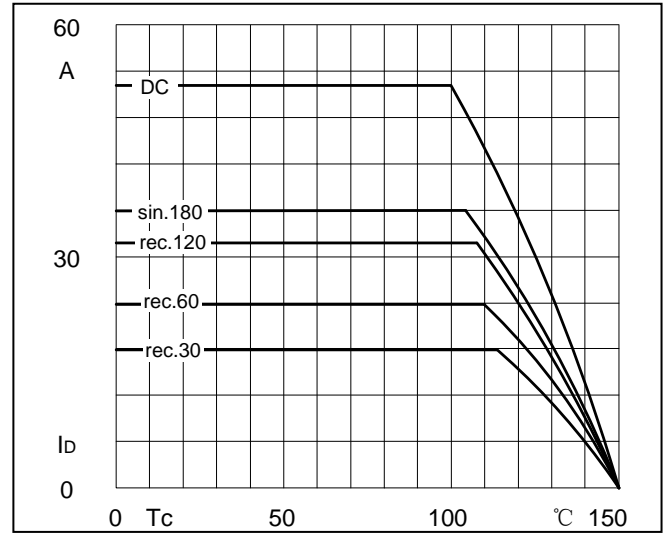


Fig2. Forward Current Derating Curve

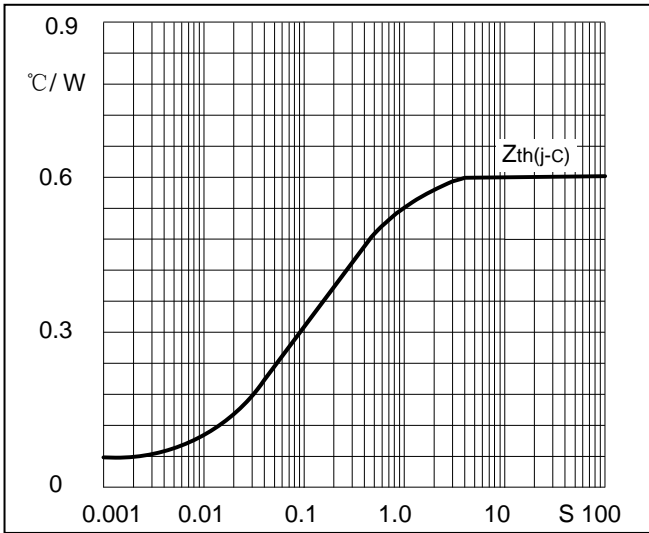


Fig3. Transient thermal impedance

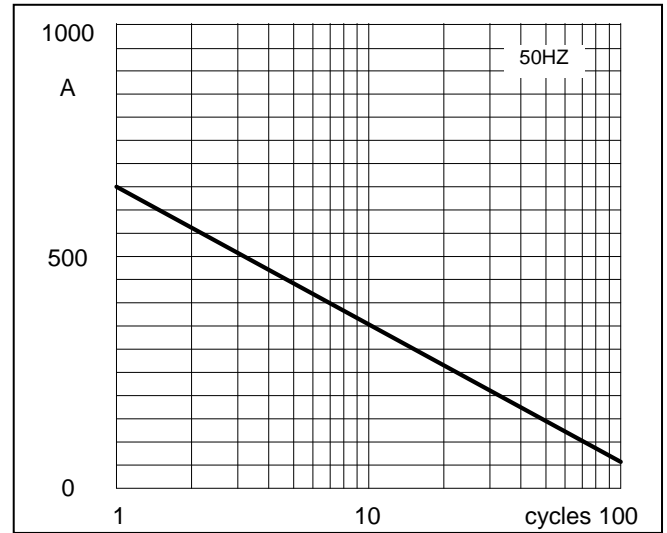


Fig4. Max Non-Repetitive Forward Surge Current

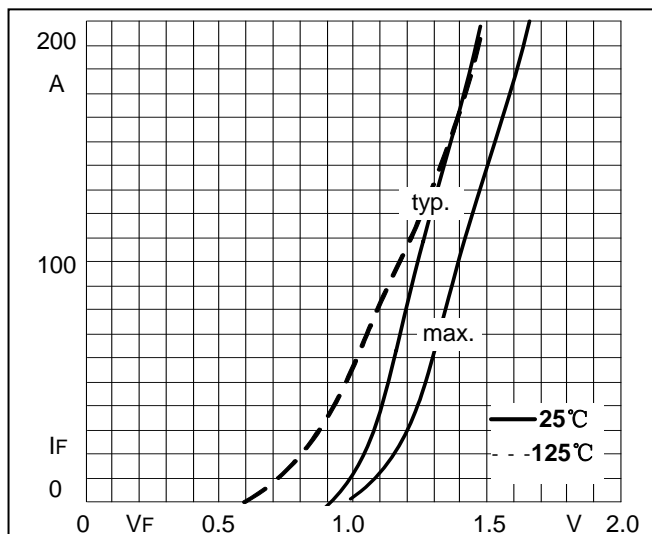
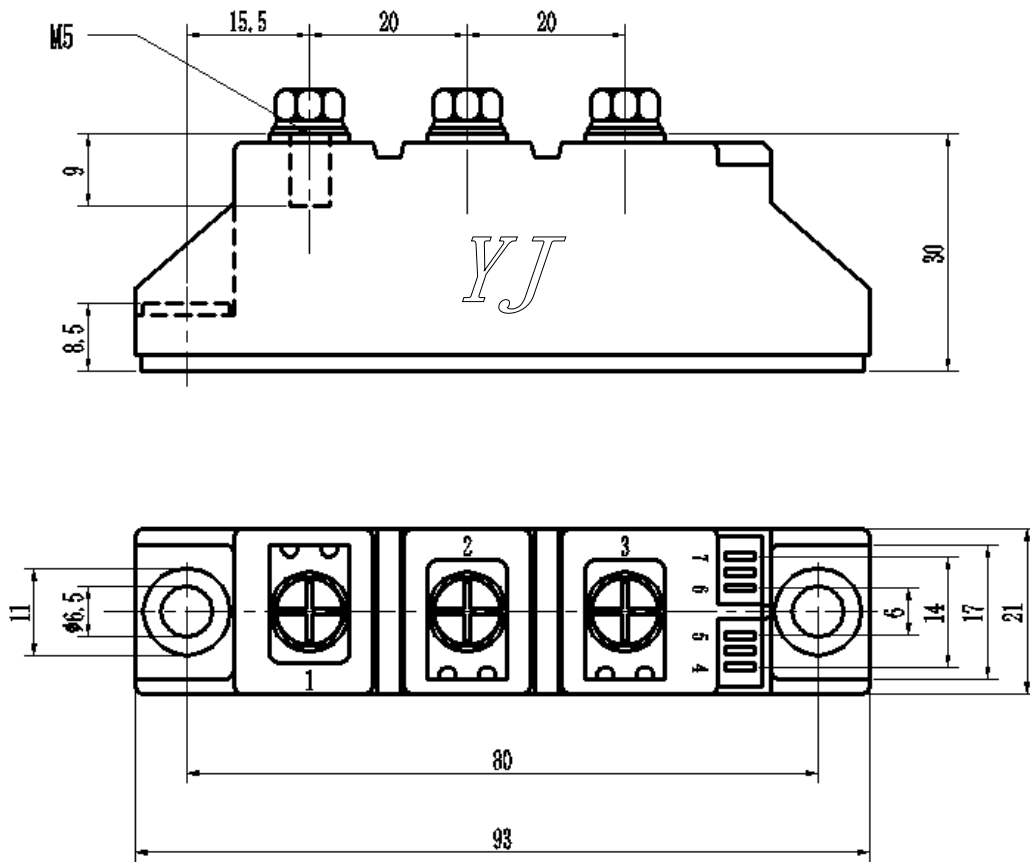


Fig5. Forward Characteristics

## Package Outline Information

CASE: D1



Dimensions in mm