



## Glass Passivated Three Phase Rectifier Bridge

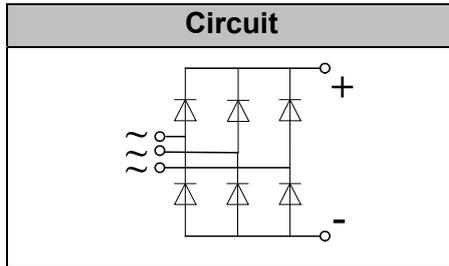
**VRRM** 2000V  
**ID** 145A

### Applications

- Three phase rectifiers for power supplies
- Rectifiers for DC motor field supplies
- Battery charger rectifiers
- Input rectifiers for variable frequency drives

### Features

- Three phase bridge rectifier
- Blocking voltage:2000V
- Isolated heatsink using DBC technology
- Glass passivated chip



### Module Type

TYPE	VRRM	VRSM
MD145S20N6	2000V	2100V

### Maximum Ratings

Symbol	Conditions	Values	Units
$I_D$	Three phase, full wave $T_c=80^\circ\text{C}$	145	A
$I_{FSM}$	$t=10\text{mS}$ $T_a=25^\circ\text{C}$	1800	A
$i^2t$	$t=10\text{mS}$ $T_a=25^\circ\text{C}$	16200	$\text{A}^2\text{s}$
Visol	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(M4)	$2.5\pm 15\%$	Nm
$M_s$	To heatsink(M4)	$2.5\pm 15\%$	Nm
Weight	Module (Approximately)	75	g

### Thermal Characteristics

Symbol	Conditions	Values	Units
$R_{th(j-c)}$	Per Diode	0.70	$^\circ\text{C}/\text{W}$
$R_{th(j-c)}$	Per Module	0.12	$^\circ\text{C}/\text{W}$

### Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
VFM	$T=25^\circ\text{C}$ $I_F=145\text{A}$	—	1.7	1.95	V
IRD	$T_{vj}=25^\circ\text{C}$ $VRD=VRRM$ $T_{vj}=150^\circ\text{C}$ $VRD=VRRM$	—	—	0.5 8	mA mA



Performance Curves

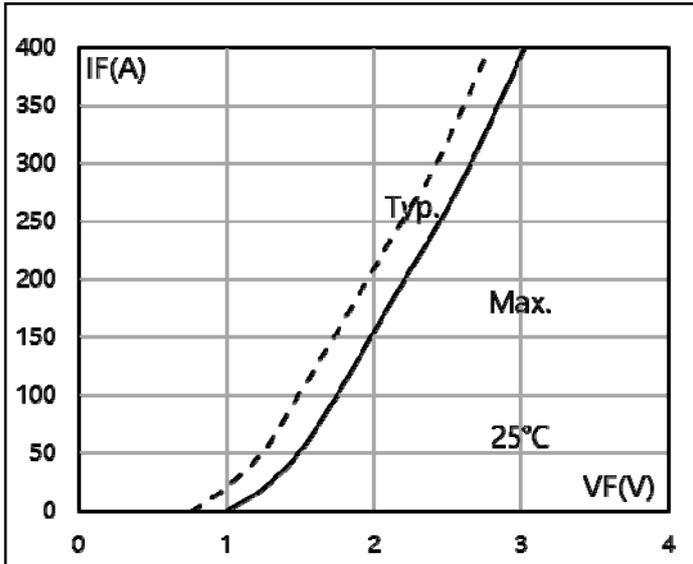


Fig1. Forward Characteristics

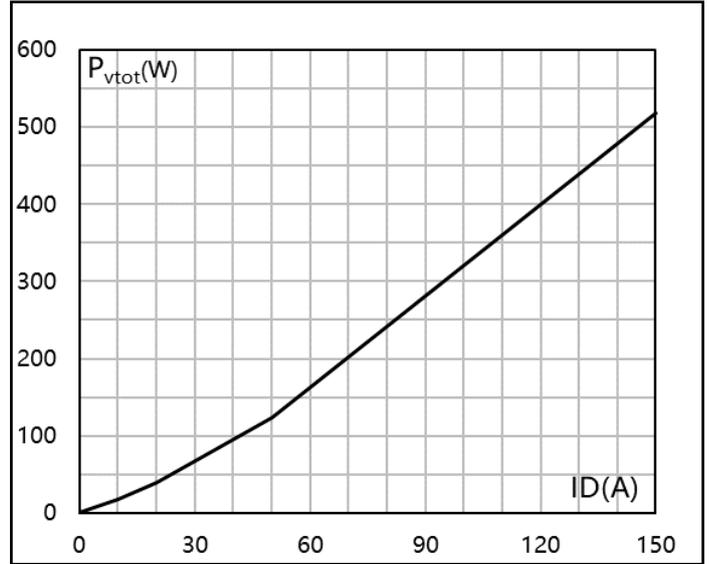


Fig2. Power dissipation

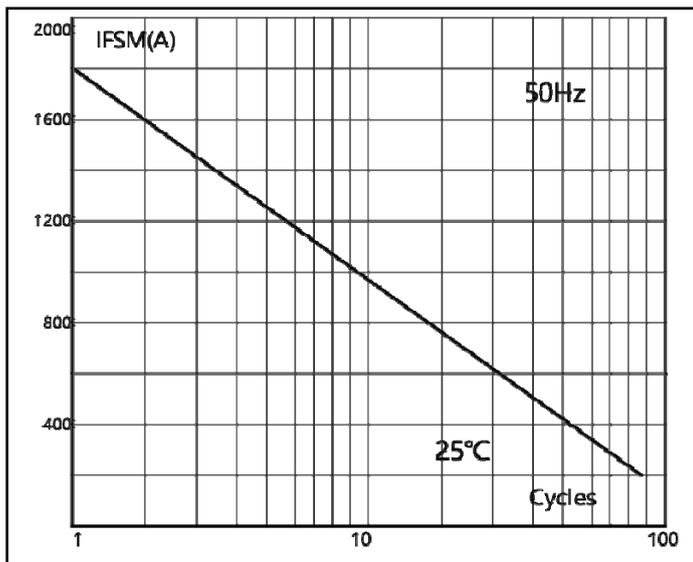


Fig3. Max Non-Repetitive Forward Surge Current

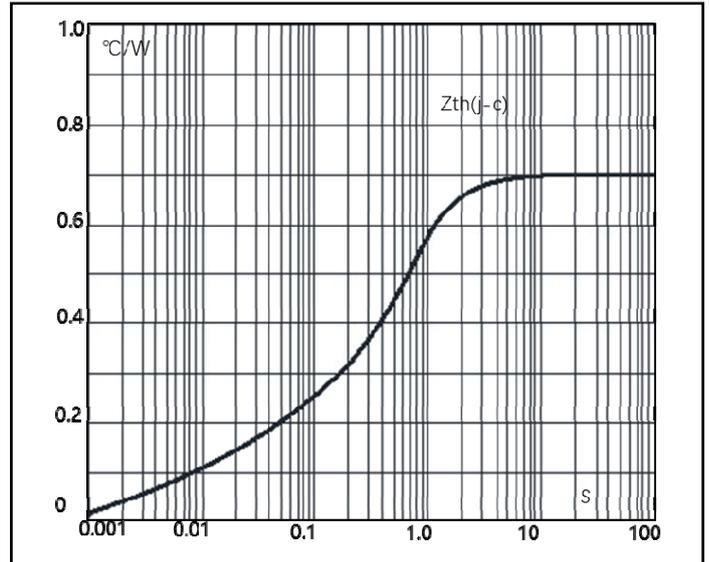


Fig4. Transient thermal impedance

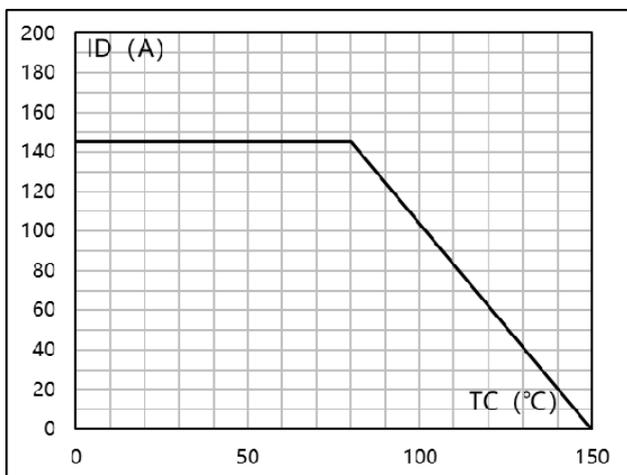
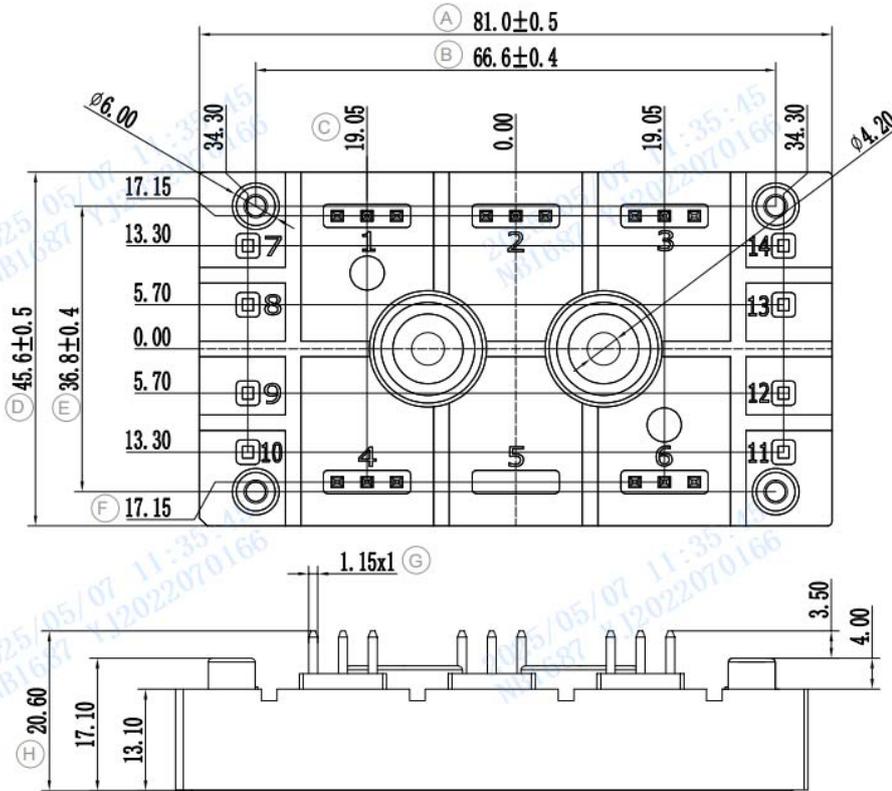


Fig5. Forward Current Derating Curve

**Package Outline Information**

**CASE: N6**



Dim	Min	Max
A	80.5	81.5
B	66.2	67.0
C	18.85	19.25
D	45.1	46.1
E	36.4	37.2
F	16.95	17.35
G	1.05x0.90	1.25x1.10
H	20.2	21.0

**Dimensions in mm**

**Packing Standard**

Item	Length: A (mm)	Width: B (mm)	Height: C (mm)	Quantity (PCS)
Inner Box	385	276	26	24
Outer Carton	395	280	260	192



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