

Glass Passivated Three Phase Rectifier Bridge

VRRM 1800V

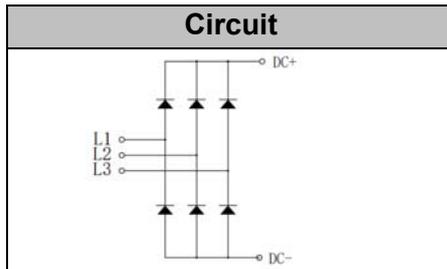
ID 40A

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:1800V
- Isolated heatsink using DBC technology
- Glass passivated chip
- UL recognized applied for file no. E230084



Module Type

TYPE	VRRM	VRSM
MD40S18N1	1800V	2000V

Maximum Ratings

Symbol	Conditions	Values	Units
I_b	Three phase, full wave $T_c=90^\circ\text{C}$	40	A
I_{FSM}	$t=10\text{mS}$ $T_a=25^\circ\text{C}$	520	A
i^2t	$t=10\text{mS}$ $T_a=25^\circ\text{C}$	1350	A^2s
V_{isol}	a.c.50HZ;r.m.s.;1min	2500	V
T_{vj}		-40 to +150	$^\circ\text{C}$
T_{stg}		-40 to +125	$^\circ\text{C}$
M_t	To terminals(M4)	$2\pm 15\%$	Nm
M_s	To heatsink(M4)	$2\pm 15\%$	Nm
Weight	Module (Approximately)	27	g

Thermal Characteristics

Symbol	Conditions	Values	Units
$R_{th(j-c)}$	Per Diode	1.10	$^\circ\text{C}/\text{W}$
$R_{th(j-c)}$	Per Module	0.19	$^\circ\text{C}/\text{W}$

Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
VFM	$T=25^\circ\text{C}$ IF=40A	—	1.15	1.45	V
IRD	$T_{vj}=25^\circ\text{C}$ VRD=VRRM $T_{vj}=150^\circ\text{C}$ VRD=VRRM	—	—	0.3 5	mA mA



Performance Curves

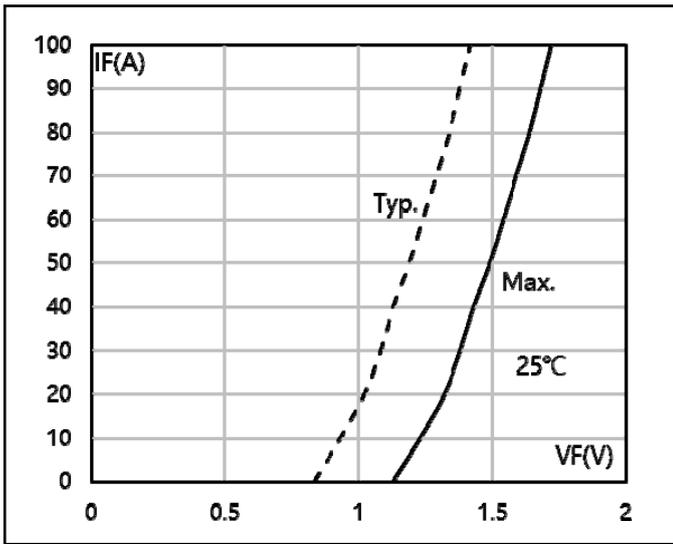


Fig1. Forward Characteristics

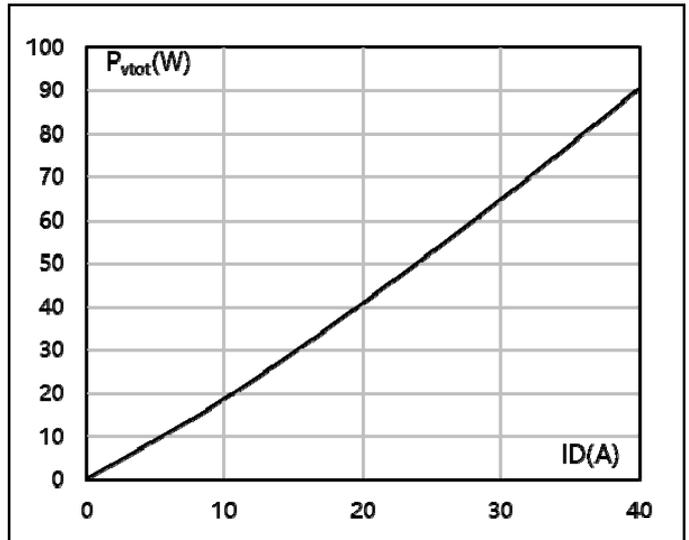


Fig2. Power dissipation

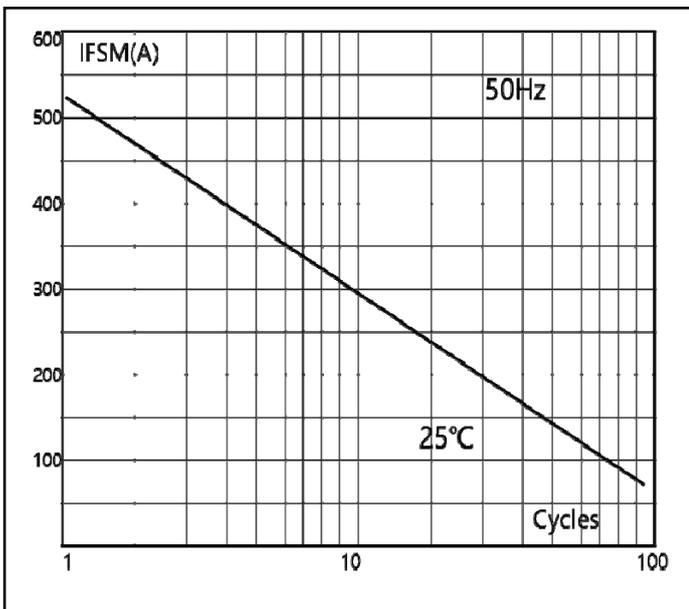


Fig3. Max Non-Repetitive Forward Surge Current

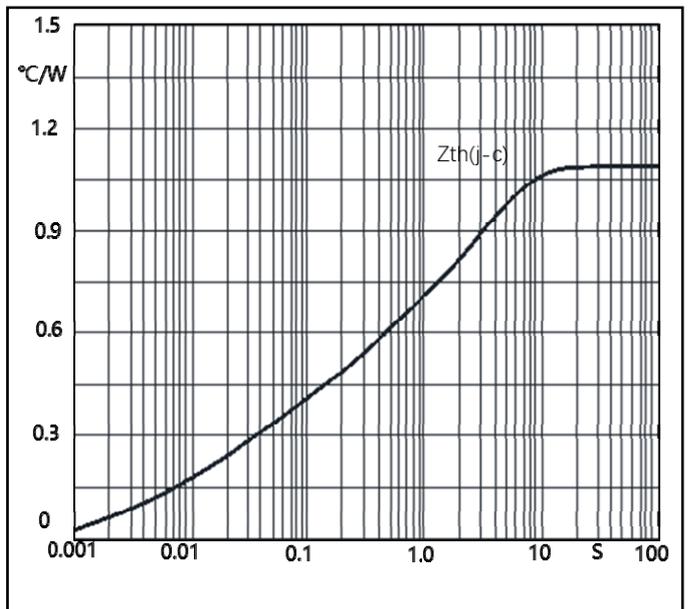


Fig4. Transient thermal impedance

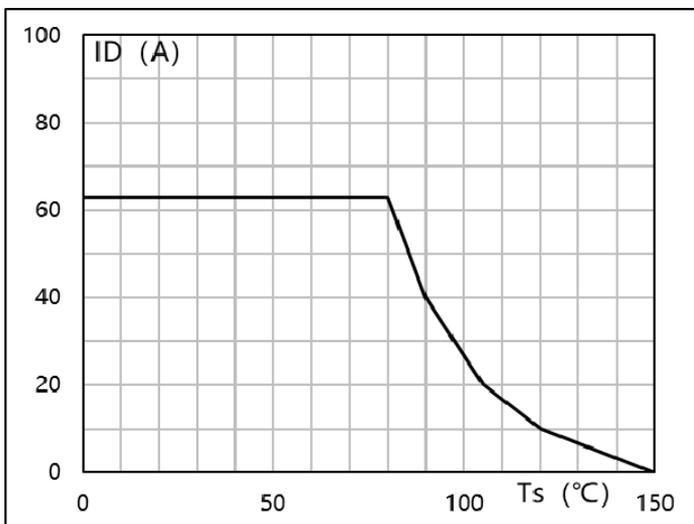
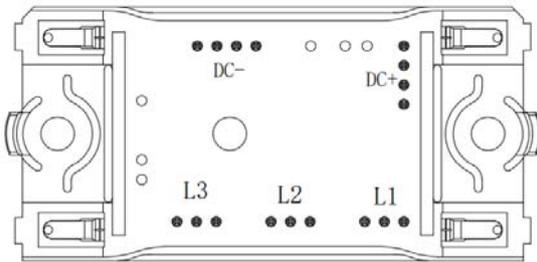
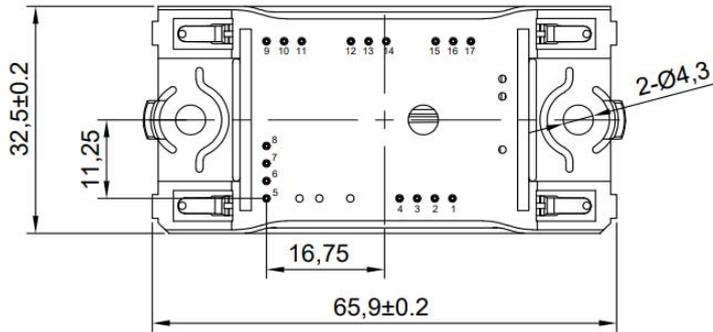
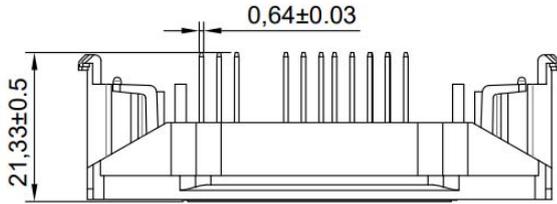


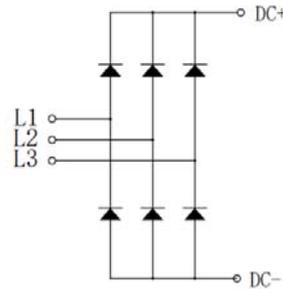
Fig5. Forward Current (DC Current)

Package Outline Information

CASE: N1



Pin	X	Y	Pin	X	Y
1	26.4	0	13	14.5	22.5
2	23.9	0	14	17	22.5
3	21.4	0	15	24	22.5
4	18.9	0	16	26.5	22.5
5	0	0	17	29	22.5
6	0	2.5			
7	0	5			
8	0	7.5			
9	0	22.5			
10	2.5	22.5			
11	5	22.5			
12	12	22.5			



Dimensions in mm

Packing Standard

Item	Length: A (mm)	Width: B (mm)	Height: C (mm)	Quantity (PCS)
Inner Box	385	272	27	24
Outer Carton	395	280	260	240



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