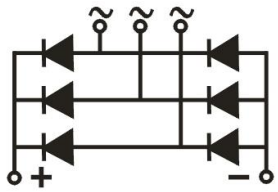
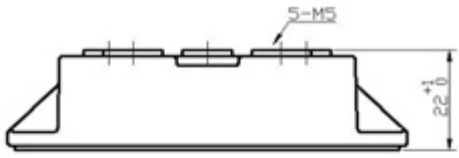
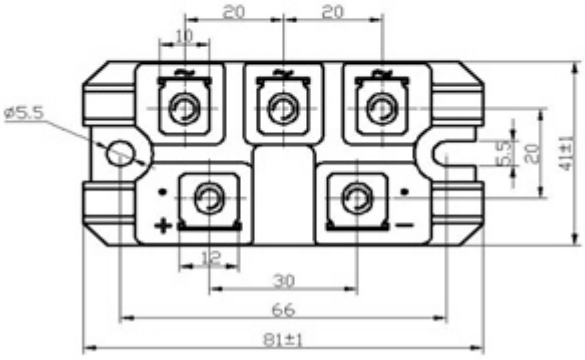
MDS50J

Glass Passivated Three Phase Rectifier Bridge







Dimensions in millimeters

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:1200 to 1800V
Heat transfer through aluminum oxide
DBC ceramic isolated metal baseplate
Glass passivated chip
UL recognized applied for file no. E304417

Module Type

TYPE	V_{RRM}	V_{RSM}
MDS50J-12	1200V	1300V
MDS50J-16	1600V	1700V
MDS50J-18	1800V	1900V

Maximum Ratings

Symbol	Conditions	Values	Units
I_D	Three phase, full wave Tc=100℃	50	A
I_{FSM}	t=10mS Tvj =45℃	460	A
i^2t	t=10mS Tvj =45℃	1050	A^2s
Visol	a.c.50HZ;r.m.s.;1min	3000	V
Tvj		-40 to +150	℃
Tstg		-40 to +125	℃
Mt	To terminals(M5)	3±15%	Nm
Ms	To heatsink(M5)	3±15%	Nm
Weight	Module (Approximately)	150	g

Thermal Characteristics

Symbol	Conditions	Values	Units
Rth(j-c)	Module	0.28	℃/W

Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
V_{FM}	T=25℃ I_F =50A	—	1.30	1.55	V
I_{RD}	Tvj=25℃ $V_{RD}=V_{RRM}$ Tvj=150℃ $V_{RD}=V_{RRM}$	—	—	10 5	uA mA

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Performance Curves

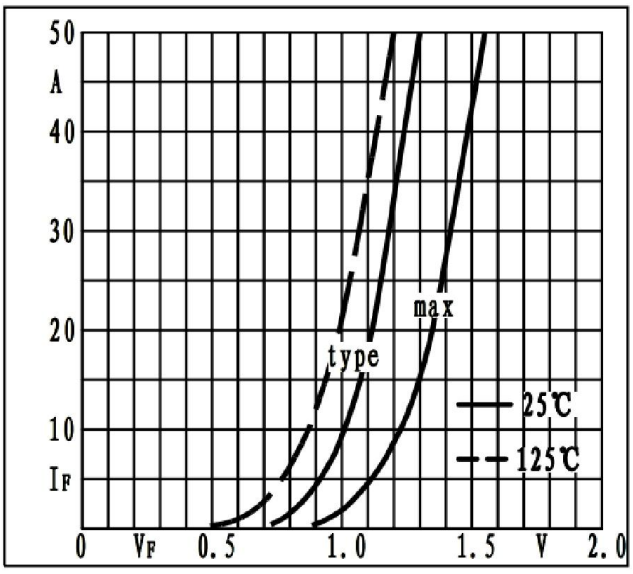

Fig1. Forward characteristics

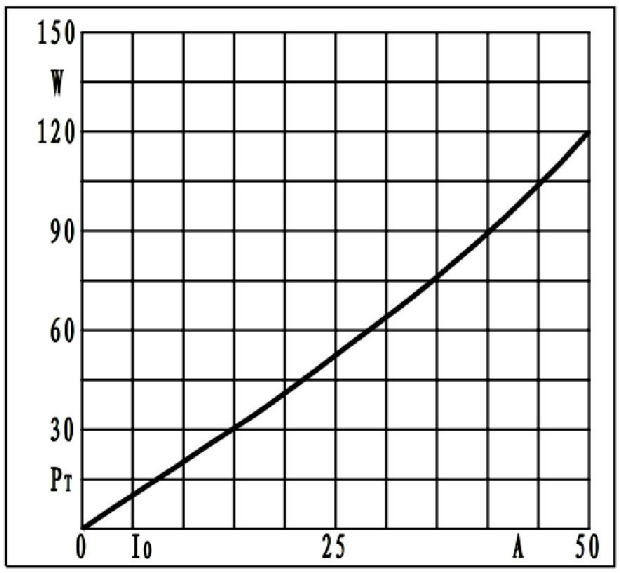

Fig2. Power dissipation

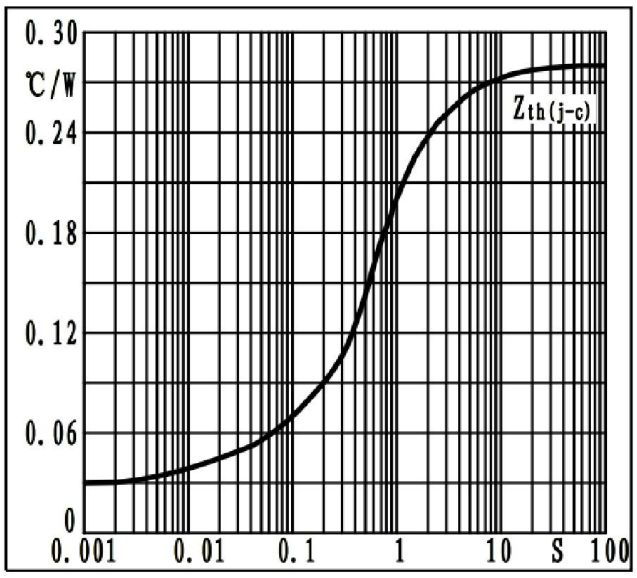

Fig3. Transient thermal impedance

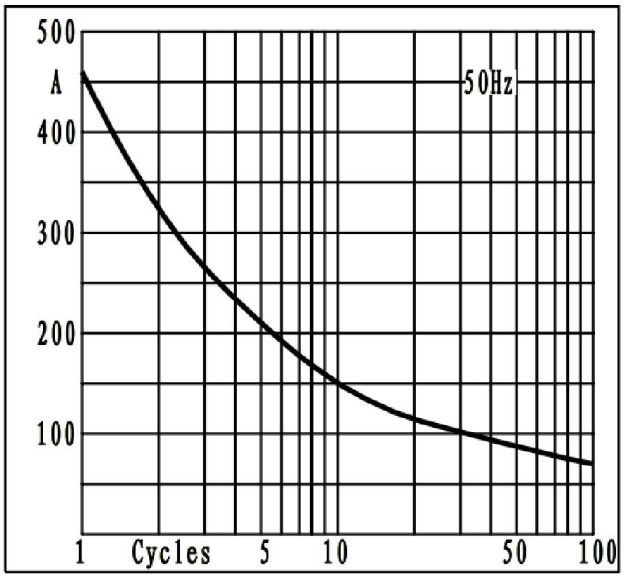

Fig4. Max non-repetitive forward surge current

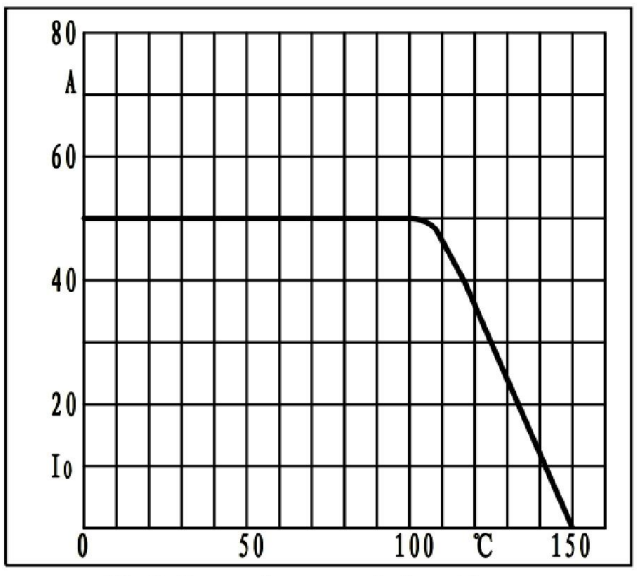

Fig5. Forward current derating curve