MD165U18D2

Glass Passivated Rectifier Diode Modules

V_{RRM} 800 to 1800V
I_{FAV} 165 A

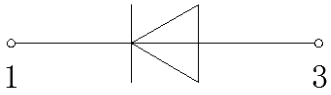
Applications

- Non-controllable rectifiers for AC/AC converters
- Line rectifiers for transistorized AC motor controllers
- Field supply for DC motors
- PV combiner box

Features

- Blocking voltage:800 to 1800V
- Heat transfer through aluminum oxide DBC ceramic isolated metal baseplate
- Glass passivated chip

Circuit



Module Type

TYPE	V_{RRM}	V_{RSM}
MD165U08D2	800V	900V
MD165U12D2	1200V	1300V
MD165U16D2	1600V	1700V
MD165U18D2	1800V	1900V

Maximum Ratings

Symbol	Conditions	Values	Units
I_{FAV}	Single phase ,half wave 180° conduction Tc=101℃	165	A
I_{FSM}	t=10mS Tvj =45℃	6000	A
i^2t	t=10mS Tvj =45℃	180000	A^2s
V_{isol}	a.c.50HZ;r.m.s.;1min	3000	V
T_{vj}		-40 to +150	℃
T_{stg}		-40 to +125	℃
Mt	To terminals(M6)	5±15%	Nm
Ms	To heatsink(M6)	5±15%	Nm
Weight	Module (Approximately)	160	g

Thermal Characteristics

Symbol	Conditions	Values	Units
$R_{th(j-c)}$	Per diode	0.21	℃/W
$R_{th(c-s)}$	Module	0.05	℃/W

Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
V_{FM}	T=25℃ I_F =300A	—	1.10	1.20	V
I_{RD}	T_{vj}=150℃ V_{RD}=V_{RRM}	—	—	9	mA

Performance Curves

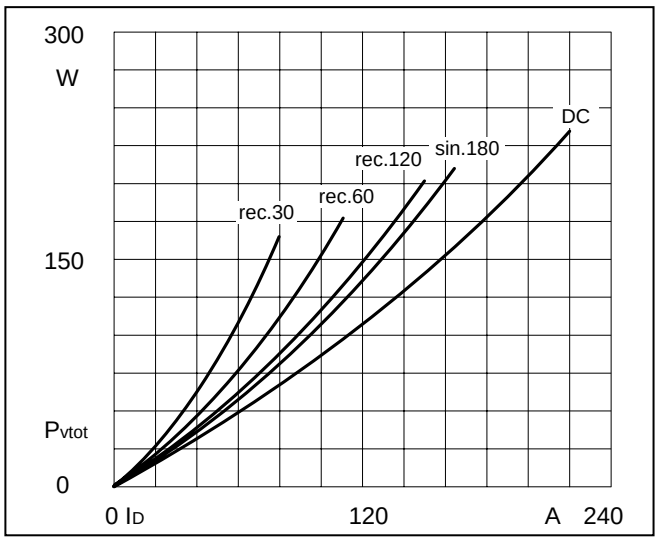


Fig1. Power dissipation

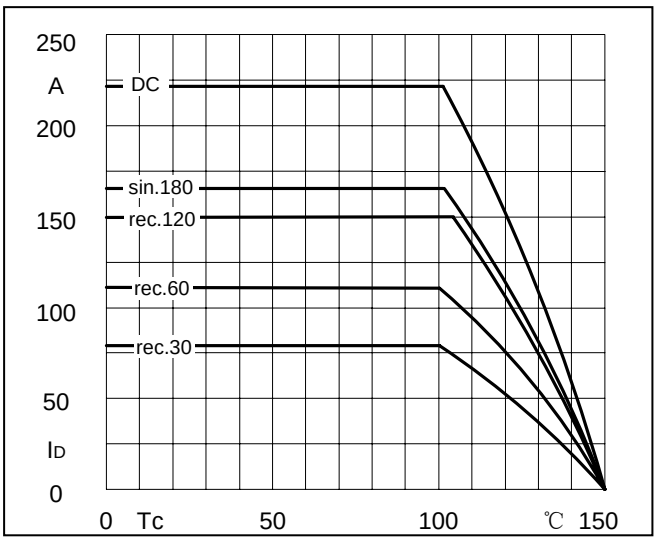


Fig2.Forward Current Derating Curve

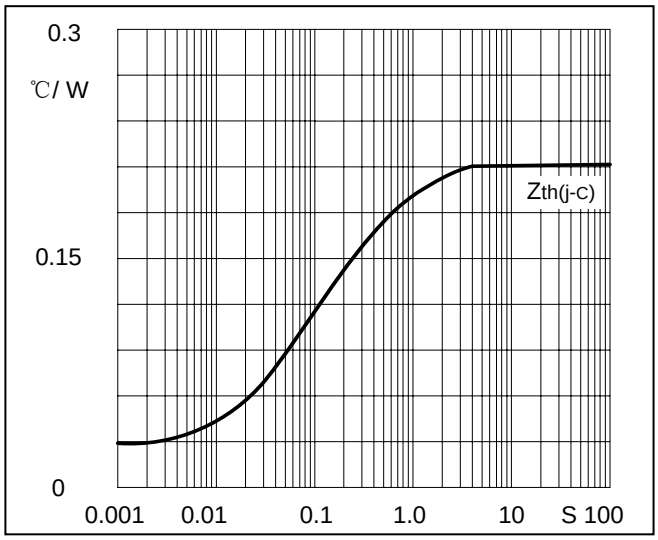


Fig3. Transient thermal impedance

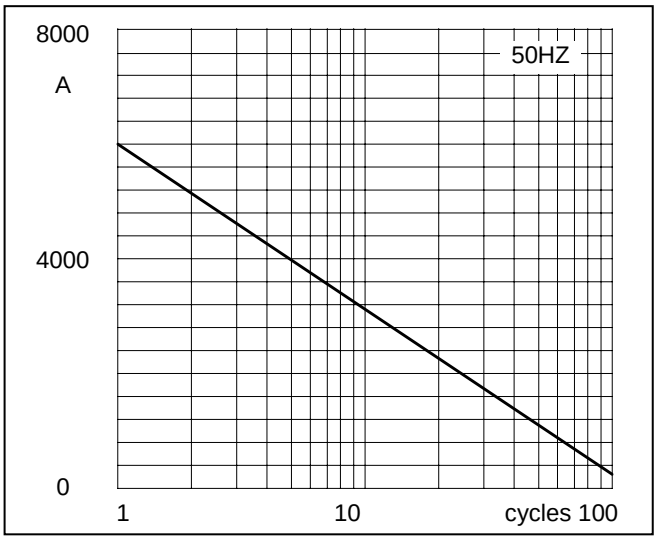


Fig4. Max Non-Repetitive Forward Surge Current

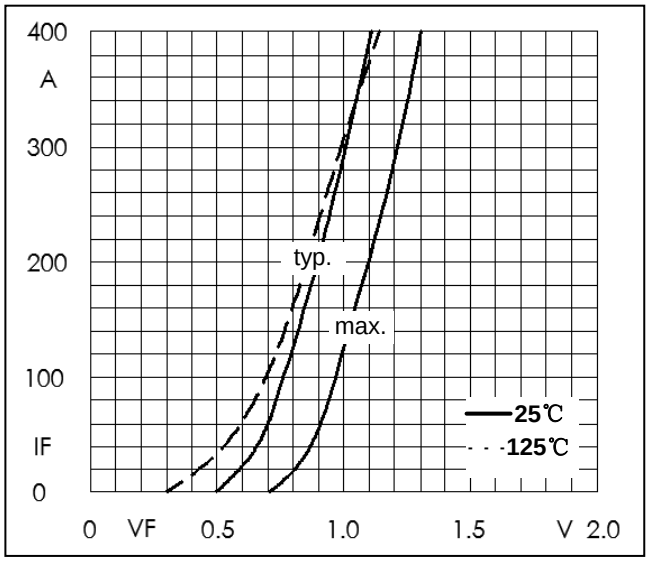
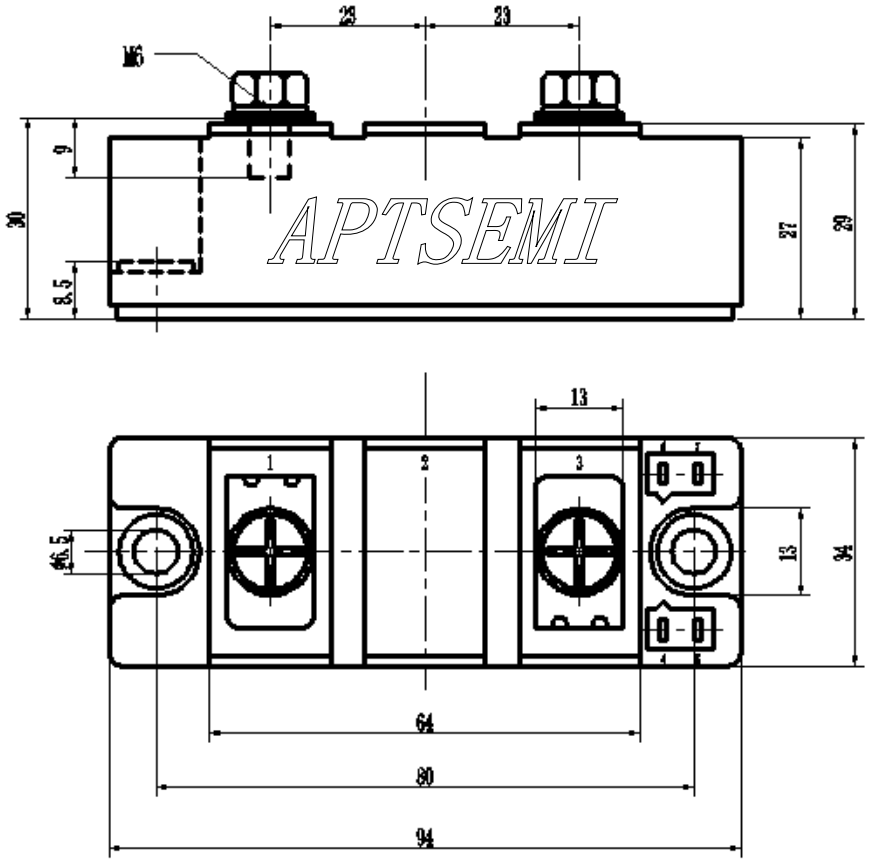


Fig5. Forward Characteristics

Package Outline Information

CASE: D2



Dimensions in mm