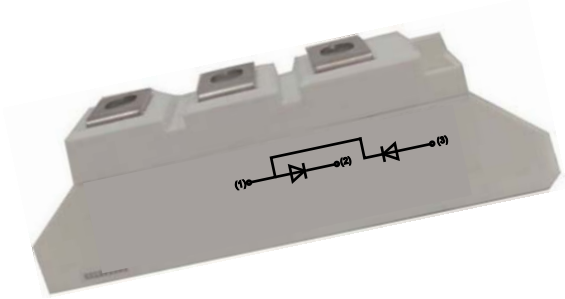
Diode Modules

MDD105M1Sxx

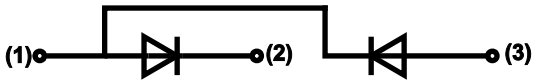
Features

- Blocking voltage：1600 to 2200V
- Heat transfer through aluminum oxide DBC Ceramic isolated metal baseplate
- Industrial standard package
- Thick copper baseplate
- 2500 V_{RMS} isolating voltage



Typical Applications

- Power Supplies
- AC&DC Motor Drivers
- Bridge Circuits
- Welders
- Battery Supplier



Other circuit configurations also available on order

Module Type		
Type	**V_{DRM}**	**V_{RSM}**
MDD105M1S16	1600V	1700V
MDD105M1S18	1800V	1900V
MDD105M1S22	2200V	2300V

Maximum Ratings				
Parameters	**Symbol**	**Test Conditions**	**Values**	**Unit**
State the average current	$I_{F(AV)}$	Single phase ,half wave 180° conduction Tc=80℃	105	A
Surge forward current	I_{FSM}	t=10mS T_J =45℃	3000	A
Maximum I^2t for fusing	I^2t	t=10mS T_J =45℃	45000	A^2s
Isolation Breakdown Voltage(R.M.S)	Visol	Ac.50H_Z；R.M.S；1min	2500	V
		Ac.50H_Z；R.M.S；1sec	3500	V
Operating Juntion Temperature	T_J		-40~+150	℃
Storage Temperature	Tstg		-40~+125	℃
Mounting Torque	Mt	To terminals(M5)	3± 15%	Nm
	Ms	To heatsink(M6)	5± 15%	
Module(Approximately)	Weight		100	g

Electrical Characteristics						
Parameters	Symbol	Test Conditions	Values			Unit
			Min.	Typ.	Max.	
Maximum Forward voltage drop	V_{FM}	T=25℃ IF =105A	–	1.00	1.25	V
Maximum Repetitive Peak Reverse Current	I_{RRM}	T_J=25℃ V_{RD}=V_{RRM}	–	–	15	uA
		T_J=150℃ V_{RD}=V_{RRM}	–	–	10	mA

Thermal Characteristics				
Parameters	Symbol	Test Conditions	Values	Unit
Maximum internal thermal resistance, junction to case per leg	$Rth_{(J-C)}$	Per diode	0.35	℃/ W
Typical thermal resistance, case to heatsink per module	$Rth_{(C-S)}$	Module	0.10	℃/ W

Performance Curves

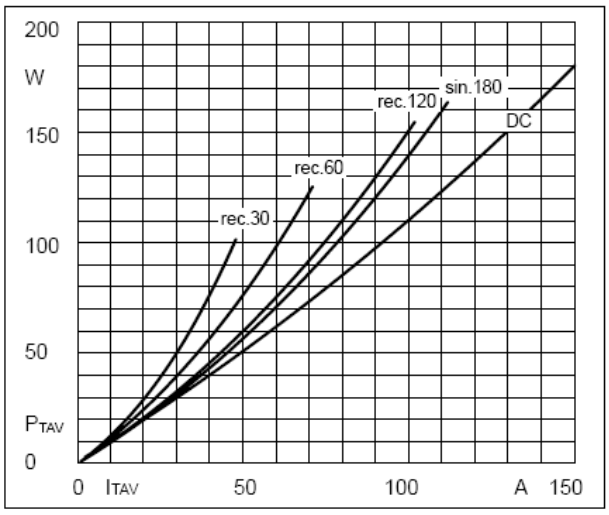


Fig1. Power dissipation

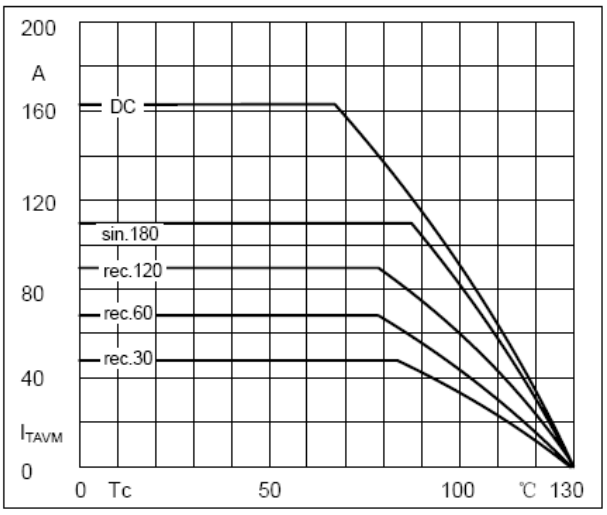


Fig2.Forward Current Derating Curve

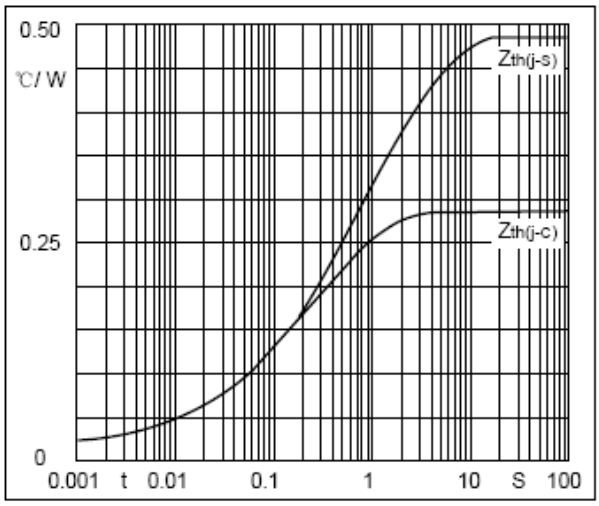


Fig3. Transient thermal impedance

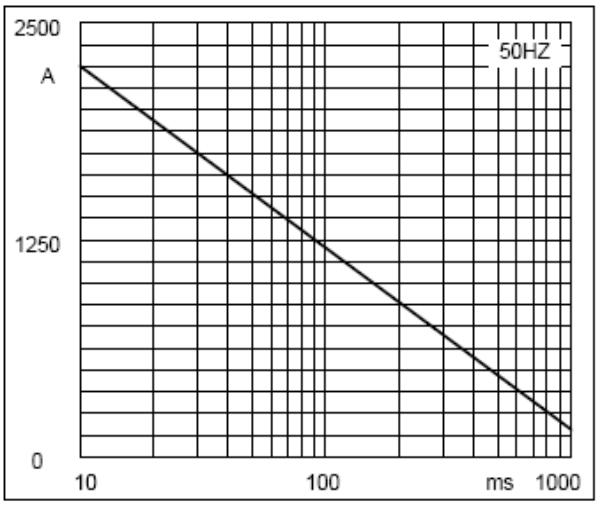


Fig4. Max Non-Repetitive Forward Surge Current

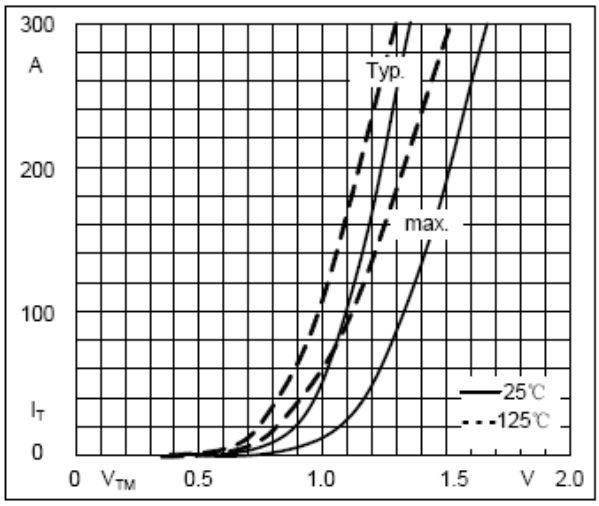


Fig5. Forward Characteristics

Ordering Information Table

Device Code

MDD	105	M1S	16
①	②	③	④

① Diode power module

② Maximum average forward current, A

③ Package Size & type code

④ Voltage code 1600v

PACKAGE OUTLINE INFORMATION

Dimensions in mm