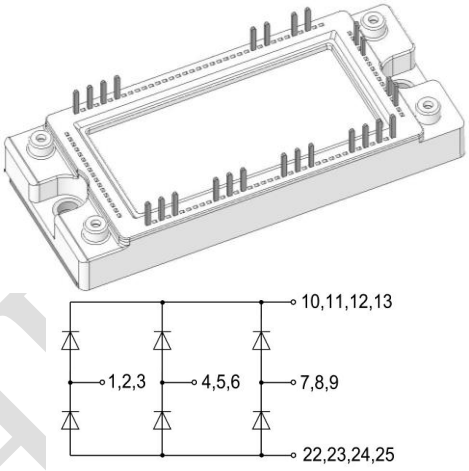
RD200FF180T5H

Preliminary Data

Rectifier Diode Module

Features：

- Blocking Voltage:1800V
- Heat Transfer Through Aluminum Oxide DBC Ceramic Isolated Metal Baseplate
- Glass Passivated Chip
- Three Phase Bridge Rectifier



Pins 14,15,16,17,18,19,20,21 are not connected

Applications：

- Three Phase Rectifiers for Power Supplies
- Rectifiers for DC Motor Field Supplies
- Battery Charger Rectifiers
- Input Rectifiers for Variable Frequency Drives

Maximum Rated

Symbol	Description	Conditions	Min.	Typ.	Max.	Units
V_{RRM}	Repetitive Peak Reverse Voltage	T_{VJ}=25℃	1800			V
I_D	Average Forward Current	Three Phase, Full Wave, Tc=100℃			200	A
I_{FSM}	Surge Current @t_p=10ms	tp=10ms, T_{VJ}=25℃			2000	A
i^2t	I^2t - value	tp=10ms, T_{VJ}=25℃			20000	A^2s
V_{ISO}	Isolation Voltage (All Terminals Shorted)	AC 50Hz; r.m.s.; 1s	3600			V
T_{VJ}	Maximum Operating Junction Temperature Range		-40		150	℃
T_{stg}	Storage Temperature		-40		125	℃
T	Mounting Torque for Module Mounting	Screw M5--Mounting according to valid application note	3.0		5.0	N·m
G	Weight			190		g

Thermal Characteristics

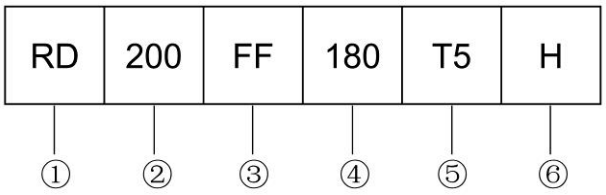
Symbol	Description	Min.	Typ.	Max.	Units
$R_{th(j-c)}$	Diode Thermal Resistance: Junction-to-Case			0.38	℃/W
$R_{th(c-s)}$	Case-to-Sink Thermally (Conductive Grease Applied)			0.04	℃/W

Electrical Characteristics

Symbol	Description	Conditions	Min.	Typ.	Max.	Units
V_F	Forward Voltage	I_F=300A, T_{VJ}=25℃		1.60	1.75	V
		I_F=300A, T_{VJ}=125℃		1.70		V
		I_F=300A, T_{VJ}=150℃		1.75		V
I_R	Reverse Current	V_{RD}=1800V, T_{VJ}=25℃			100	uA
		V_{RD}=1800V, T_{VJ}=125℃			2	mA
		V_{RD}=1800V, T_{VJ}=150℃			6	mA

Ordering Information Table

Device code



① - Rectifier Module
② - Rated Current (200=200A)
③ - Circuit Configuration (Full Bridge)
④ - Rated Voltage (180=1800V)
⑤ - Package Type
⑥ - Test Level (Pass the Important Reliability Test-Industrial Grade)

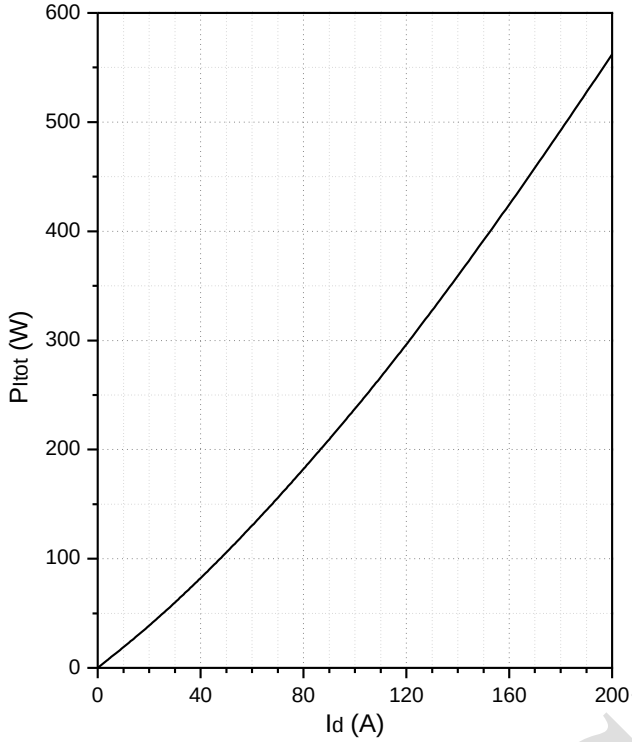


Fig.1 Power Dissipation

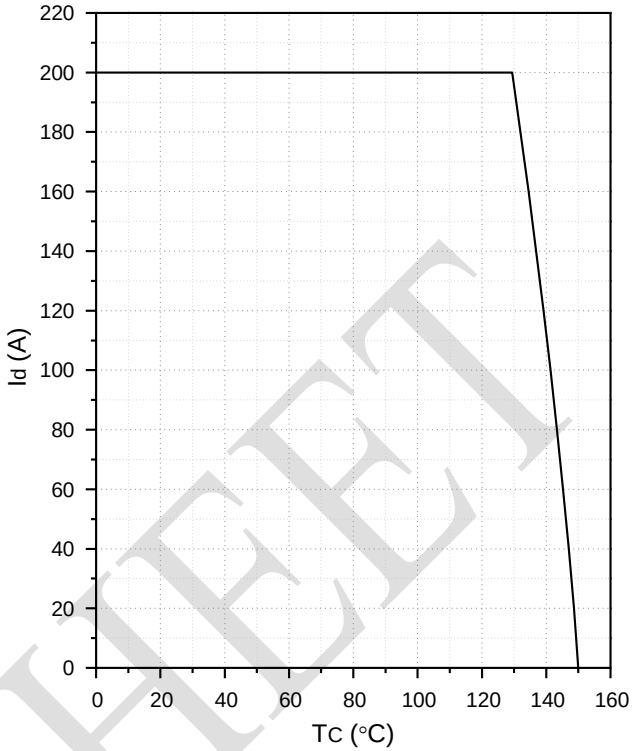


Fig.2 Forward Current Derating Curve

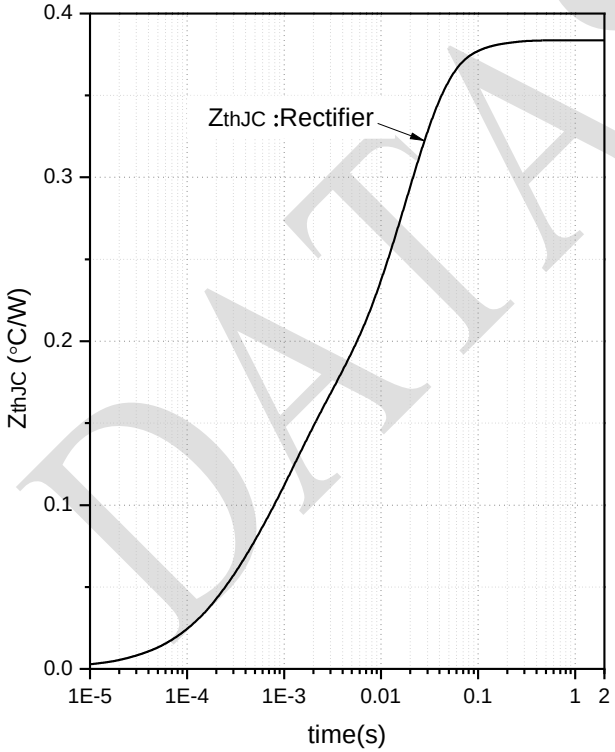


Fig.3 Transient Thermal Impedance

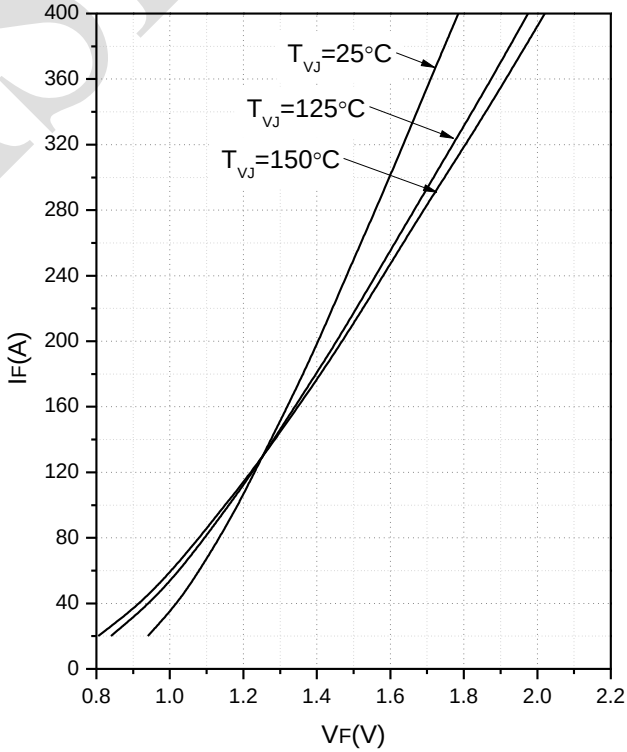
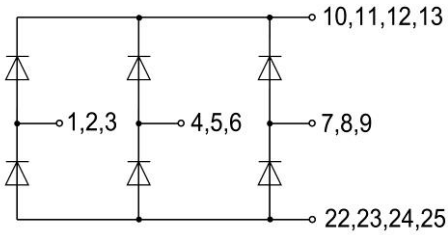


Fig.4 Forward Characteristics

Internal Circuit



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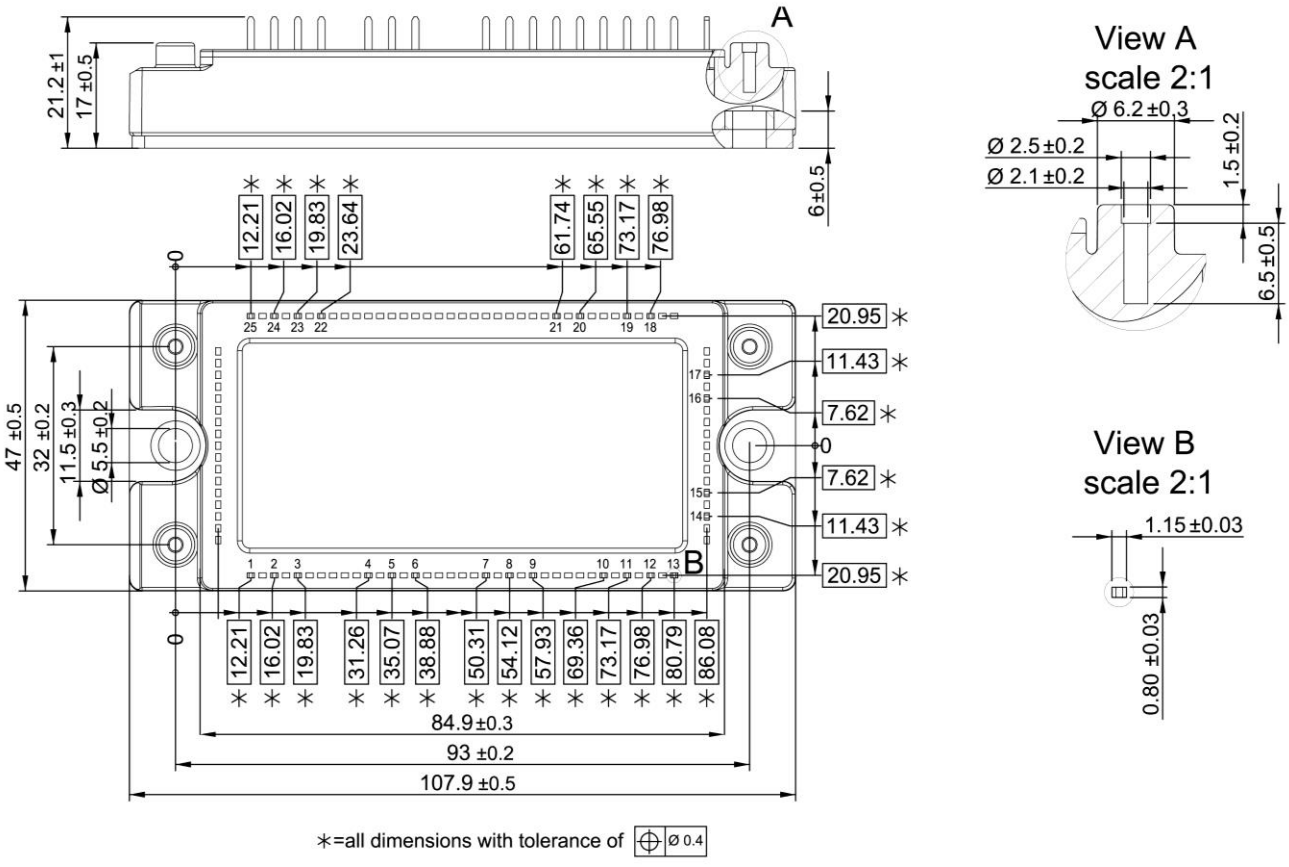
Package Outline Information (Unit: mm):



∗=all dimensions with tolerance of ⌖ Ø 0.4

Date	Revision	Notes
06/28/2020	01	Initial Release

Announcement

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The datasheet with “REV.” + “Arabic numerals” is based on engineering data for initial reference purpose only.

The released datasheet would be issued with “REV.” + “alphabet characters”.