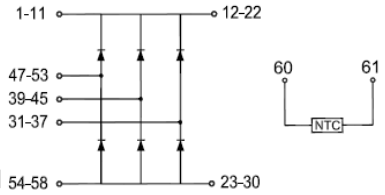
RD900FF180T6HJ

Rectifier Diode Module

Preliminary Data

Features：

- Blocking Voltage:1800V
- Heat Transfer Through Aluminum Oxide DBC Ceramic Isolated Metal Baseplate
- Double–Sided Silver Chip
- Three Phase Bridge Rectifier



Applications：

- Non-Controllable Rectifiers for AC/AC Converters
- Line Rectifiers for Transistorized AC Motor Controllers
- Field Supply for DC Motors
- Three Phase Rectifiers for Power Supplies

Maximum Rated Values

Symbol	Description	Conditions	Min.	Typ.	Max.	Units
V_{RRM}	Repetitive Peak Reverse Voltage	Tj =25℃, I_{RRM}=5uA	1800			V
Internal Isolation			Al2O3			
I_{FAV}	Average Forward Current	Tj=25℃,Ts=80℃			900	A
I_{FSM}	Surge Current @t_p=10 ms	tp=10ms,sin180°,Tj=25℃			10.08	kA
i^2t	I^2t - value	tp=10ms,sin180°,Tj=25℃			508	kA^2s
P_D	Maximum Power Dissipation per Diode	T_C=25℃ T_{Jmax}=150℃		1560		W
V_{iso}	Isolation Voltage(All Terminals Shorted)	AC 50Hz;r.m.s.;1min	3000			V
T_{vj}	Maximum Operating Junction Temperature Range		-40		150	℃
T_{stg}	Storage Temperature		-40		125	℃
T	Mounting Screw:M5		3.0		6.0	Nm
G	Weight			300		g

Thermal Characteristics

Symbol	Description	Min.	Typ.	Max.	Unit
$Rth_{(J-C)}$	Diode Thermal Resistance: Junction-To-Case		0.08		℃/.W
$Rth_{(C-S)}$	Case-To-Sink Thermally (Conductive Grease Applied)		0.02		℃/.W

Electrical Characteristics

Symbol	Description	Conditions	Values			Unit
			Min	Typ	Max	
V_F	Forward Voltage	I_F=300A, T_J=25℃		1.10		V
		I_F=900A, T_J=25℃		1.30		
		I_F=300A ,T_J=125℃		1.00		V
		I_F=900A ,T_J=125℃		1.30		
I_R	Reverse Current	V_{RD}=1800V,T_J=25℃		15	1000	uA
		V_{RD}=1800V,T_J=125℃			5	mA

Internal NTC-Thermistor Characteristics

Symbol	Description		Min.	Typ.	Max.	Units.
R_{25}	Rated Resistance	T_C=25℃		5		kΩ
△R/R	Deviation of R100	T_C=100℃，R_{100}=481Ω	-5		5	%
P_{25}	Power Dissipation	T_C=25℃			10	mW
$B_{25/50}$	B-Value	$R_2=R_{25}\exp[B_{25/50}(1/T_2-1/(298.15K))]$		3380		K
$B_{25/80}$	B-Value	$R_2=R_{25}\exp[B_{25/80}(1/T_2-1/(298.15K))]$		3440		K

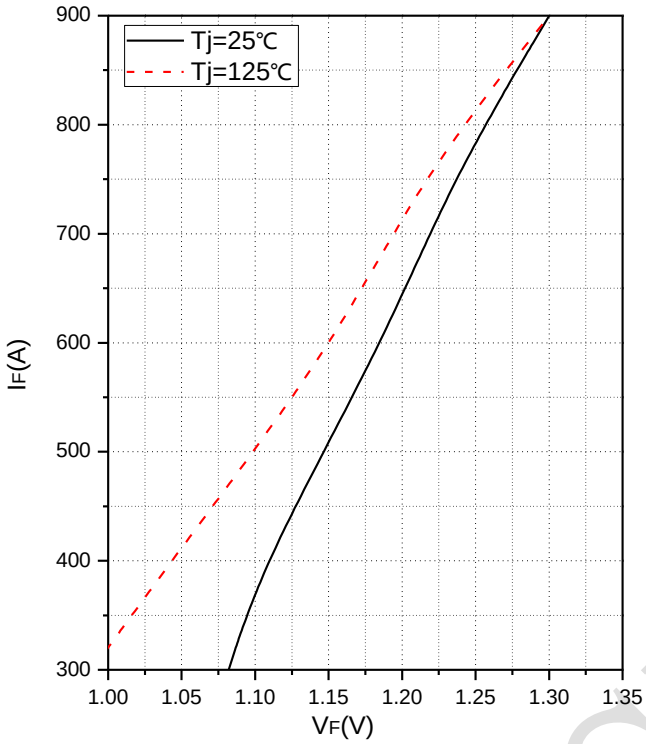


Fig.1 Forward Characteristics

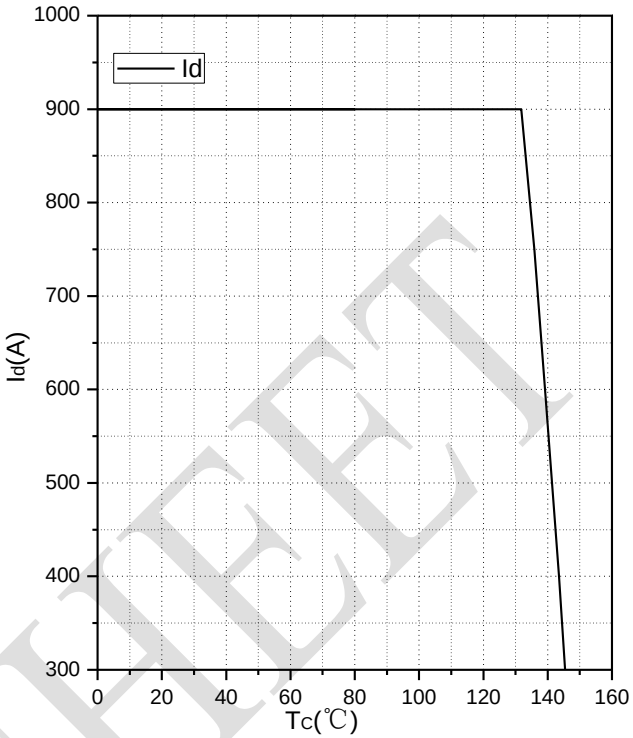


Fig.2 Forward Current Derating Curve

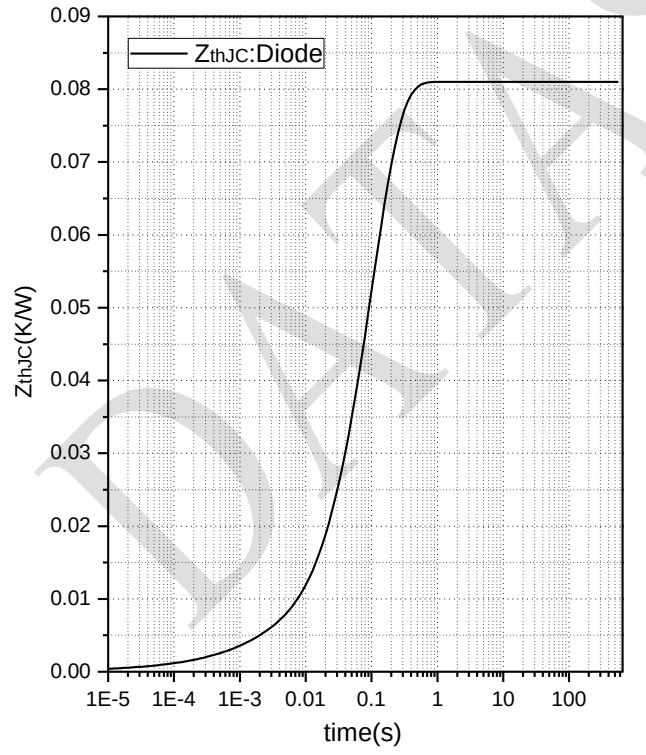


Fig.3 Transient Thermal Impedance

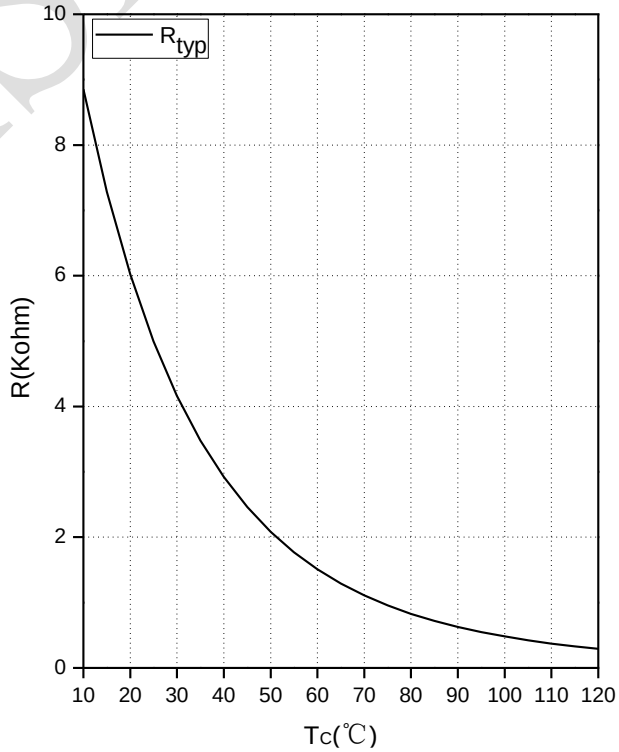
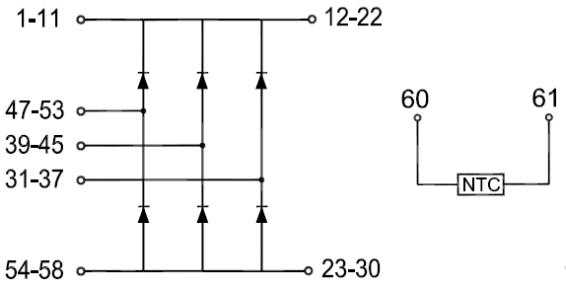
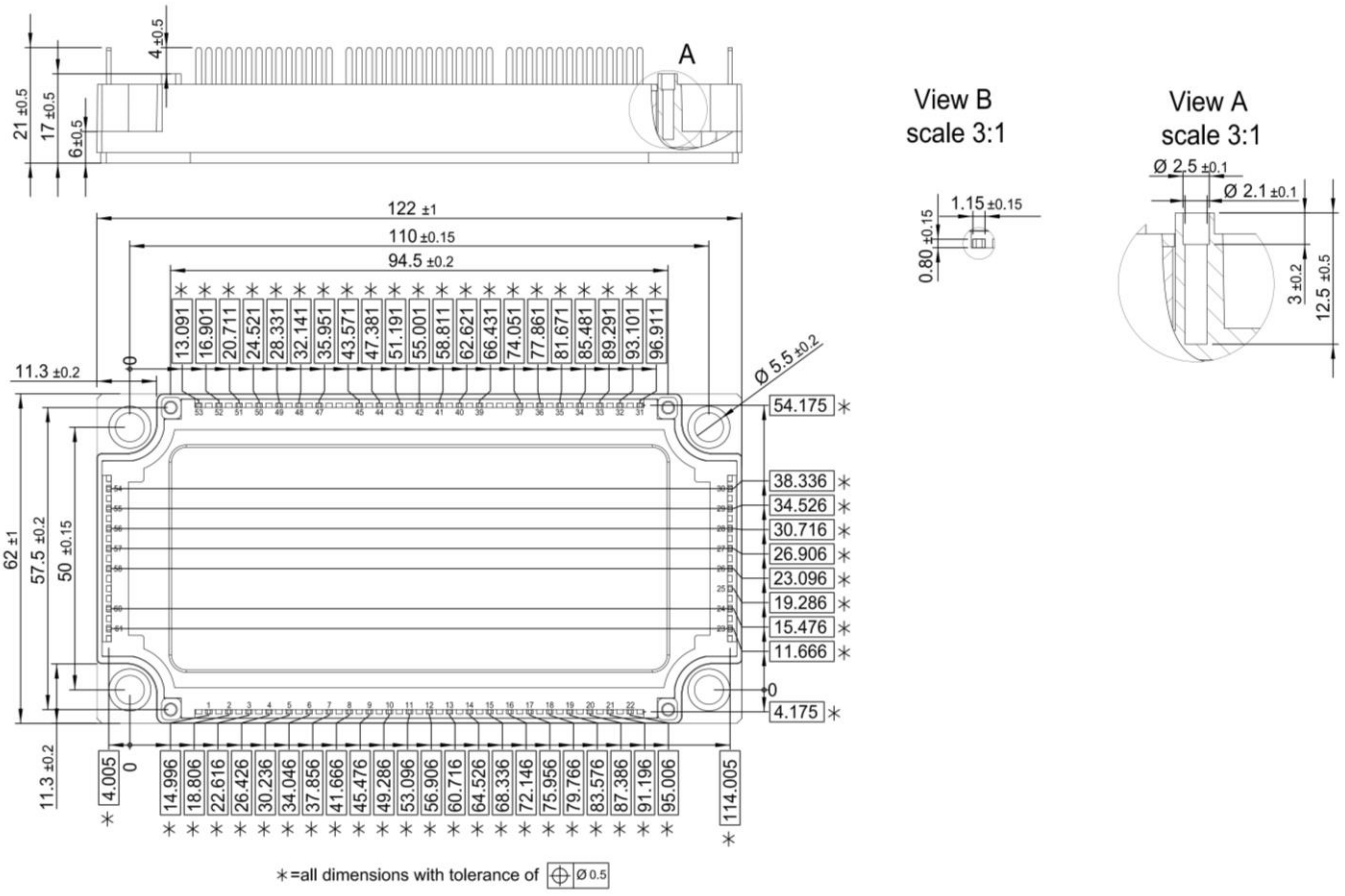


Fig.4 NTC Temperature Characteristics

Internal Circuit



Package Outline Information (Unit: mm):



Date	Revision	Notes
12/31/2019	01	Initial release

Announcement

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