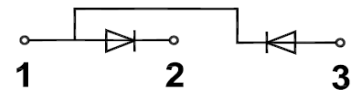


RD140HF180A9H

Rectifier Diode Module

Features:

- Glass Passivated Chips
- Blocking Voltage:1800 V
- Very Low Forward Voltage Drop
- Very Low Leakage Current
- Heat Transfer through Aluminum Oxide DBC Ceramic Isolated Metal Baseplate
- Lead Free, Compliant with RoHS Requirement



Applications:

- Diode for Main Rectification
- For Single and Three Phase Bridge Configurations
- Supplies for DC Power Equipment
- Input Rectifiers for PWM Inverter
- Field Supply for DC Motors
- Battery DC Power Supplies

Maximum Rated

Symbol	Description	Conditions	Min.	Typ.	Max.	Units
V_{RSM}	Non-Repetitive Reverse Blocking Voltage	$T_{VJ}=25^{\circ}\text{C}$	2000			V
V_{RRM}	Repetitive Reverse Blocking Voltage	$T_{VJ}=25^{\circ}\text{C}$	1800			V
I_{FAV}	Average Forward Current	$T_C=100^{\circ}\text{C}$			140	A
I_{FSM}	Surge Current	$t_p=10\text{ms}$, $\sin 180^{\circ}$, $T_{VJ}=25^{\circ}\text{C}$			3200	A
i^2t	I^2t - value	$t_p=10\text{ms}$, $\sin 180^{\circ}$, $T_{VJ}=25^{\circ}\text{C}$			51200	A^2s
V_F	Forward Voltage	$I_F=140\text{A}$, $T_{VJ}=25^{\circ}\text{C}$			1.20	V
		$I_F=140\text{A}$, $T_{VJ}=125^{\circ}\text{C}$			1.15	V
		$I_F=280\text{A}$, $T_{VJ}=25^{\circ}\text{C}$			1.40	V
		$I_F=280\text{A}$, $T_{VJ}=125^{\circ}\text{C}$			1.45	V
I_R	Reverse Current	$V_{RD}=1800\text{V}$, $T_{VJ}=25^{\circ}\text{C}$			100	μA
		$V_{RD}=1800\text{V}$, $T_{VJ}=125^{\circ}\text{C}$			2	mA
P_{tot}	Total power dissipation	$T_{VJ}=25^{\circ}\text{C}$			540	W

Thermal Characteristics

Symbol	Description	Min.	Typ.	Max.	Unit
$R_{th(j-c)}$	Diode Thermal Resistance: Junction-To-Case			0.23	$^{\circ}\text{C/W}$
$R_{th(c-s)}$	Case-To-Sink Thermally (Conductive Grease Applied)			0.12	$^{\circ}\text{C/W}$

Module

Symbol	Description		Min.	Typ.	Max.	Unit
V_{ISOL}	Isolation Voltage (All Terminals Shorted)	AC 50Hz,RMS,1second, $I_{ISOL} \leq 1mA$	4800			V
Internal Isolation			Al ₂ O ₃			
d_{creep}	Creepage Distance on Surface	terminal to terminal	9.7			mm
		terminal to backside	16.0			mm
T_{VJ}	Operating Junction Temperature Range		-40		150	°C
T_{stg}	Storage Temperature		-40		125	°C
T	Power Terminal Screw:M5		2.5		4.0	Nm
T	Mounting Screw:M6		2.5		4.0	Nm
G	Weight			85		g

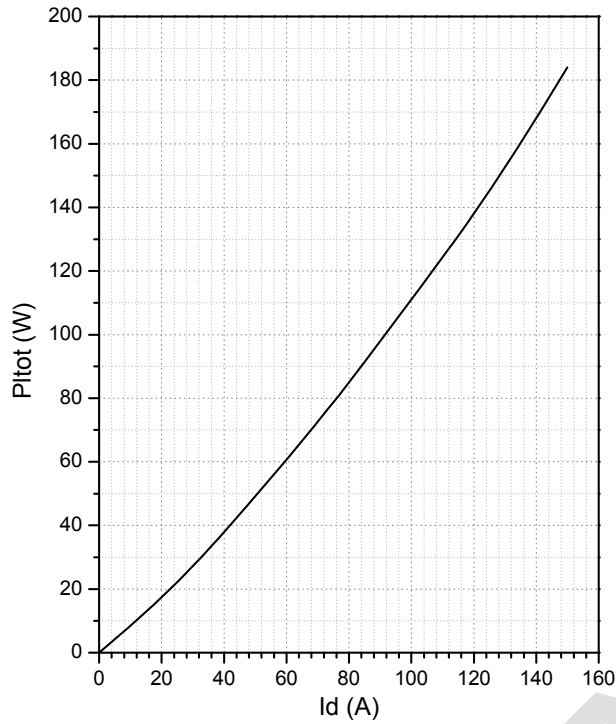


Fig.1 Power Dissipation

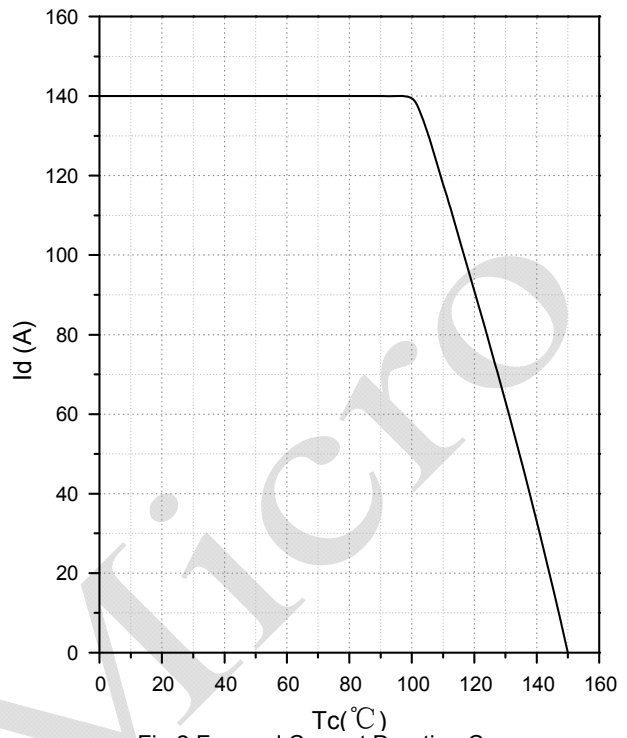


Fig.2 Forward Current Derating Curve

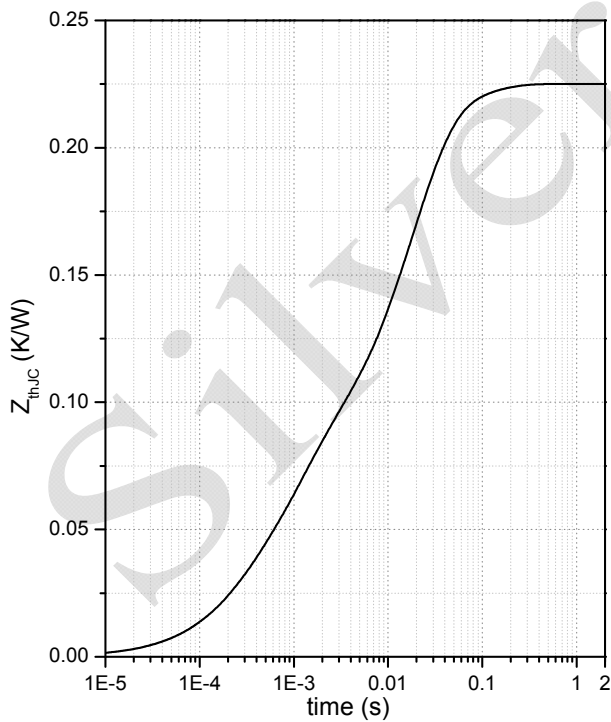


Fig.3 Transient Thermal Impedance

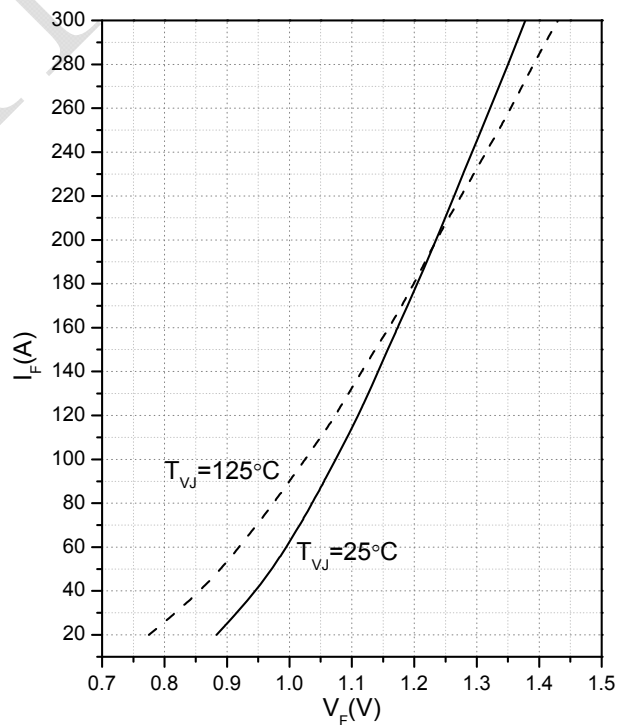
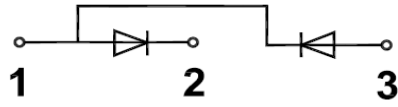
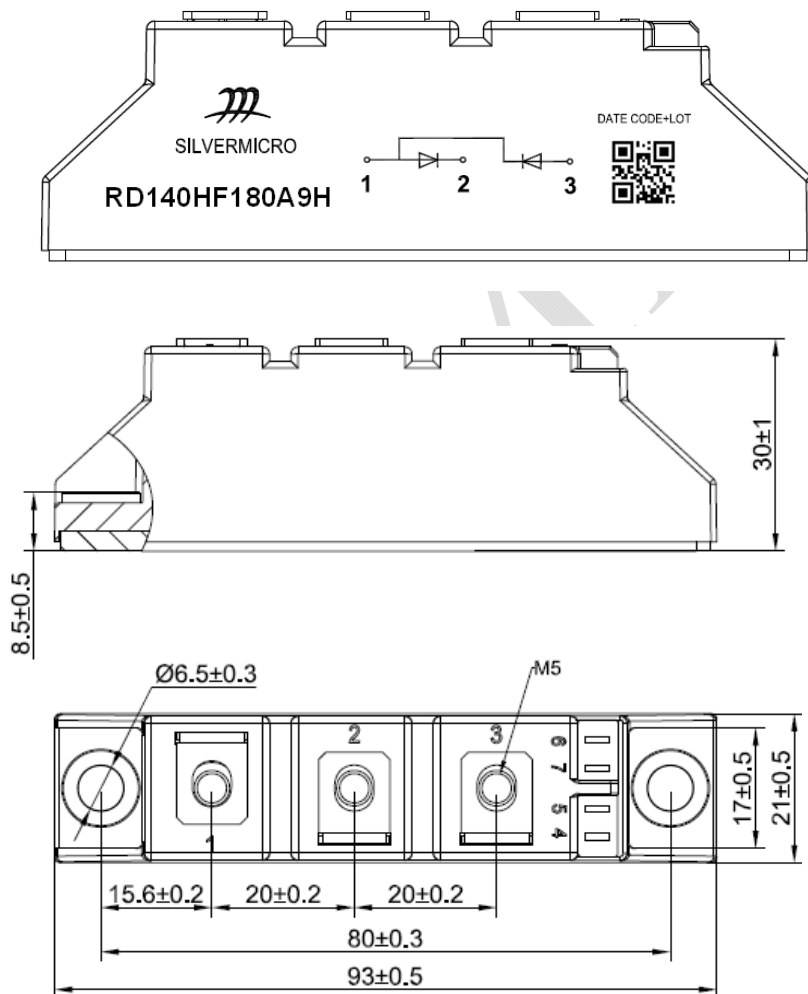


Fig.4 Forward Characteristics

Internal Circuit



Package Outline Information (Unit: mm):





Date	Revision	Notes
09/01/2020	A	Initial Release

Announcement

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