



DD200SD170T1WH

Diode Module

Preliminary Data

Features:

- LOW V_F
- LOW I_{RR}
- Soft Reverse Recovery
- High Surge Current Capability
- Low Inductance Package



Applications:

- Anti-parallel Diode for High Frequency Switching Devices
- Free Wheeling Diode in Converters and Motor Control Circuits
- UPS 、 SMPS
- Ultrasonic Cleaners and Welders
- Inductive Heating and Melting

Absolute Maximum Ratings ($T_C = 25^\circ\text{C}$ unless otherwise specified)

Symbol	Description	Test Conditions	Min.	Typ.	Max.	Units
V_{RRM}	Repetitive Peak Reverse Voltage	$T_{VJ} = 25^\circ\text{C}$	1700			V
I_F	DC Forward Current	$T_C = 80^\circ\text{C}$			200	A
I_{FRM}	Repetitive Peak Forward Current	$T_C = 80^\circ\text{C}$			400	A
I_{FSM}	Surge Current	$t_p = 10\text{ms}$, sine, $T_{VJ} = 25^\circ\text{C}$			2000	A
I^2t	I^2t - value	$t_p = 10\text{ms}$, sine, $T_{VJ} = 25^\circ\text{C}$			20000	A^2s
P_{tot}	Power Dissipation	$T_{VJMAX} = 150^\circ\text{C}$, $T_C = 25^\circ\text{C}$			625	W



Electrical Characteristics of Diode ($T_{VJ} = 25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Description	Test conditions		Min.	Typ.	Max.	Units	
V _R	Cathode to Anode Breakdown Voltage	I _R =250μA	T _{VJ} = 25°C	1700			V	
V _{FM}	Forward Voltage	I _F =200A	T _{VJ} = 25°C		1.95		V	
			T _{VJ} =125°C		2.05			
I _{RM}	Maximum Reverse Leakage Current	V _R =1700V	T _{VJ} = 25°C			1	mA	
t _{rr}	Reverse Recovery Time	V _R =900V, I _F = 200A, -diF/dt =505A/μs (T _{VJ} =125°C)	T _{VJ} = 25°C		650		ns	
			T _{VJ} =125°C		1150			
I _{rr}	Peak Reverse Recovery Current		T _{VJ} = 25°C		115		A	
			T _{VJ} =125°C		127			
E _{rec}	Reverse Recovery Energy		T _{VJ} = 25°C		19		mJ	
			T _{VJ} =125°C		33			
R _{θJC}	Diode Thermal Resistance: Junction-to-Case					0.20	°C/W	

Module

Symbol	Description	Min.	Typ.	Max.	Unit
V_{iso}	Isolation Voltage (All Terminals Shorted)	AC 50Hz;r.m.s.;1min	3000		V
d_{creep}	Creepage Distance Terminal to Terminal		55.4		mm
	Creepage Distance Terminal to Heatsink		17		
d_{clear}	Clearance Terminal to Terminal		33		mm
	Clearance Terminal to Heatsink		17		
T_{VJ}	Maximum Junction Temperature			150	$^{\circ}\text{C}$
T_{JOP}	Maximum Operating Junction Temperature Range	-40		+150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-40		+125	$^{\circ}\text{C}$
CTI	Comparative Tracking Index	200			
$R_{\theta CS}$	Case-to-Sink Thermally (Conductive Grease Applied)			0.07	$^{\circ}\text{C}/\text{W}$
T	Power Terminals Screw:M6	4.0		6.0	N·m
T	Mounting Screw:M6	4.0		6.0	N·m
G	Weight		155		g



Ordering Information Table

Device code	DD	200	SD	170	T1W	H
	①	②	③	④	⑤	⑥

- ① - Fast Recovery Diode Module
- ② - Rated Current (200=200A)
- ③ - Circuit Configuration (Single Switch)
- ④ - Rated Voltage (170=1700V)
- ⑤ - Package Type
- ⑥ - Test Level (Pass the Important Reliability Test-Industrial Grade)

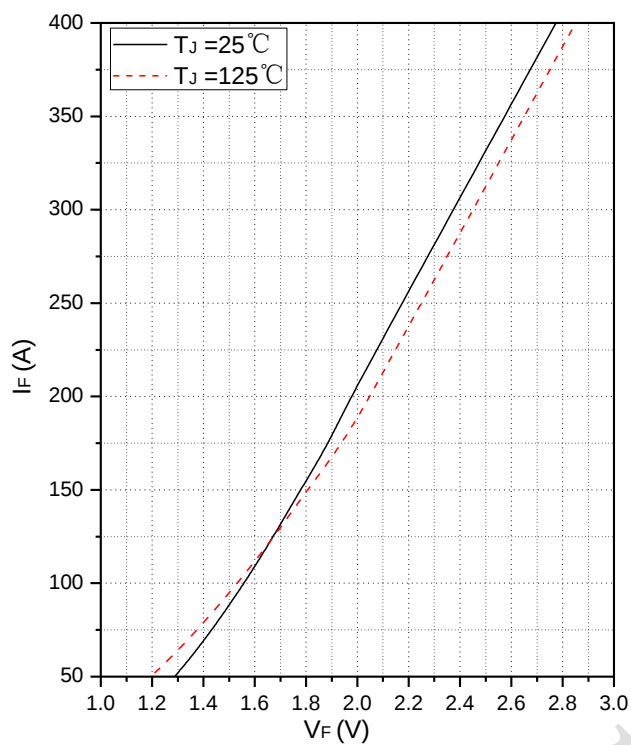


Fig.1 Forward Characteristics of Diode

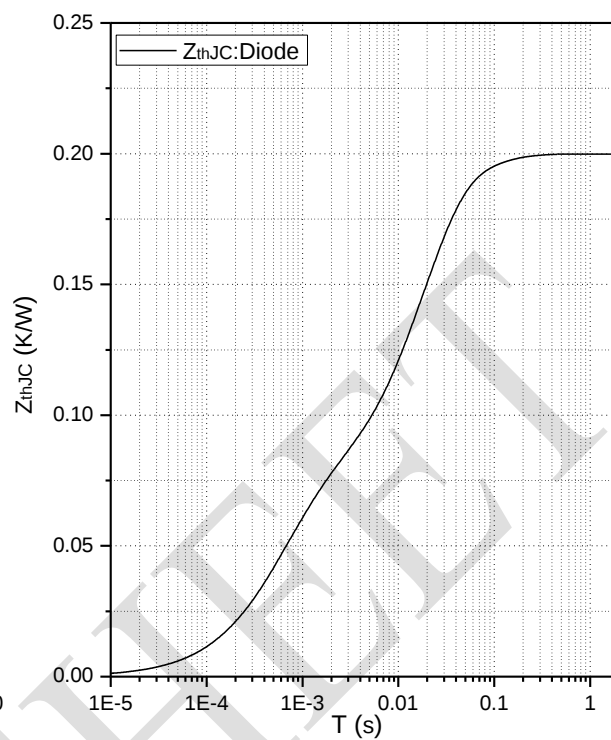


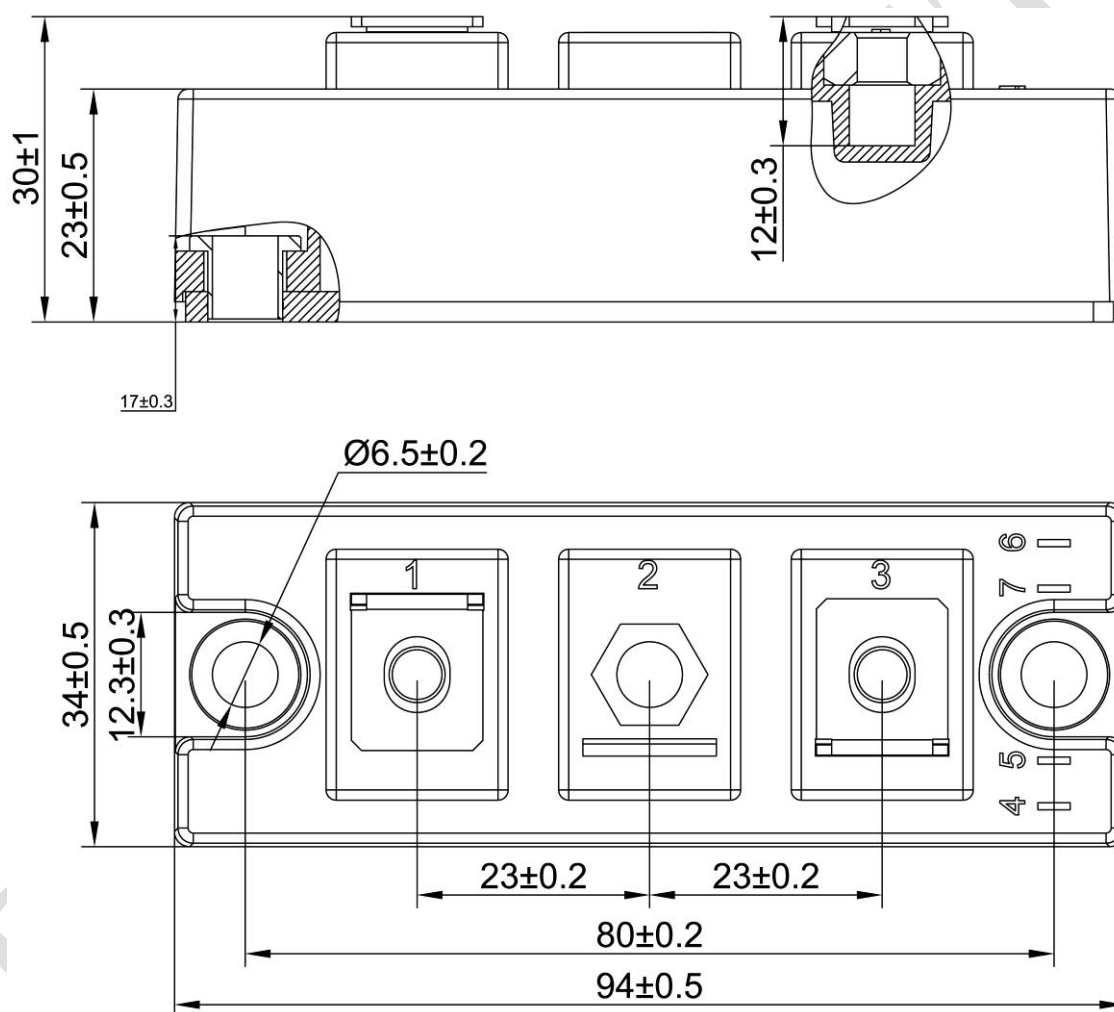
Fig.2 Transient Thermal Impedance



Internal Circuit Diagram:



Package Outline (Unit: mm):





Date	Revision	Notes
12/23/2021	01	Initial Release

Announcements

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