

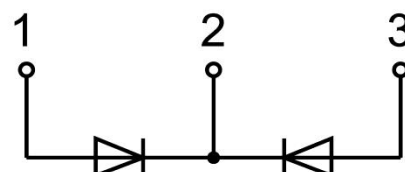


DD200CK120T1WH

Diode Module

Features:

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



Applications:

- Switch Mode Power Supplies
- Hard Switched PFC Boost Diode
- UPS Free Wheeling Diode
- Motor Drive FW
- SMPS FW

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	$T_J = 25^{\circ}\text{C}$	1200			V
I_F	DC Forward Current				200	A
I_{FRM}	Repetitive Peak Forward Current				400	A
P_{tot}	Power Dissipation				735	W
V_{iso}	Isolation Voltage (All Terminals Shorted)	AC 50Hz; r.m.s.; 1min	3000			V
T_{JOP}	Maximum Operating Temperature		-40		+150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature		-40		+125	$^{\circ}\text{C}$
T	Power Terminals Screw:M6		4.0		6.0	N·m
	Mounting Screw:M6		4.0		6.0	N·m
Weight	Weight of Module			155		g



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

Symbol	Description	Test conditions		Min.	Typ.	Max.	Units	
V _R	Cathode to Anode Breakdown Voltage	I _R =100μA	T _J = 25°C	1200			V	
V _{FM}	Forward Voltage	I _F =200A	T _J = 25°C		2.80	3.00	V	
			T _J =125°C		2.80		V	
I _{RM}	Maximum Reverse Leakage Current	V _R =1200V	T _J = 25°C			1	mA	
			T _J =125°C			5	mA	
t _{rr}	Reverse Recovery Time	V _R =600V, I _F =200A, -diF/dt=2300A/μs (T _J =125°C)	T _J = 25°C		150		ns	
			T _J =125°C		290			
I _{rr}	Peak Reverse Recovery Current		T _J = 25°C		90.6		A	
			T _J =125°C		106.7			
Q _{rr}	Reverse Recovery Charge		T _J = 25°C		7.5		μC	
			T _J =125°C		15.2			
E _{rec}	Reverse Recovery Energy		T _J = 25°C		2.3		mJ	
			T _J =125°C		5.6			

Thermal Impedance Characteristics

Symbol	Description	Min.	Typ.	Max.	Units
$R_{\theta JC}$	Diode Thermal Resistance: Junction-to-Case			0.17	$^{\circ}\text{C}/\text{W}$
$R_{\theta CS}$	Case-to-Sink Thermally (Conductive Grease Applied)			0.07	$^{\circ}\text{C}/\text{W}$



Ordering Information Table

Device code	DD	200	CK	120	T1W	H
	①	②	③	④	⑤	⑥

- ① - Fast Recovery Diode Module
- ② - Rated Current (200=200A)
- ③ - Circuit Configuration (Common Cathode)
- ④ - Rated Voltage (120=1200V)
- ⑤ - Package Type
- ⑥ - Test Level (Pass the Important Reliability Test-Industrial Grade)

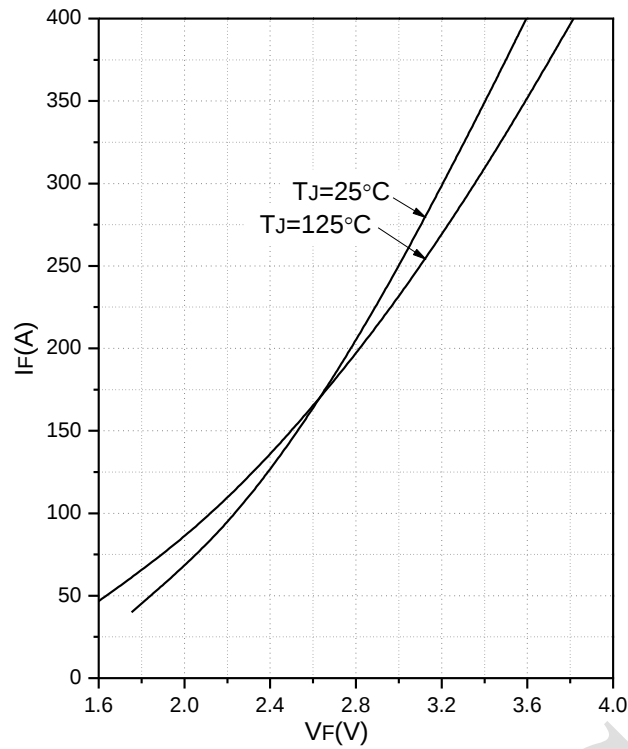


Fig.1 Forward Characteristics of Diode

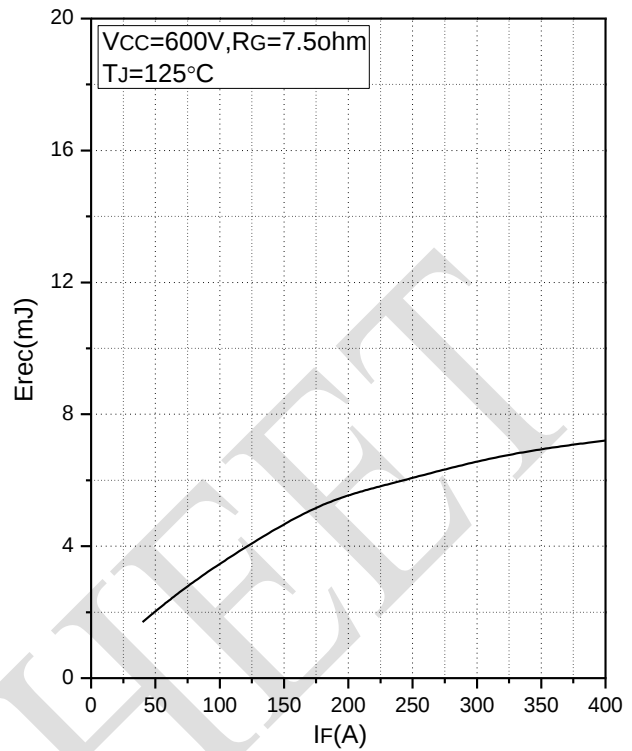


Fig.2 Typical Switching Loss vs. Forward Current

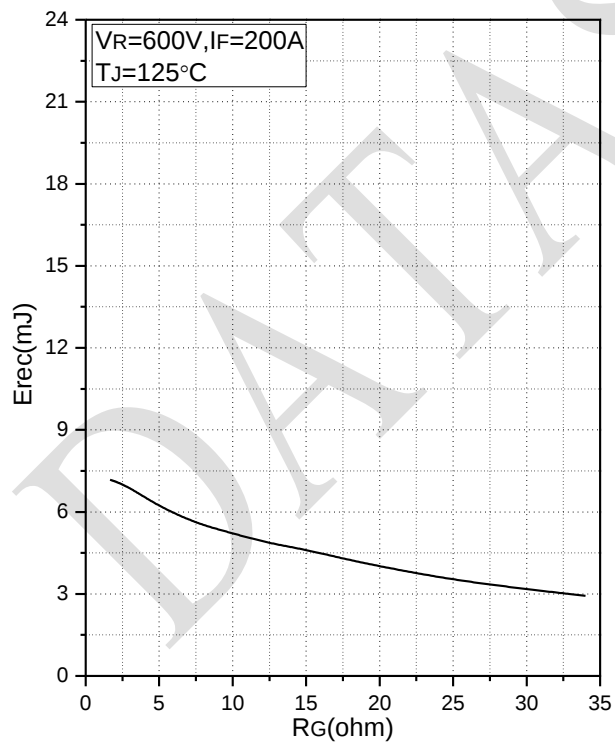


Fig.3 Typical Switching Loss vs. Gate Resistance

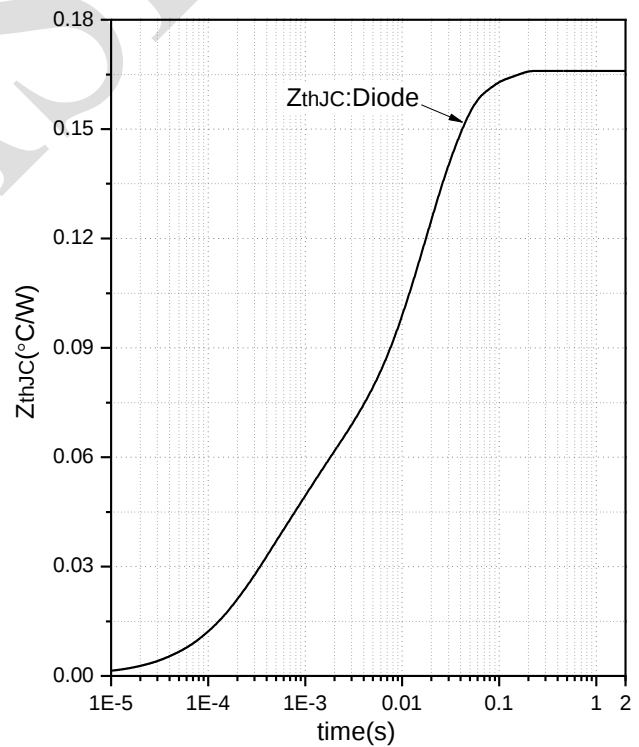
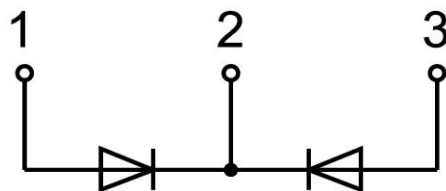


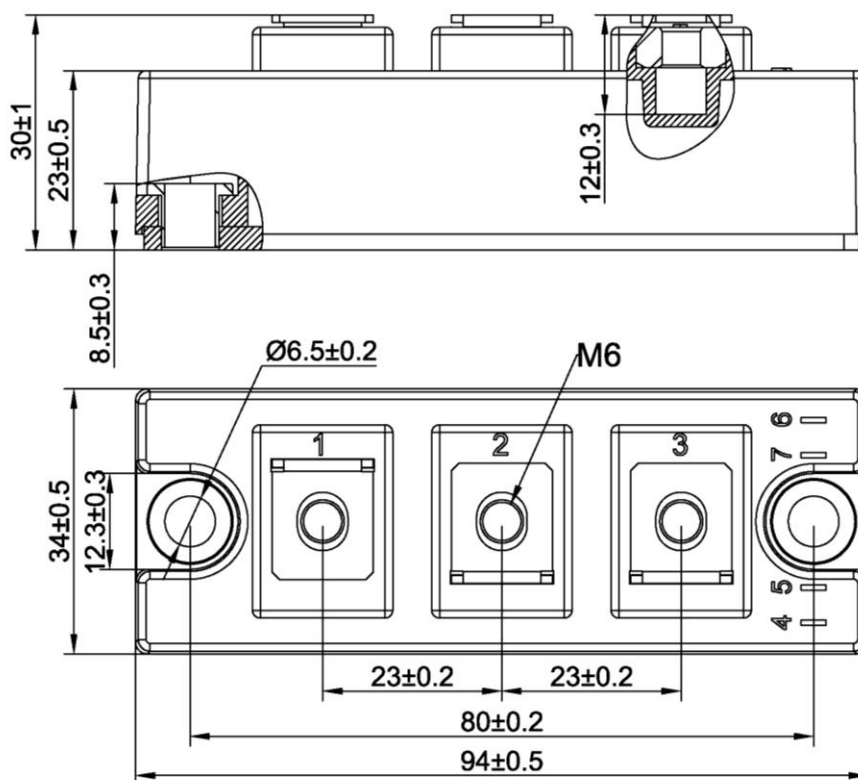
Fig.4 Transient Thermal Impedance



Internal Circuit Diagram:



Package Outline (Unit: mm):





Date	Revision	Notes
12/01/2021	A	Final Version

Announcement

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