



DD300HF170T1WH

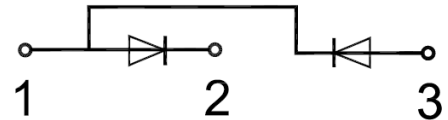
Diode Module

Preliminary Data

Features:

- Low V_F
- Low I_{RR}
- Soft Reverse Recovery
- Ultrafast Recovery Time
- Wide Safe Working Area
- Low Inductance Package

Circuit Diagram



Applications:

- UPS
- High Power Converters
- Motor Drives
- Servo Drives
- Wind Turbines

Absolute Maximum Ratings (T_c=25°C unless otherwise specified)

Symbol	Description		Values	Units
V _{RRM}	Repetitive Peak Reverse Voltage		1700	V
I _F	DC Forward Current		300	A
I _{FRM}	Repetitive Peak Forward Current		600	A
I _{FSM}	Surge Current	50Hz, Sine, t _p =10ms	7200	A
i ² t	i ² t-value	50Hz, Sine, t _p =10ms	259200	A ² s
P _{tot}	Power Dissipation		954	W



Electrical Characteristics of Diode (T_J=25°C unless otherwise specified)

Symbol	Description	Test conditions		Min.	Typ.	Max.	Units
V _R	Breakdown Voltage	I _R =1mA	T _J =25°C	1700			V
V _{FM}	Forward Voltage	I _F =300A	T _J =25°C		1.90	2.30	V
			T _J =125°C		2.10		V
			T _J =150°C		2.15		V
I _R	Reverse Leakage Current	V _R =1700V	T _J =25°C			1	mA
t _{rr}	Reverse Recovery Time	V _R =900V, I _F =300A, R _G =5Ω, -diF/dt =3099A/μs (T _J =150°C)	T _J =25°C		426		ns
			T _J =125°C		779		
			T _J =150°C		802		
I _{rr}	Peak Reverse Recovery Current		T _J =25°C		230		A
			T _J =125°C		271		
			T _J =150°C		274		
Q _{rr}	Reverse Recovery Charge		T _J =25°C		47.6		μC
			T _J =125°C		91.7		
			T _J =150°C		97.0		
E _{rec}	Reverse Recovery Energy		T _J =25°C		28.6		mJ
			T _J =125°C		54.6		
			T _J =150°C		57.4		
R _{θJC}	Thermal Resistance: Junction-to-Case (Diode)					0.131	°C/W

Module

Symbol	Description		Min.	Typ.	Max.	Units
V _{iso}	Isolation Voltage (All Terminals Shorted)	RMS, f=50Hz, 30s	4500			V
T _{VJ}	Maximum Junction Temperature				150	°C
T _{JOP}	Maximum Operating Temperature		-40		+125	°C
T _{stg}	Storage Temperature		-40		+125	°C
CTI	Comparative Tracking Index		200			



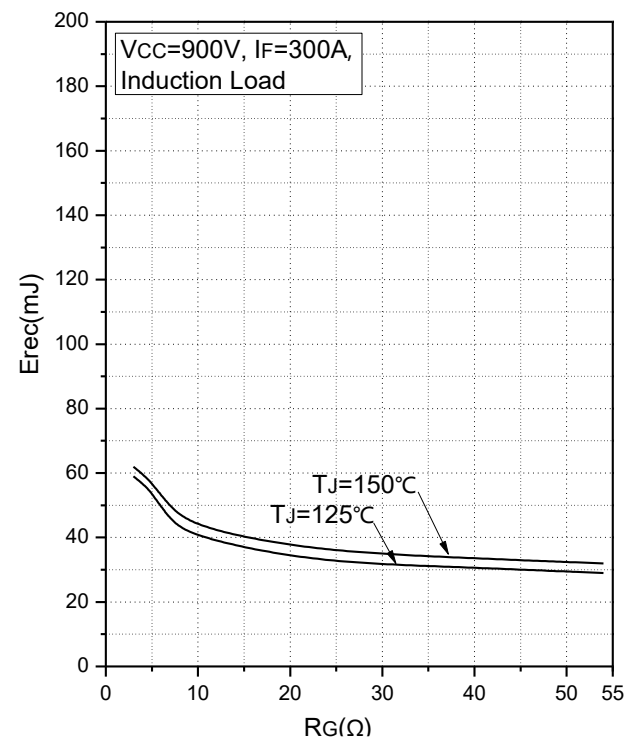
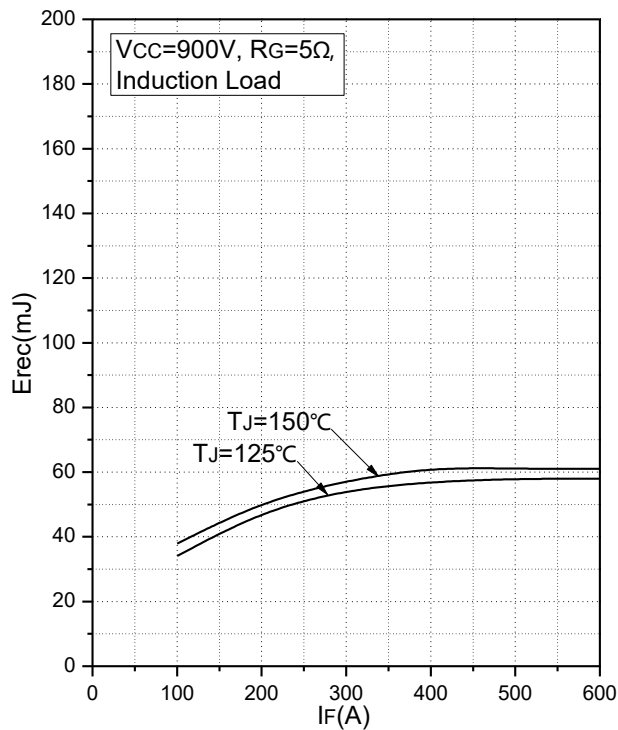
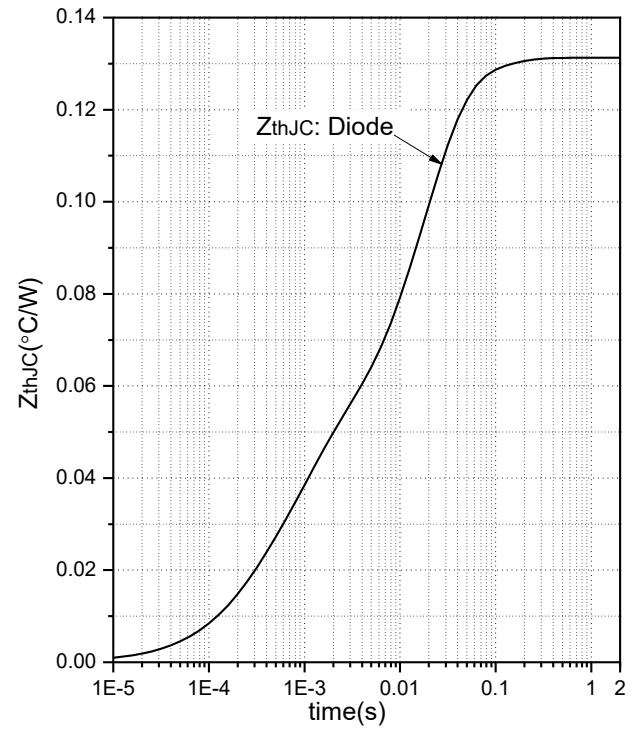
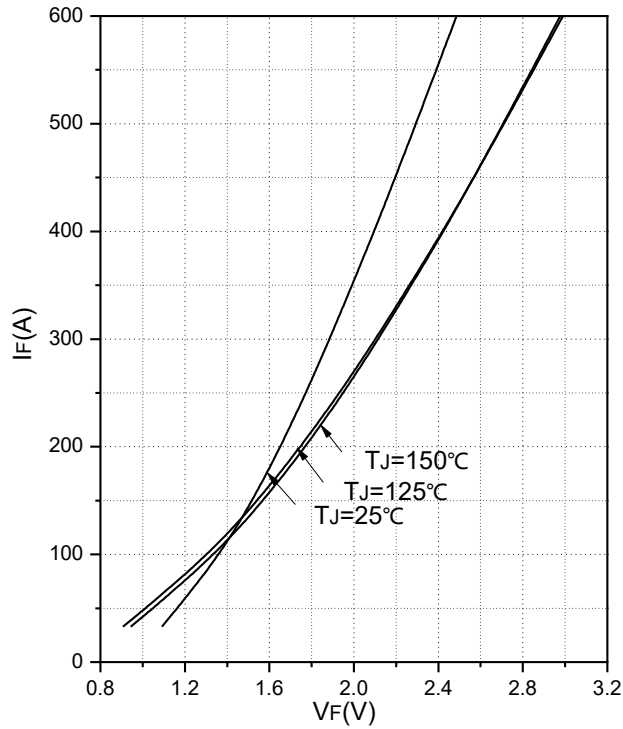
R _{θCS}	Case-to-Sink Thermally (Conductive Grease Applied)			0.07	°C/W
T	Power Terminals Screw:M6	4.0		6.0	N·m
	Mounting Screw:M6	4.0		6.0	N·m
Weight	Weight of Module		155		g

Ordering Information Table

Device code

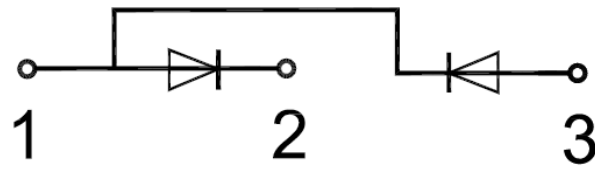
DD	300	HF	170	T1W	H
①	②	③	④	⑤	⑥

- ① - Fast Recovery Diode Module
- ② - Rated Current (300=300A)
- ③ - Circuit Configuration (Half Bridge)
- ④ - Rated Voltage (170=1700V)
- ⑤ - Package Type
- ⑥ - Test Level (Pass the Important Reliability Test-Industrial Grade)

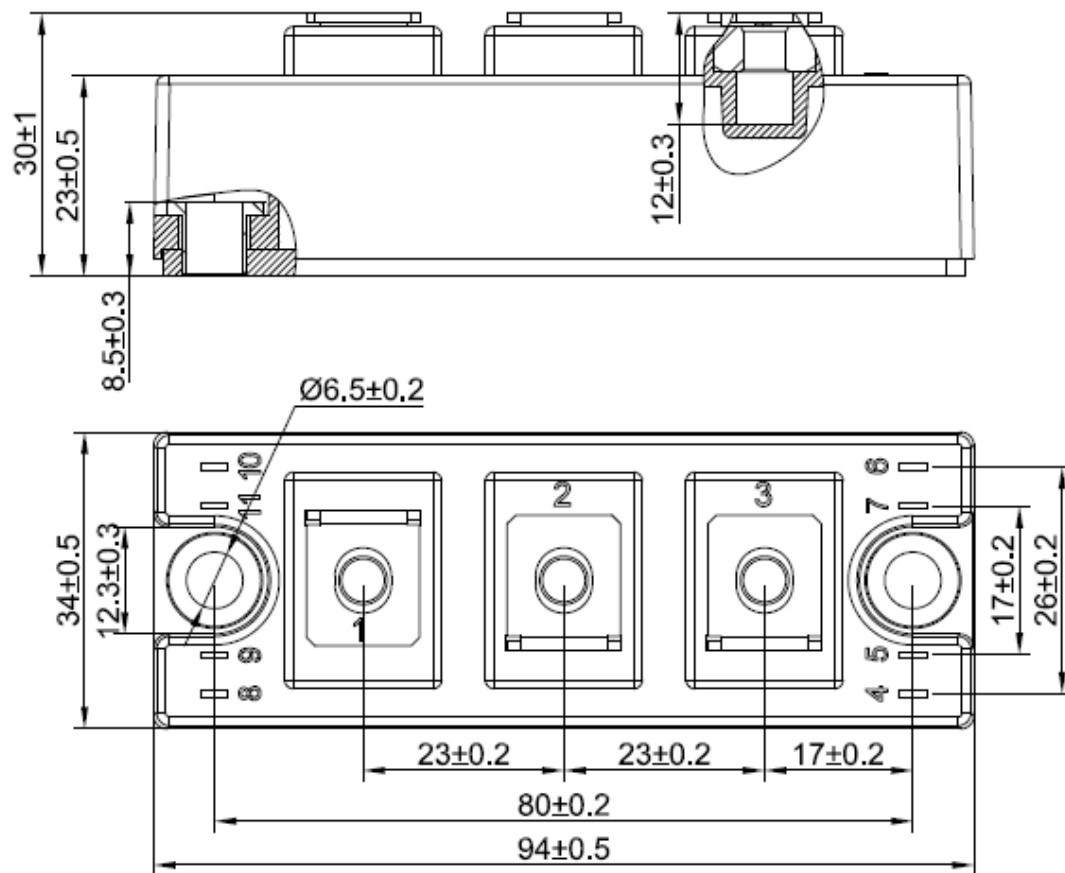




Internal Circuit Diagram:



Package Outline (Unit: mm):





Date	Revision	Notes
05/30/2024	01	Initial Release
08/20/2024	02	Updated Package Outline

Announcement

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