

SYMD100DSD120B5H

Diode Module

Features:

- Fast and Soft Recovery
- Low I_{rr} and Q_{rr}

Circuit Diagram



Applications:

- Industrial Inverters
- UPS
- Drives

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

Symbol	Description		Value	Units
V_{RRM}	Repetitive Peak Reverse Voltage		1200	V
I_F	DC Forward Current	$T_C=80^{\circ}\text{C}$, Per Diode	100	A
I_{FRM}	Repetitive Peak Forward Current		200	A
I^2t	I^2t - Value	$V_R=0\text{V}$, $t_p=10\text{ms}$, $T_J=125^{\circ}\text{C}$	1920	A^2s
		$V_R=0\text{V}$, $t_p=10\text{ms}$, $T_J=150^{\circ}\text{C}$	1800	A^2s
P_{tot}	Total Power Dissipation		375	W

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

Symbol	Description	Test conditions		Min.	Typ.	Max.	Units	
V _R	Cathode to Anode Breakdown Voltage	I _R =250μA		1200			V	
V _{FM}	Forward Voltage	I _F =100A	T _J =25℃		2.75		V	
			T _J =125℃		2.80			
I _R	Reverse Leakage Current	V _R =1200V	T _J =25℃			100	μA	
			T _J =125℃		900			
t _{rr}	Reverse Recovery Time	V _R =600V, I _F =100A, di/dt=1500A/μs(T _J =125℃)	T _J =25℃		116		ns	
			T _J =125℃		160			
I _{rr}	Peak Reverse Recovery Current		T _J =25℃		57.8		A	
			T _J =125℃		73.4			
Q _{rr}	Reverse Recovery Charge		T _J =25℃		4.20		μC	
			T _J =125℃		6.98			
E _{rec}	Reverse Recovery Energy		T _J =25℃		1.60		mJ	
			T _J =125℃		3.38			
R _{θJC}	Diode Thermal Resistance: Junction-To-Case				0.332		℃/W	

Module

Symbol	Description		Min.	Typ.	Max.	Units
V _{iso}	Isolation Voltage (All Terminals Shorted)	f=50Hz, 1minute	2500			V
T _J	Maximum Junction Temperature				150	°C
T _{JOP}	Maximum Operating Junction Temperature Range		-40		+150	°C
T _{stg}	Storage Temperature		-40		+150	°C
CTI	Comparative Tracking Index		200			
R _{θCS}	Case-To-Sink Thermally (Conductive Grease Applied)				0.1	°C/W
T	Power Terminals Screw(M4)		1.1		1.5	N·m
T	Mounting Screw(M4)		1.1		1.5	N·m
G	Weight			30		g

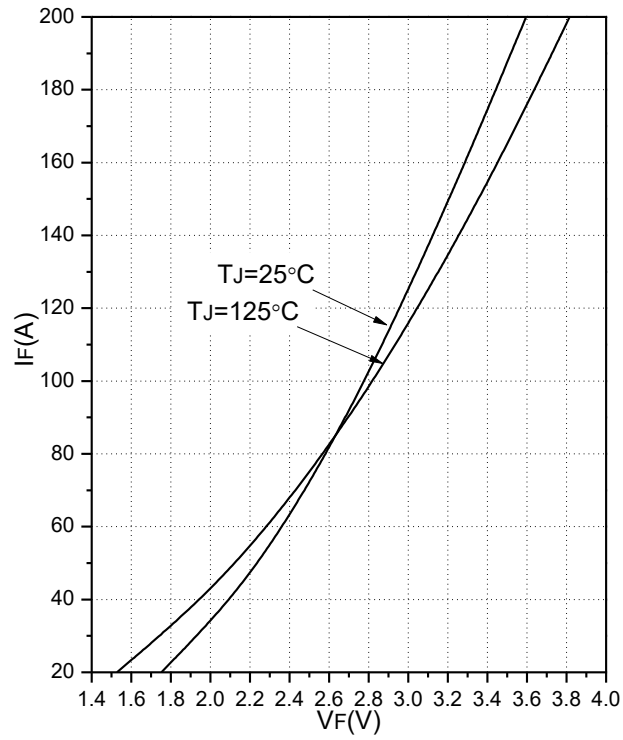


Fig.1 Forward Characteristics of Diode

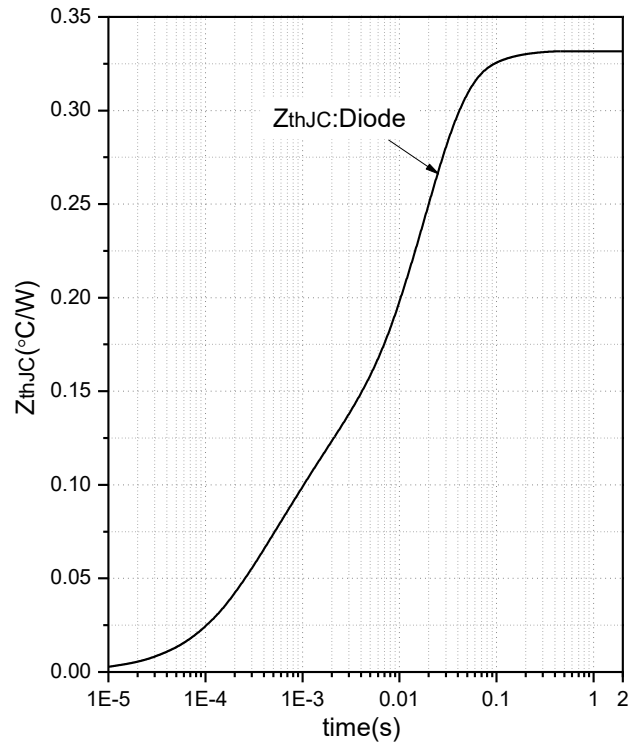
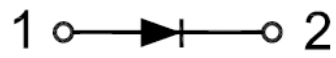


Fig.2 Transient Thermal Impedance

Internal Circuit Diagram:



Package Outline (Unit: mm):

