GSXD300A170S2D5

Si Diode Module

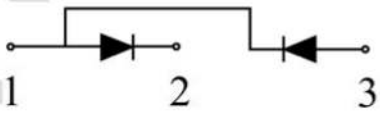
RoHS

Features:

- Low Forward Voltage: V_F = 1.90V @ I_D = 300A, 25 ℃
- Low Reverse Recovery Current
- Soft Reverse Recovery
- Lead Free, Compliant with RoHS Requirement

Applications:

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



Internal Circuit Diagram

Absolute Maximum Ratings (T_C = 25℃ unless otherwise specified)

Symbol	Description	Value	Units
V_{RRM}	Repetitive Peak Reverse Voltage	1700	V
I_F	DC Forward Current	300	A
I_{FRM}	Repetitive Peak Forward Current	600	A
T_{JOP}	Maximum Operating Temperature	-40 ~ +150	℃
T_{stg}	Storage Temperature	-40 ~ +125	℃

Electrical Characteristics （T_J = 25 unless otherwise specified）

Symbol	Description	Test conditions		Min.	Typ.	Max.	Units
V_R	Cathode to Anode Breakdown Voltage	I_R = 100μA		1700			V
V_{FM}	Forward Voltage	I_F＝300A	T_J = 25℃		1.90		V
			T_J = 125℃		2.00		
t_{rr}	Reverse Recovery Time	V_R=900V I_F＝300A di/dt =2600/μs	T_J = 25℃		540		ns
			T_J = 125℃		720		
I_{rr}	Peak Reverse Recovery Current		T_J = 25℃		230		A
			T_J = 125℃		260		
Q_{rr}	Reverse Recovery Charge		T_J = 25℃		75		μC
			T_J = 125℃		120		
$R_{\theta JC}$	Diode Thermal Resistance: Junction-To-Case				0.192		℃/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	℃
$R_{\theta CS}$	Case-To-Sink (Conductive Grease Applied)				0.04	℃/W
Mounting Torque	Power Terminals Screw:M6		4.0		5.0	N·m
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Weight	Weight Of Module			150		g

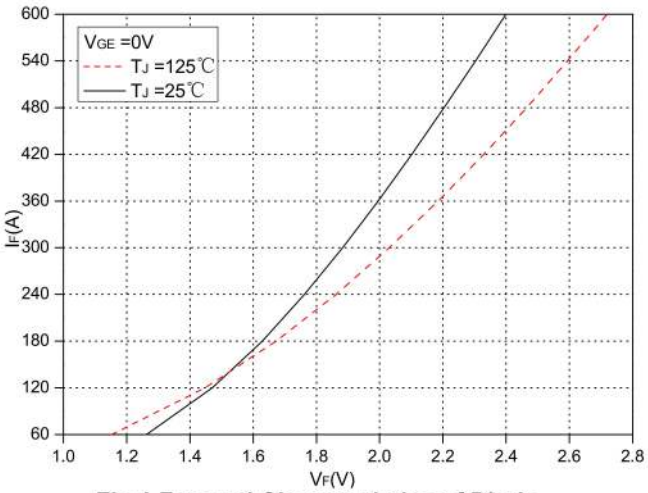


Fig.1 Forward Characteristics of Diode

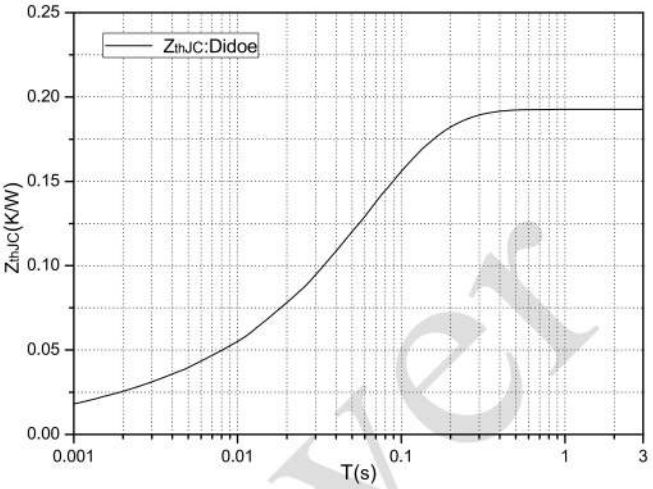
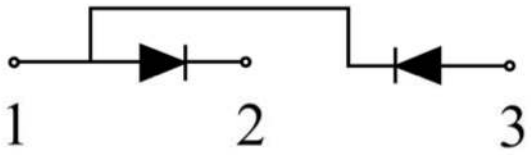
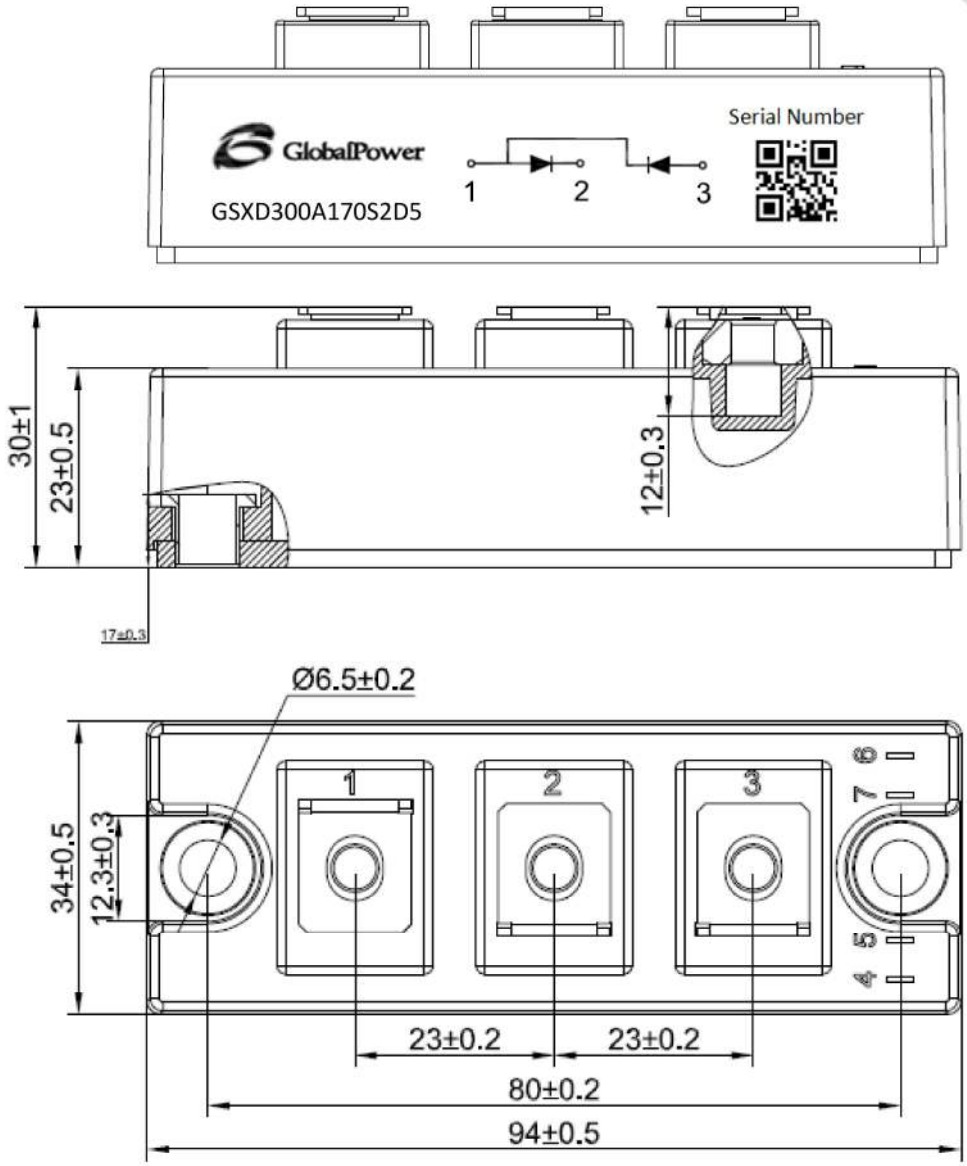


Fig.2 Transient thermal impedance

Internal Circuit Diagram:



Package Outline (Unit: mm):



Revision History

Date	Revision	Notes
12/23/2015	0.1	Initial release

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Notes

- **RoHS Compliance**
  The levels of RoHS restricted materials in this product are below the maximum concentration values (also referred to as the threshold limits) permitted for such substances, or are used in an exempted application, in accordance with EU Directive 2011/65/EC (RoHS2), as implemented March, 2013. RoHS Declarations for this product can be obtained from the Product Documentation sections of www.gptechgroup.com.

- **REACh Compliance**
  REACh substances of high concern (SVHCs) information is available for this product. Since the European Chemical Agency (ECHA) has published notice of their intent to frequently revise the SVHC listing for the foreseeable future, please contact our office at GPTG Headquarters in Lake Forest, California to insure you get the most up-to-date REACh SVHC Declaration.
  REACh banned substance information (REACh Article 67) is also available upon request.

- This product has not been designed or tested for use in, and is not intended for use in, applications implanted into the human body nor in applications in which failure of the product could lead to death, personal injury or property damage, including but not limited to equipment used in the operation of nuclear facilities, life-support machines, cardiac defibrillators or similar emergency medical equipment, aircraft navigation or communication or control systems, or air traffic control.

- To obtain additional technical information or to place an order for this product, please contact us. The information in this datasheet is provided by Global Power Technologies Group. GPTG reserves the right to make changes, corrections, modifications, and improvements of datasheet without notice.