

SDA60-12S

60A, 1200V Standard Rectifier

Features

- Typical Forward Voltage: $V_F=1.1V@ I_F=45A$
- Reverse Voltage: $V_{RRM}=1200V$
- Avalanche Energy Rated
- SIPOS+GPP double passivation

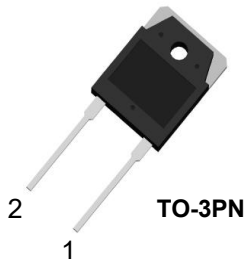
Description

The SDA60-12S is a Standard Rectifier. It's a SIPOS+GPP double passivation chip, with high reliability. It has low leakage current and low forward voltage drop, Improved thermal behaviour

Applications

- Diode for main rectification
- For single and three phase
- Bridge configurations

Package Type & Internal Circuit



1. Anode 2. Cathode

Absolute Maximum Ratings per diode at $T_C=25^\circ C$ unless otherwise noted

Symbol	Parameter			Ratings	Unit
V _{RRM}	Peak Repetitive Reverse Voltage			1200	V
V _{RWM}	Working Peak Reverse Voltage			1200	V
V _R	DC Blocking Voltage			1200	V
I _{F(AV)}	Average Rectified Forward Current	per device at T _C =120°C		60	A
I _{FSM}	Non-repetitive Peak Surge Current	t = 10 ms (50 Hz), sine	T _{VJ} = 45°C V _R = 0 V	600	A
			T _{VJ} = 150°C V _R = 0 V	480	
I²t	value for fusing	t = 10 ms (50 Hz), sine	T _{VJ} = 45°C V _R = 0 V	1750	A²S
			T _{VJ} = 150°C V _R = 0 V	1150	
T _J	Operating Junction Temperature Range			-40~+150	°C
T _{STG}	Storage Temperature Range			-40~+150	°C

Thermal Characteristics

Symbol	Parameter	Ratings	Unit
$R_{th(J-C)}$	Thermal Resistance, Junction to case	0.46	$^{\circ}C/W$

Electrical Characteristics per diode @ $T_C=25^{\circ}C$ unless otherwise noted

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V_F	Forward Voltage Drop	$I_F=45A$	-	1.1	1.35	V
		$I_F=45A, T_C=120^{\circ}C$	-		0.9	V
I_R	Reverse Leakage Current	$V_R=1200V$	-	-	1	mA

Typical Performance Characteristics

Fig. 1. Typical Characteristics: V_F vs. I_F

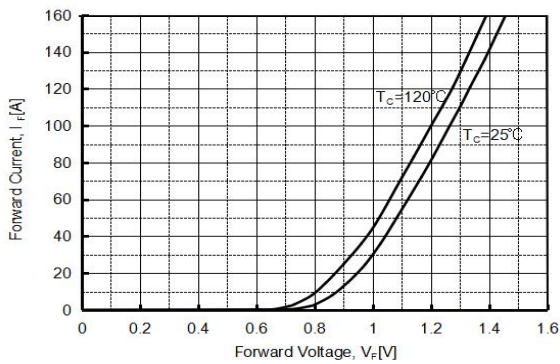


Fig. 2. Typical Characteristics: V_R vs. I_R

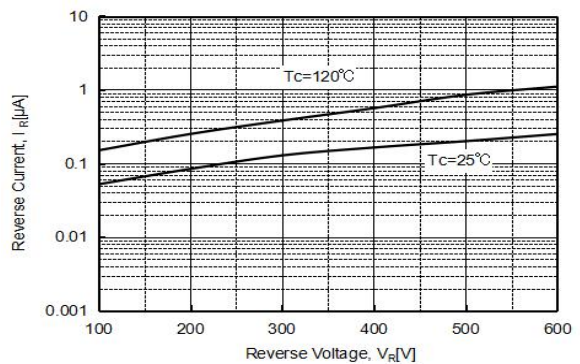
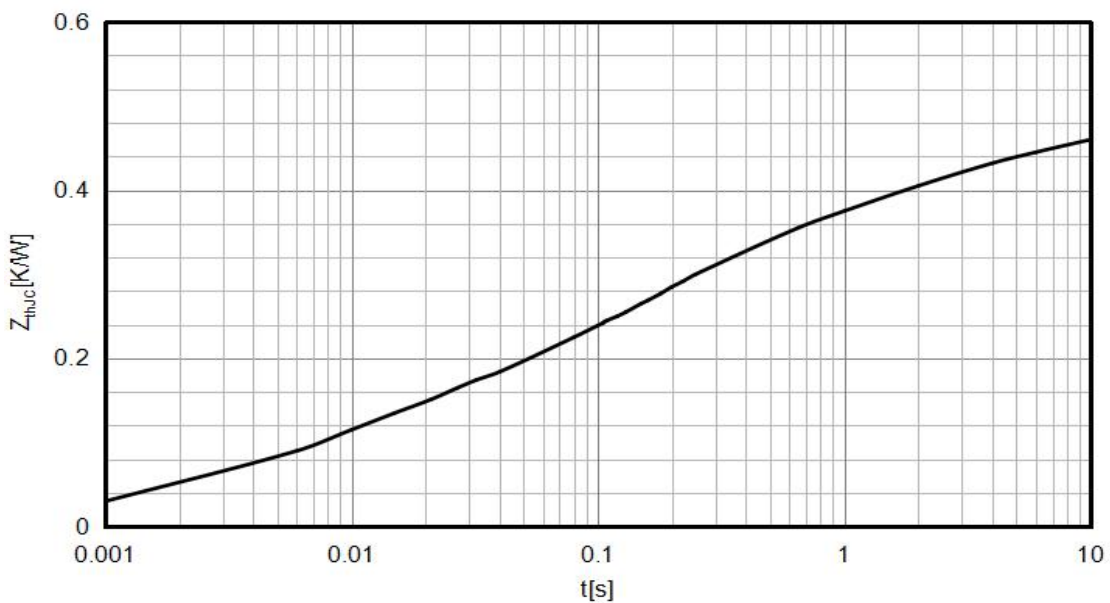


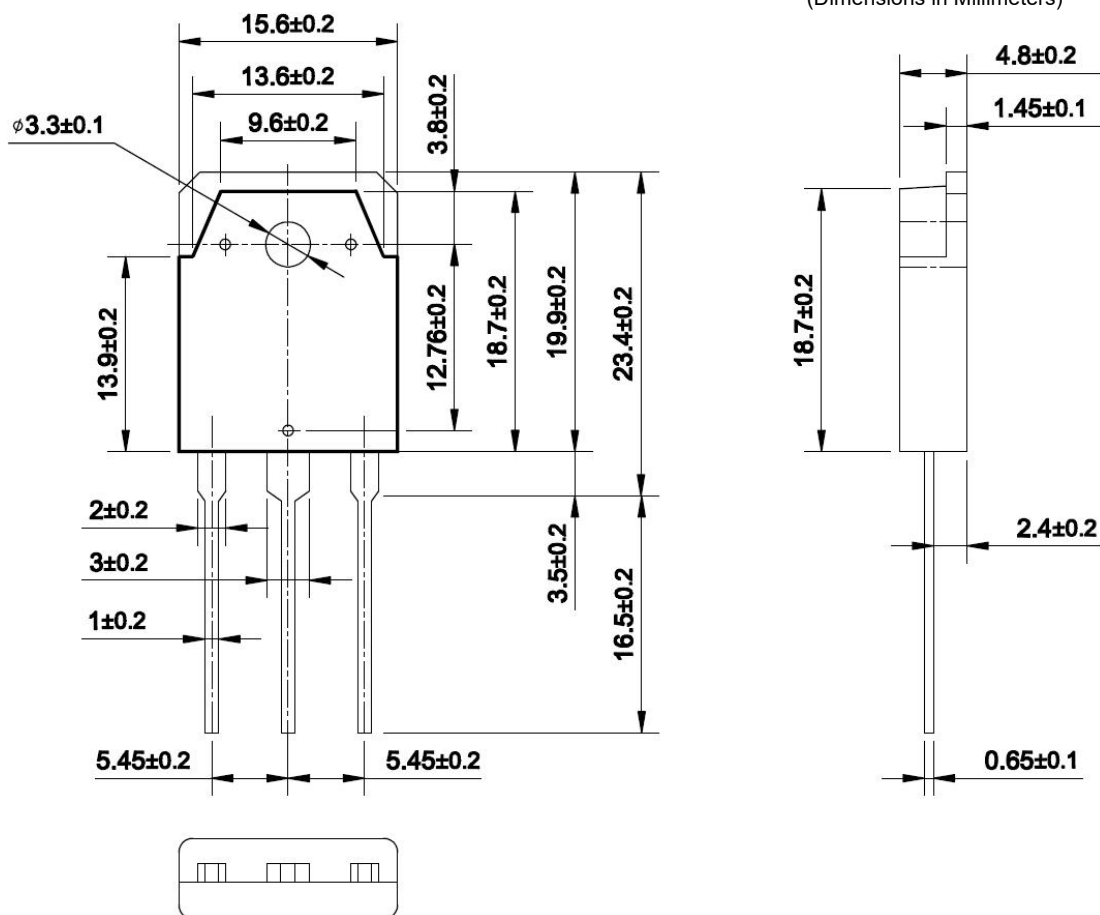
Fig. 3. Transient thermal impedance junction to case



Package Dimensions

TO-3PN

(Dimensions in Millimeters)



DISCLAIMER:

The products are not designed for use in hostile environments, including, without limitation, aircraft, nuclear power generation, medical appliances, and devices or systems in which malfunction of any product can reasonably be expected to result in a personal injury. Seller's customers using or selling seller's products for use in such applications do so at their own risk and agree to fully defend and indemnify Seller.

Sunnychip reserves the right to change the specifications and circuitry without notice at any time. Sunnychip does not consider responsibility for use of any circuitry other than circuitry entirely included in a Sunnychip product.  is a registered trademark of Sunnychip Semiconductor Co., Ltd.