

SDA45-12S

45A, 1200V Standard Rectifier

Features

- Typical Forward Voltage: $V_F=1.25V@I_F=45A$
- Reverse Voltage: $V_{RRM}=1200V$
- Avalanche Energy Rated
- SIPOS+GPP double passivation

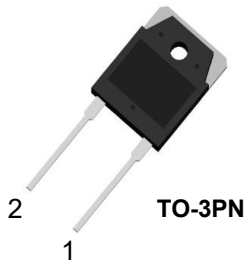
Description

The SDA45-12S 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		45	A
I _{FSM}	Non-repetitive Peak Surge Current	t = 10 ms (50 Hz), sine	T _{VJ} = 45°C V _R = 0 V	500	A
			T _{VJ} = 150°C V _R = 0 V	420	
I²t	value for fusing	t = 10 ms (50 Hz), sine	T _{VJ} = 45°C V _R = 0 V	1130	A²S
			T _{VJ} = 150°C V _R = 0 V	820	
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	0.55	$^{\circ}C/W$

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

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V_F	Forward Voltage Drop	$I_F=45A$	-	1.25	1.50	V
		$I_F=45A, T_C=120^{\circ}C$	-		1.23	V
I_R	Reverse Leakage Current	$V_R=1200V$	-	-	1	mA

Typical Performance Characteristics

Fig. 1. Typical Characteristics: V_F vs. I_F

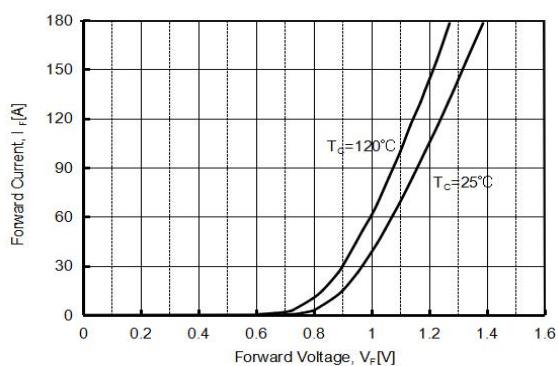


Fig. 2. Typical Characteristics: V_R vs. I_R

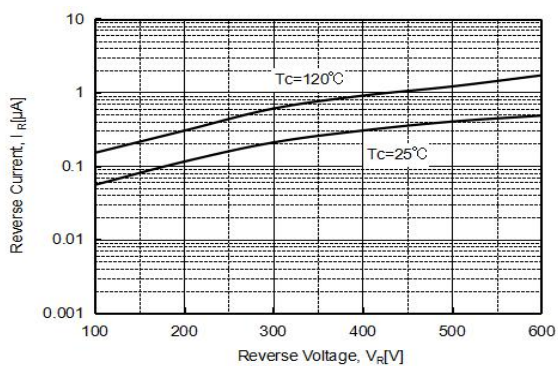
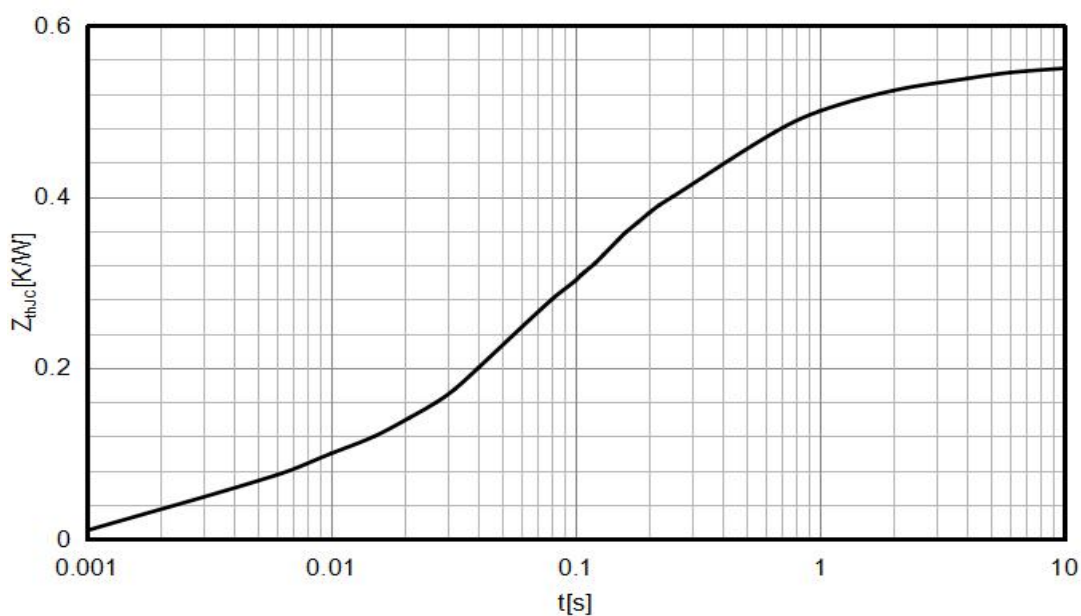


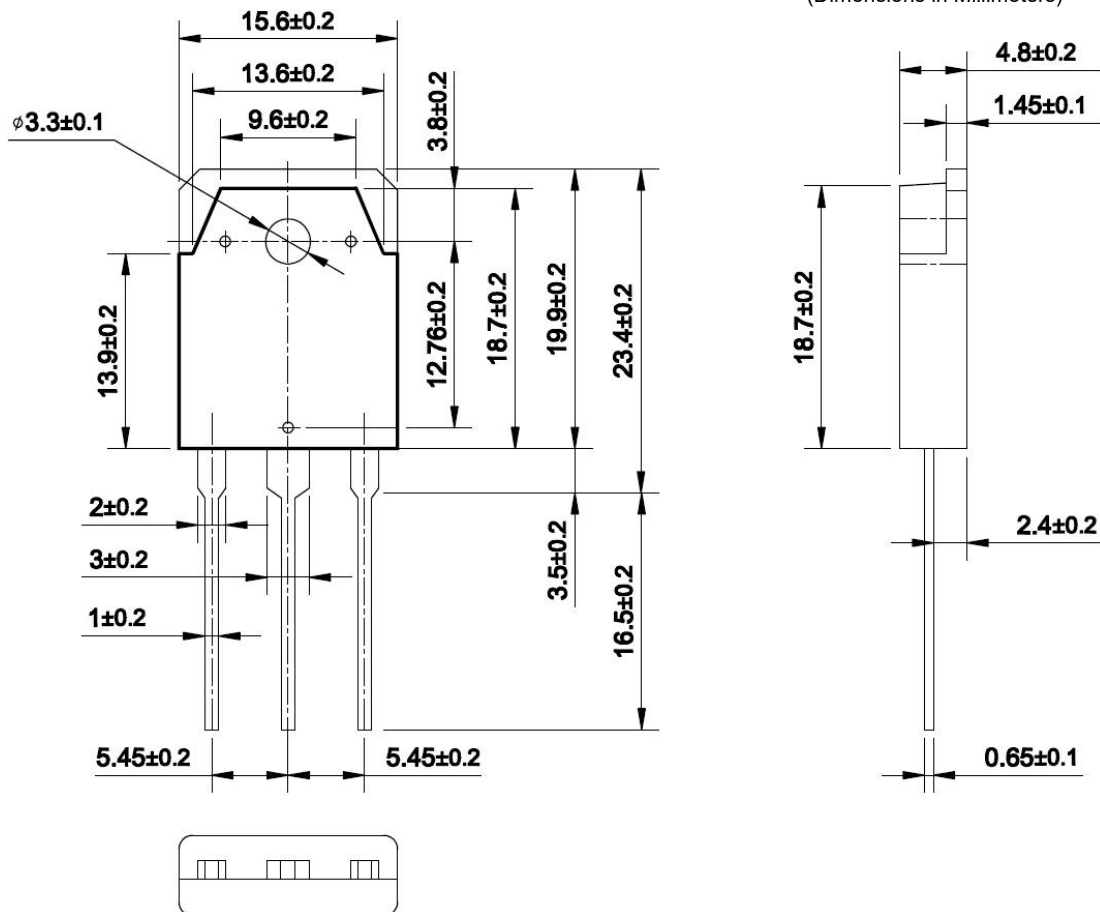
Fig. 3. Transient thermal impedance junction to case



Package Dimensions

TO-3PN

(Dimensions in Millimeters)



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