

# XBS304S19R-G

Schottky Barrier Diode, 3A, 40V Type

## FEATURES

Forward Voltage	: $V_F=0.465V$ (TYP.)
Forward Current	: $I_{F(AVE)}=3A$
Repetitive Peak Reverse Voltage	: $V_{RM}=40V$

## APPLICATIONS

- Rectification
- Protection against reverse connection of battery

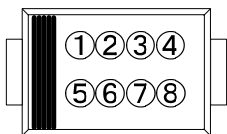
## ABSOLUTE MAXIMUM RATINGS

$T_a=25^\circ C$

PARAMETER	SYMBOL	RATINGS	UNITS
Repetitive Peak Reverse Voltage	$V_{RM}$	40	V
Reverse Voltage	$V_R$	40	V
Forward Current (Average)	$I_{F(AVE)}$	3	A
Non Continuous Forward Surge Current*1	$I_{FSM}$	60	A
Junction Temperature	$T_j$	125	$^\circ C$
Storage Temperature Range	$T_{stg}$	-55~+150	$^\circ C$

\*1 : Non continuous high amplitude 60Hz half-sine wave.

## MARKING RULE

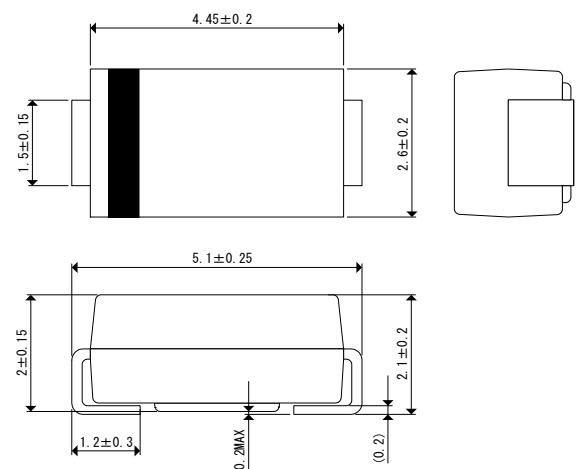


①②③④⑤⑥: 304S19(Product Number)  
⑦⑧ : Assembly Lot Number

## PACKAGING INFORMATION

SMA-XG

Unit: mm



## PRODUCT NAME

PRODUCT NAME	PACKAGE	ORDER UNIT
XBS304S19R-G <sup>(*)</sup>	SMA-XG	2,000/Reel

(\*) The "-G" suffix denotes Halogen and Antimony free as well as being fully RoHS compliant.

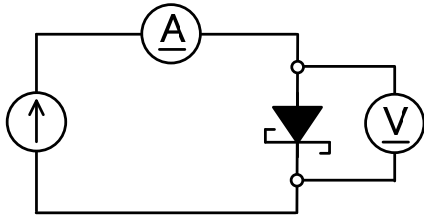
## ELECTRICAL CHARACTERISTICS

$T_a=25^\circ C$

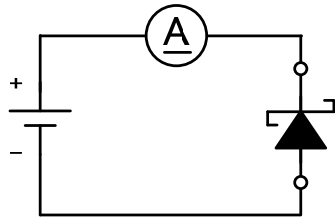
PARAMETER	SYMBOL	CONDITIONS	MIN.	TYP.	MAX.	UNITS	CIRCUIT
Forward Voltage	$V_{F1}$	$I_F=200\mu A$	-	0.135	-	V	①
	$V_{F2}$	$I_F=3A$	-	0.465	0.510	V	①
Reverse Current	$I_{R1}$	$V_R=20V$	-	5	-	$\mu A$	②
	$I_{R2}$	$V_R=40V$	-	15	300	$\mu A$	②
Inter-Terminal Capacity	$C_t$	$V_R=1V, f=1MHz$	-	180	-	pF	③
Reverse Recovery Time	$t_{rr}$	$I_F=I_R=10mA, irr=1mA$	-	82	-	ns	④

## TEST CIRCUITS

< Circuit ① >



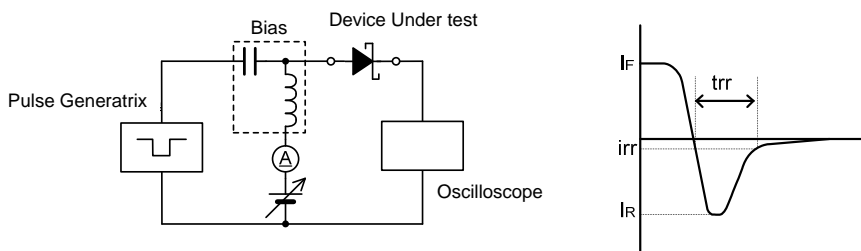
< Circuit ② >



< Circuit ③ >



< Circuit ④ >

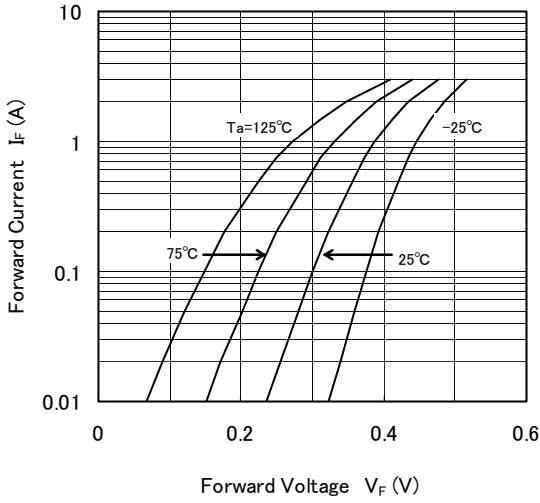


## NOTES ON USE

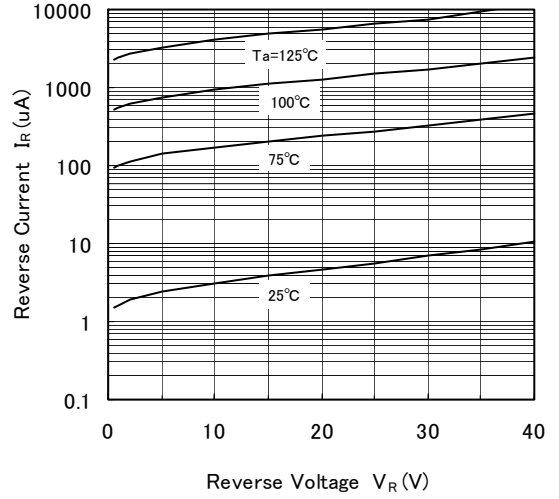
- 1) Please use this IC within the absolute maximum ratings.
- 2) Even within the ratings, in case of high load use continuously such as high temperature, high voltage, high current and thermal stress may cause reliability degradation of the IC. Adequate "Derating" should be taken into consideration while designing.
- 3) Torex places an importance on improving our products and their reliability. We request that users incorporate fail-safe designs and post-aging protection treatment when using Torex products in their systems.

## TYPICAL PERFORMANCE CHARACTERISTICS

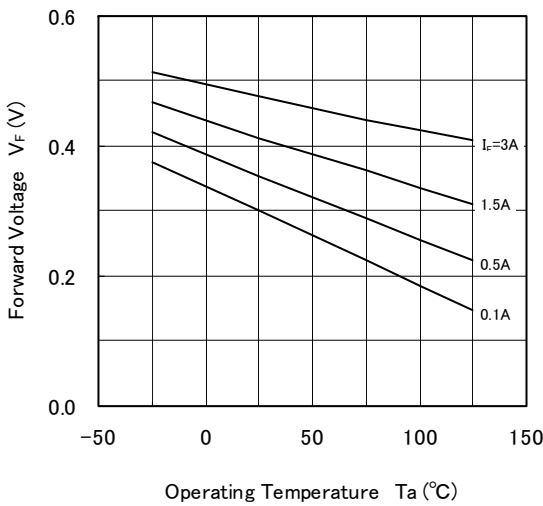
(1) Forward Current vs. Forward Voltage



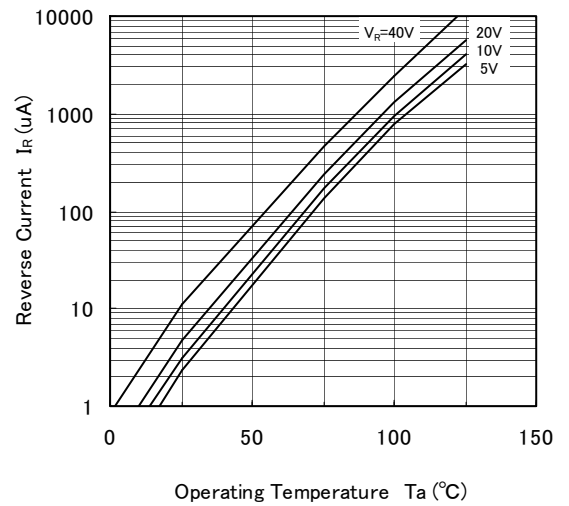
(2) Reverse Current vs. Reverse Voltage



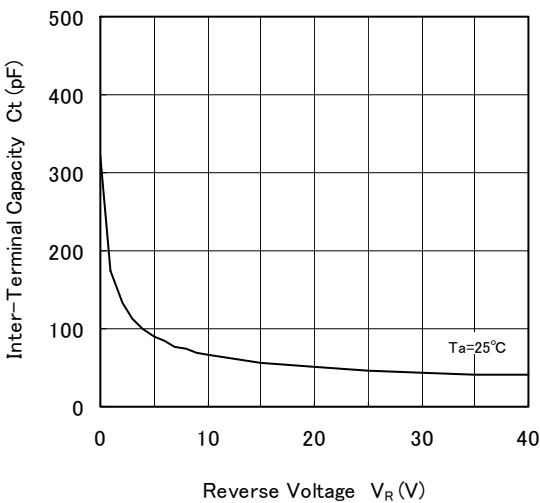
(3) Forward Voltage vs. Operating Temperature



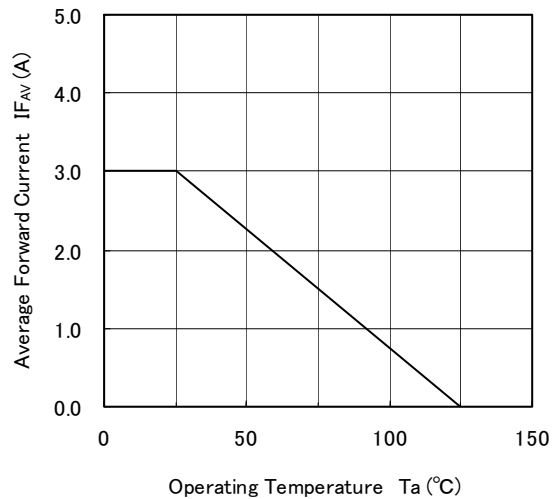
(4) Reverse Current vs. Operating Temperature



(5) Inter-Terminal Capacity vs. Reverse Voltage



(6) Average Forward Current vs. Operating Temperature



1. The products and product specifications contained herein are subject to change without notice to improve performance characteristics. Consult us, or our representatives before use, to confirm that the information in this datasheet is up to date.
2. We assume no responsibility for any infringement of patents, patent rights, or other rights arising from the use of any information and circuitry in this datasheet.
3. Please ensure suitable shipping controls (including fail-safe designs and aging protection) are in force for equipment employing products listed in this datasheet.
4. The products in this datasheet are not developed, designed, or approved for use with such equipment whose failure of malfunction can be reasonably expected to directly endanger the life of, or cause significant injury to, the user.  
(e.g. Atomic energy; aerospace; transport; combustion and associated safety equipment thereof.)
5. Please use the products listed in this datasheet within the specified ranges.  
Should you wish to use the products under conditions exceeding the specifications, please consult us or our representatives.
6. We assume no responsibility for damage or loss due to abnormal use.
7. All rights reserved. No part of this datasheet may be copied or reproduced without the prior permission of TOREX SEMICONDUCTOR LTD.

**TOREX SEMICONDUCTOR LTD.**