

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

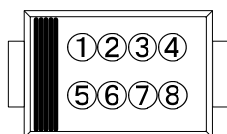
ABSOLUTE MAXIMUM RATINGS

$T_a=25^{\circ}C$

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

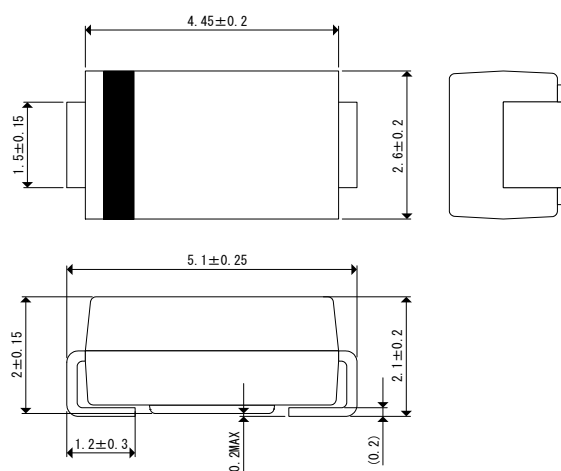


①②③④⑤⑥: 304S19(Product Number)
⑦⑧ : Assembly Lot Number

PACKAGING INFORMATION

SMA-XG

Unit: mm



PRODUCT NAME

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

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

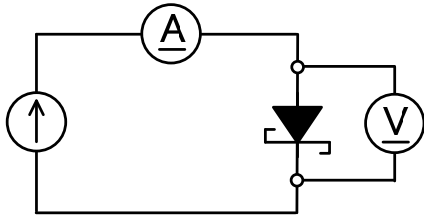
ELECTRICAL CHARACTERISTICS

$T_a=25^{\circ}C$

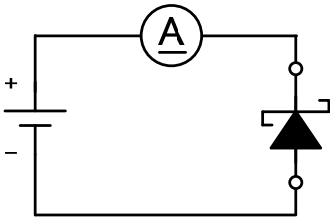
PARAMETER	SYMBOL	CONDITIONS	MIN.	TYP.	MAX.	UNITS	CIRCUIT
Forward Voltage	V_F	$I_F=3A$	-	0.465	0.510	V	①
Reverse Current	I_{R1}	$V_R=20V$	-	5	-	μA	②
	I_{R2}	$V_R=40V$	-	15	300	μA	②
Inter-Terminal Capacity	C_t	$V_R=1V$, $f=1MHz$	-	180	-	pF	③
Reverse Recovery Time	t_{rr}	$I_F=I_R=10mA$, $i_{rr}=1mA$	-	82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

■ TEST CIRCUITS

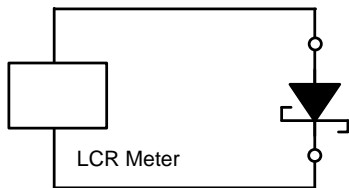
< Circuit ① >



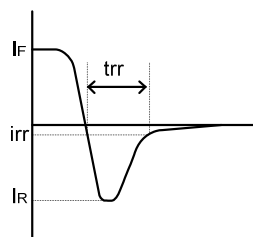
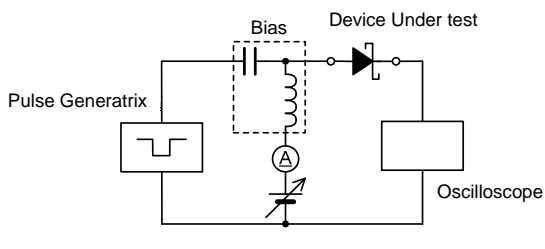
< Circuit ② >



< Circuit ③ >



< Circuit ④ >

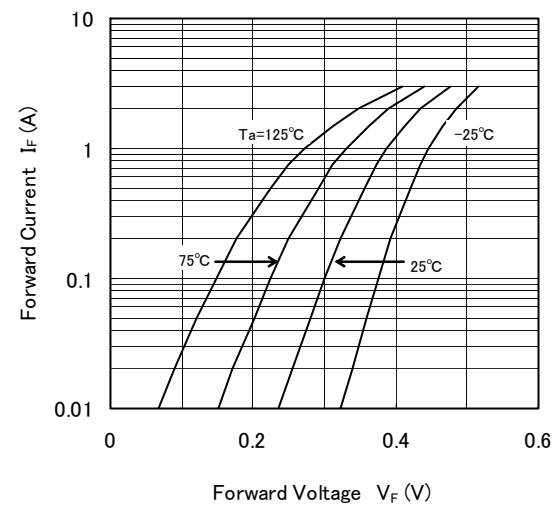


■ NOTES ON USE

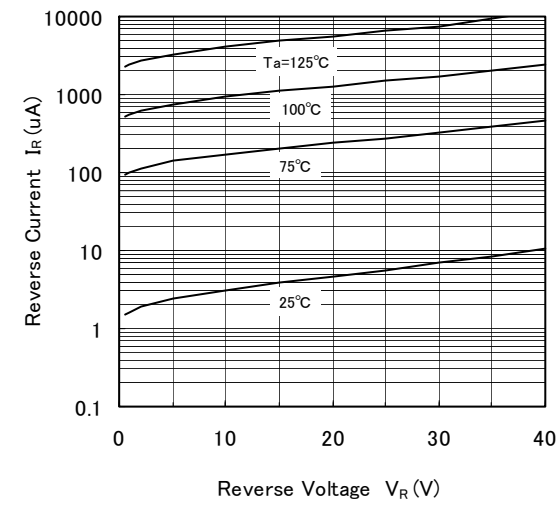
- 1) Please use this IC within the absolute maximum ratings.
- 2) Even within the ratings, in case of high load use continuously such as high temperature, high voltage, high current and thermal stress may cause reliability degradation of the IC. Adequate "Derating" should be taken into consideration 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

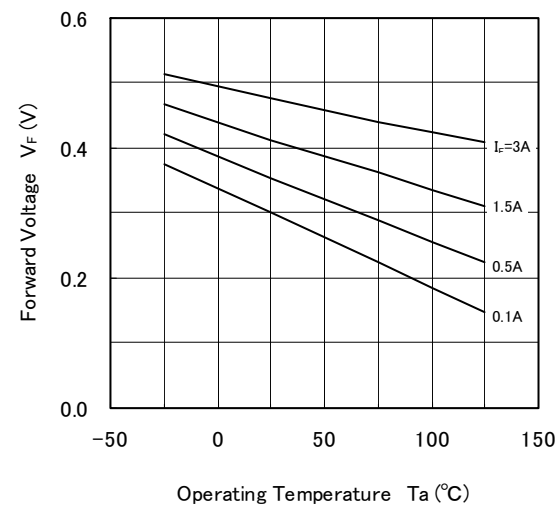
(1) Forward Current vs. Forward Voltage



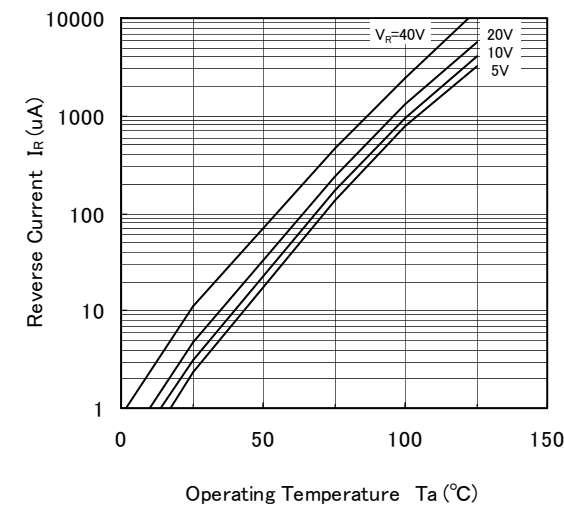
(2) Reverse Current vs. Reverse Voltage



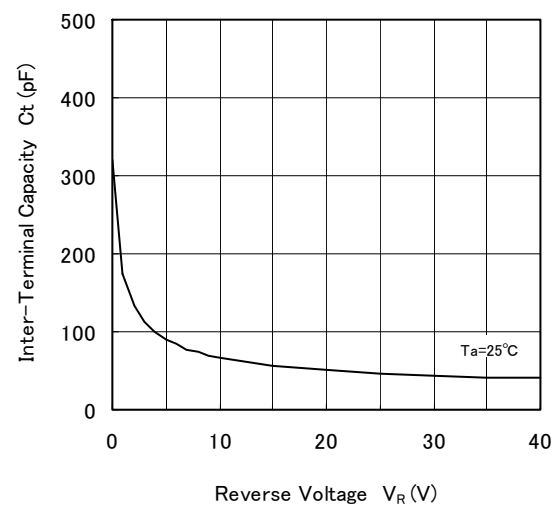
(3) Forward Voltage vs. Operating Temperature



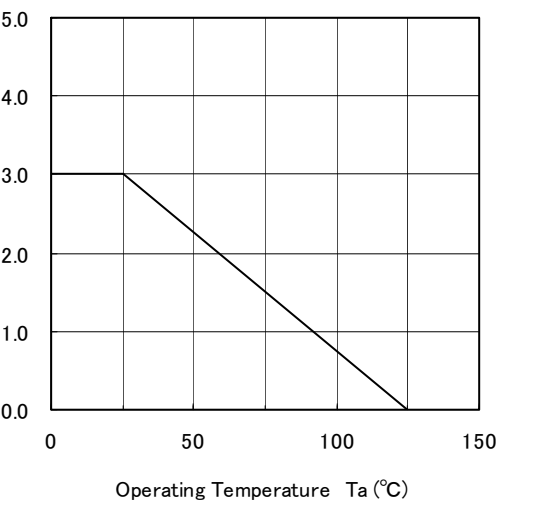
(4) Reverse Current vs. Operating Temperature



(5) Inter-Terminal Capacity vs. Reverse Voltage



(6) Average Forward Current vs. Operating Temperature



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