

# 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

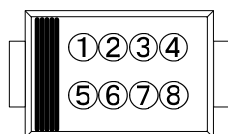
## ABSOLUTE MAXIMUM RATINGS

$T_a=25^\circ C$

| 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 <sup>*1</sup> | $I_{FSM}$    | 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

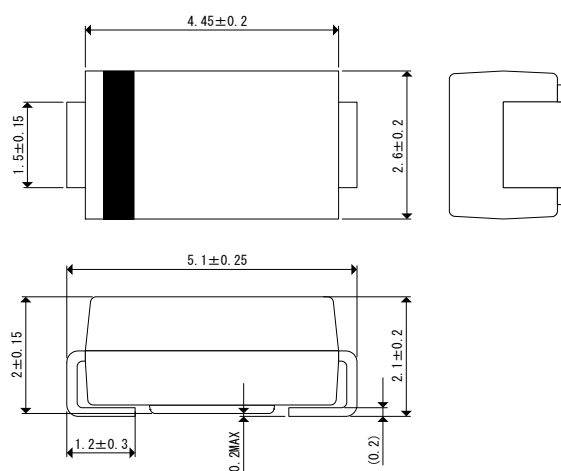


①②③④⑤⑥: 304S19(Product Number)  
⑦⑧ : Assembly Lot Number

## 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 EU RoHS compliant.

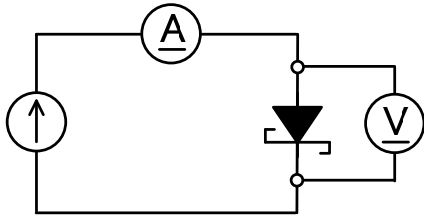
## ELECTRICAL CHARACTERISTICS

$T_a=25^\circ C$

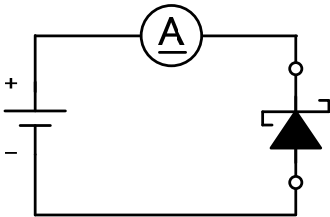
| PARAMETER               | SYMBOL   | CONDITIONS                    | MIN. | TYP.  | MAX.  | UNITS   | CIRCUIT |
|-------------------------|----------|-------------------------------|------|-------|-------|---------|---------|
| Forward Voltage         | $V_F$    | $I_F=3A$                      | -    | 0.465 | 0.510 | V       | ①       |
| Reverse Current         | $I_{R1}$ | $V_R=20V$                     | -    | 5     | -     | $\mu A$ | 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   | $t_{rr}$ | $I_F=I_R=10mA$ , $i_{rr}=1mA$ | -    | 82    | -     | ns      | ④       |

## TEST CIRCUITS

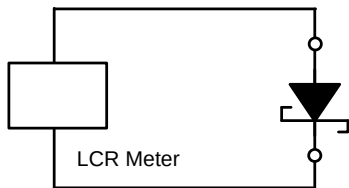
< Circuit ① >



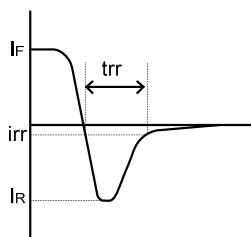
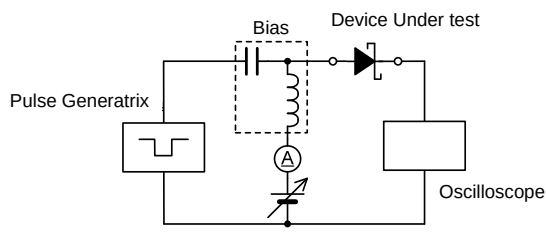
< Circuit ② >



< Circuit ③ >



< Circuit ④ >

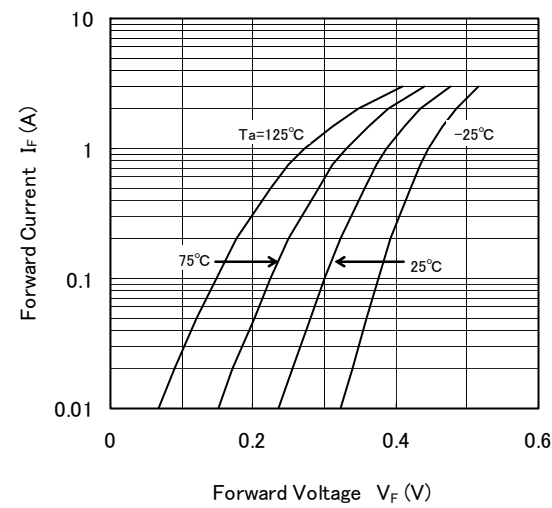


## NOTES ON USE

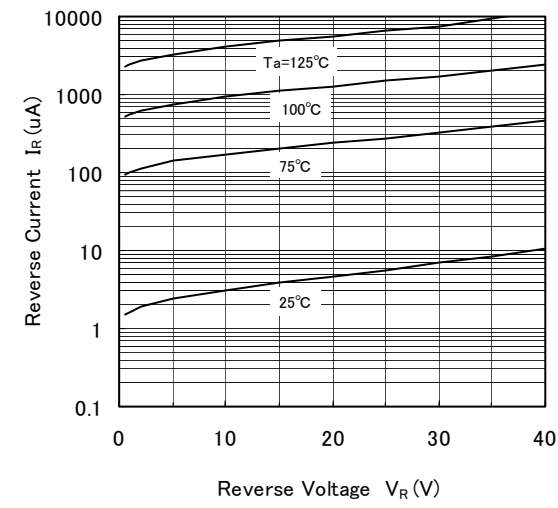
- 1) Please use this IC within the absolute maximum ratings.
- 2) Even within the ratings, in case of high load use continuously such as high temperature, high voltage, high current and thermal stress may cause reliability degradation of the IC. Adequate "Derating" should be taken into consideration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

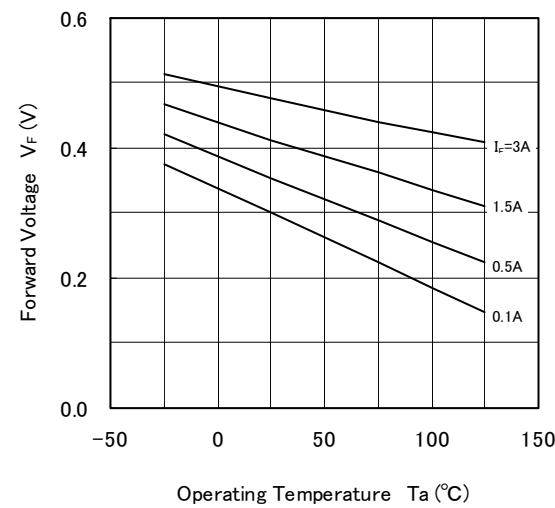
(1) Forward Current vs. Forward Voltage



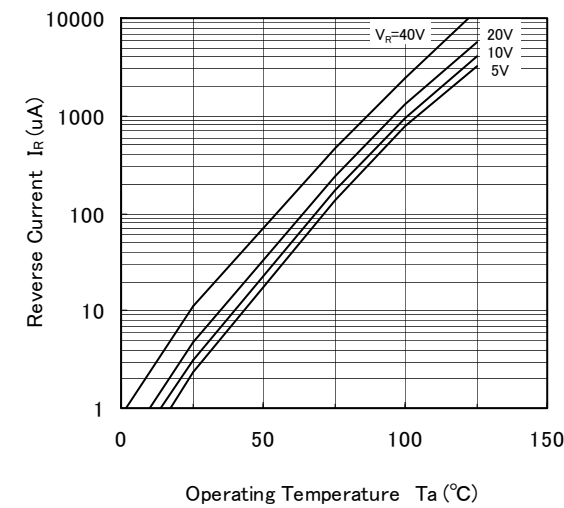
(2) Reverse Current vs. Reverse Voltage



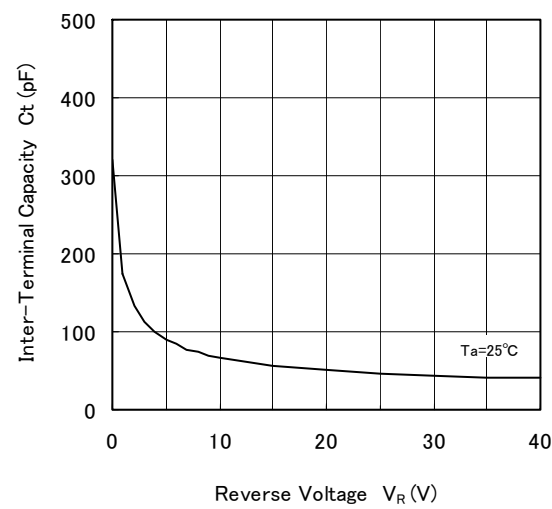
(3) Forward Voltage vs. Operating Temperature



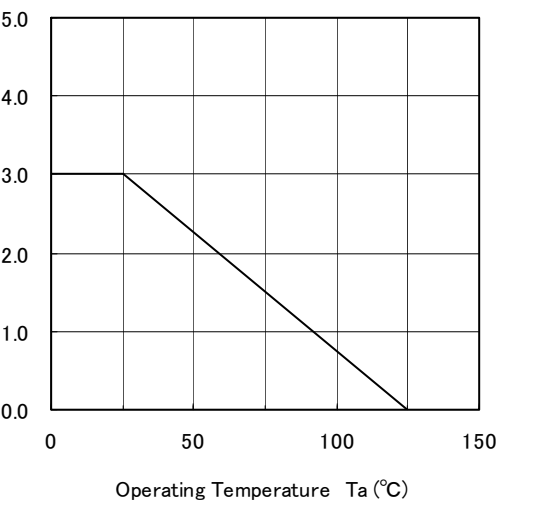
(4) Reverse Current vs. Operating Temperature



(5) Inter-Terminal Capacity vs. Reverse Voltage



(6) Average Forward Current vs. Operating Temperature



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