

## Schottky Barrier Diode

## ■ FEATURES

Forward Voltage	: $V_F=0.49V$ (TYP.)
Forward Current	: $I_{F(AV)}=5A$
Repetitive Peak Reverse Voltage	: $V_{RM}=40V$

## ■ APPLICATIONS

- Rectification
- Protection against reverse connection of battery

## ■ ABSOLUTE MAXIMUM RATINGS

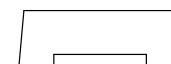
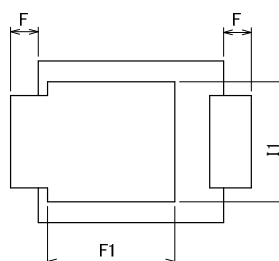
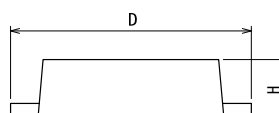
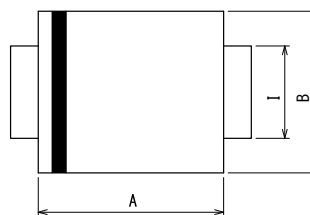
Ta=25°C

PARAMETER	SYMBOL	RATINGS	UNITS
Repetitive Peak Voltage	$V_{RM}$	40	V
Reverse Voltage	$V_R$	40	V
Forward Current (Average)	$I_{F(AV)}$	5	A
Peak Forward Surge Current <sup>(*)</sup>	$I_{FSM}$	150	A
Junction Temperature	$T_j$	150	°C
Storage Temperature Range	$T_{stg}$	-50~+150	°C

<sup>(\*)</sup> Non continuous high amplitude 60Hz half-sine wave.

## ■ PACKAGING INFORMATION

Unit: mm



Symbol	Min	Typ	Max
A	3.80	4.00	4.20
B	3.30	3.50	3.70
D	5.00	5.20	5.40
F	0.45	0.60	0.75
F1	2.55	2.75	2.95
H	1.10	1.20	1.30
I	1.85	2.00	2.15
I1	2.40	2.60	2.80

## ■ PRODUCT NAME

PRODUCT NAME	PACKAGE	ORDER UNIT
XBS504V1AR-G <sup>(*)</sup>	SMBT	4,000pcs / Reel

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

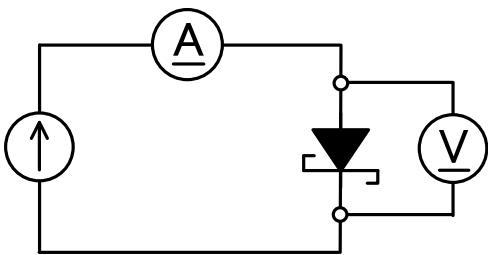
## ELECTRICAL CHARACTERISTICS

Ta=25°C

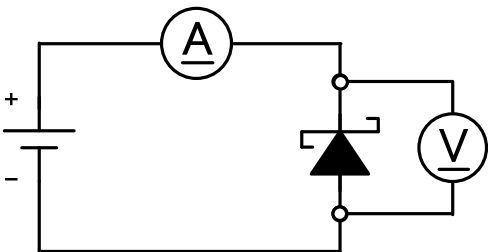
PARAMETER	SYMBOL	CONDITIONS	MIN.	TYP.	MAX.	UNITS	CIRCUIT
Forward Voltage	$V_F$	$I_F=5A$	-	0.49	0.56	V	①
Reverse Current	$I_R$	$V_R=40V$	-	0.03	0.1	mA	②

## TEST CIRCUITS

Circuit ①



Circuit ②

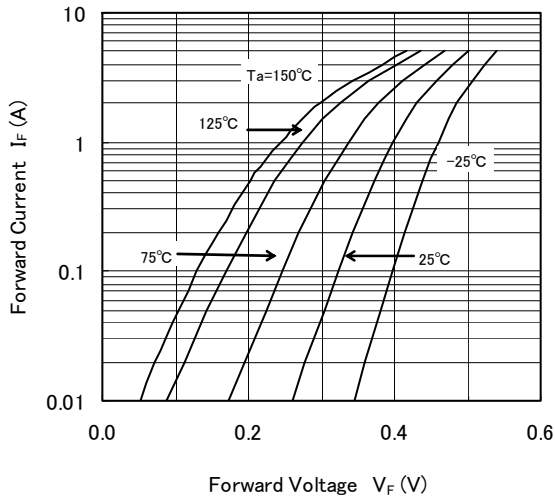


## NOTES ON USE

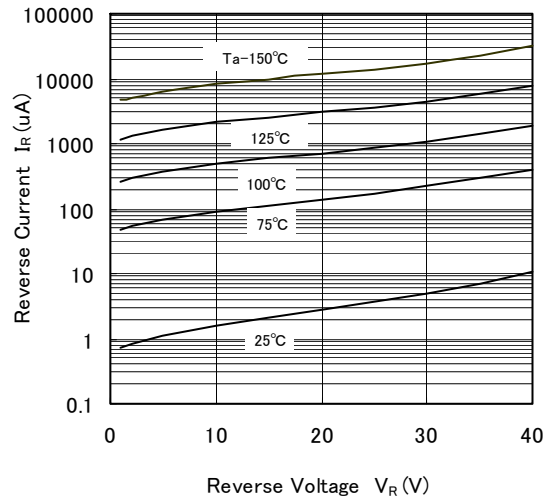
- 1) Please use this IC within the absolute maximum ratings.
- 2) Even within the ratings, in case of high load use continuously such as high temperature, high voltage, high current and thermal stress may cause reliability degradation of the IC. Adequate "Derating" should be taken into consideration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

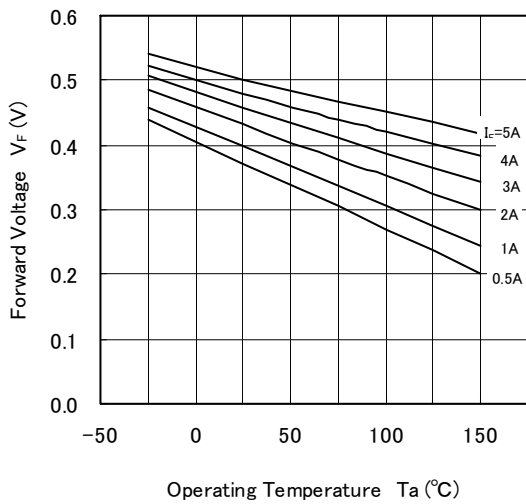
(1) Forward Current vs. Forward Voltage



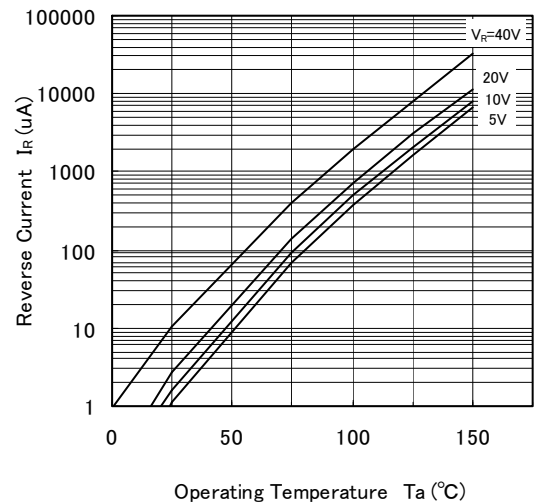
(2) Reverse Current vs. Reverse Voltage



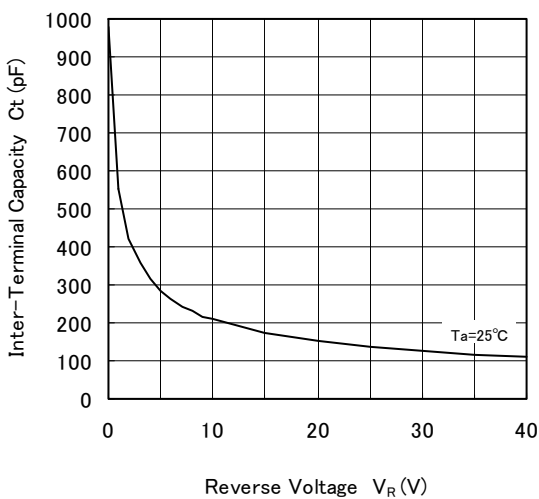
(3) Forward Voltage vs. Operating Temperature



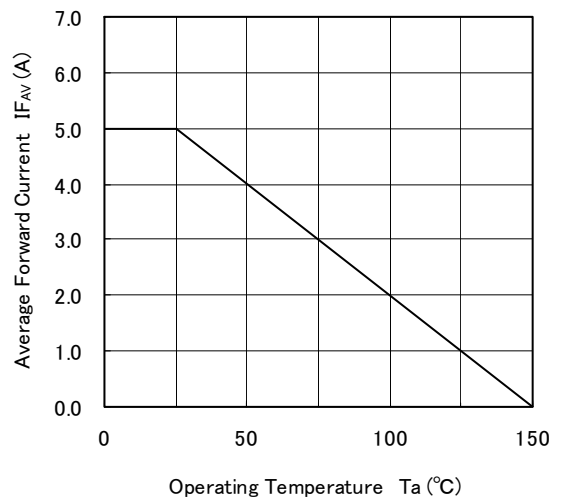
(4) Reverse Current vs. Operating Temperature



(5) Inter-Terminal Capacity vs. Reverse Voltage

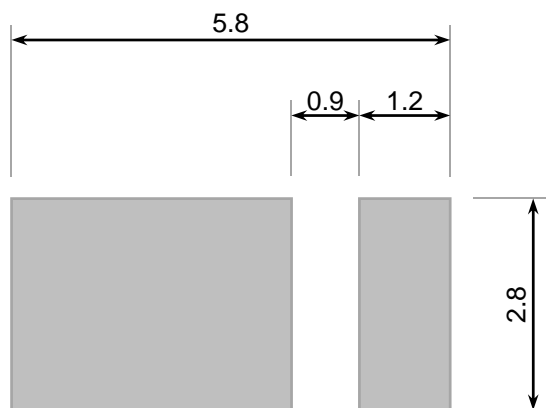


(6) Average Forward Current vs. Operating Temperature



## ■ REFERENCE PATTERN LAYOUT

Unit: mm



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