

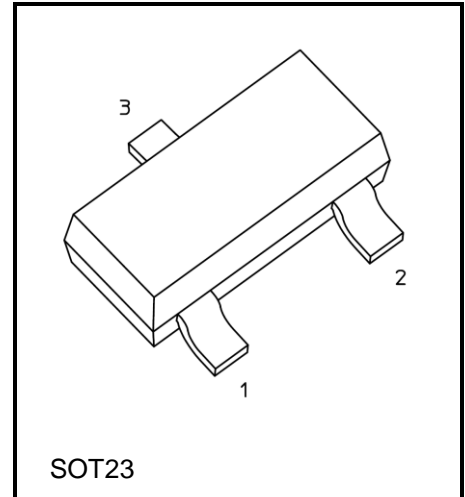
TBAS16,TBAW56,TBAV70

Silicon Switching diodes

Pb-free (RoHS compliant) package

Abusolute Maximum Ratings (Ta = 25°C)

Characteristic	Symbol	Rating	Unit
Peak reverse Voltage	V_{RM}	85	V
Reverse voltage	V_R	80	V
Average forward current (Note1)	I_O	215	mA
Peak forward current (Note1)	I_{FM}	500	mA
Non-repetitive peak forward surge current (Note1,Note2)	I_{FSM}	2	A
Power dissipation (Note 3)	P_D	320	mW
Junction temperature	T_j	150	°C
Storage temperature range	T_{stg}	-55 to 150	°C



SOT23

Weight : 0.009g (typ.)

Note1 : Unit rating. Total rating = Unit rating x 1.5 (TBAW56,TBAV70)

Note2 : Measured with a 10ms pulse.

Note3 : Mounted on an FR4 board (25.4 mm × 25.4 mm × 1.6 mm, Cu Pad: 0.42 mm² x 3)

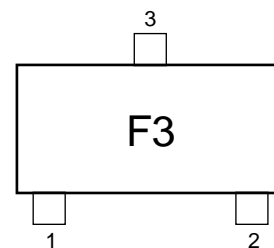
Note:Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook (“Handling Precautions”/ “Derating Concept and Methods”) and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

List of Products Number and Marking, Configuration

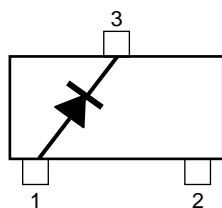
Products No.	Marking	Configuration
TBAS16	F3	single
TBAW56	A3	common anode
TBAV70	B3	common cathode

Marking on the Product

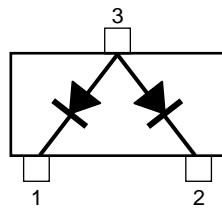
Example : TBAS16



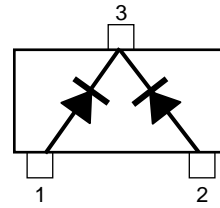
Equivalent Circuit (top view)



TBAS16



TBAW56

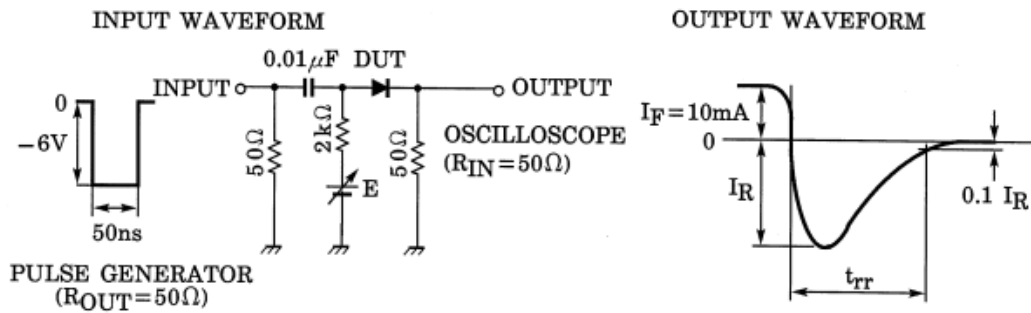


TBAV70

Electrical Characteristics (Ta = 25°C)

Characteristic	Symbol	Test Condition	Min	Typ.	Max	Unit
Forward voltage	$V_F (1)$	$I_F = 1\text{mA}$	—	—	715	mV
	$V_F (2)$	$I_F = 10\text{mA}$	—	—	855	
	$V_F (3)$	$I_F = 50\text{mA}$	—	—	1000	
	$V_F (4)$	$I_F = 150\text{mA}$	—	—	1250	
Reverse current	$I_R(1)$	$V_R = 25\text{V}$	—	—	30	nA
	$I_R(2)$	$V_R = 80\text{V}$	—	—	0.5	μA
	$I_R(3)$	$V_R = 25\text{V}, T_j = 150^\circ\text{C}$	—	—	30	μA
	$I_R(4)$	$V_R = 80\text{V}, T_j = 150^\circ\text{C}$	—	—	100	μA
Total capacitance	C_T	$V_R = 1\text{V}, f = 1\text{MHz}$	—	0.9	—	pF
Reverse recovery time	t_{rr}	$I_F = 10\text{mA}, \text{Fig.1}$	—	1.6	4.0	ns

Fig.1 Reverse recovery time (t_{rr}) test circuit



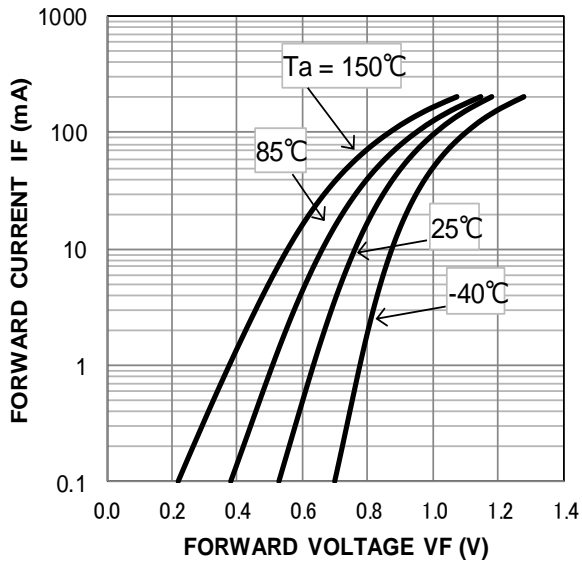


Fig IF - VF

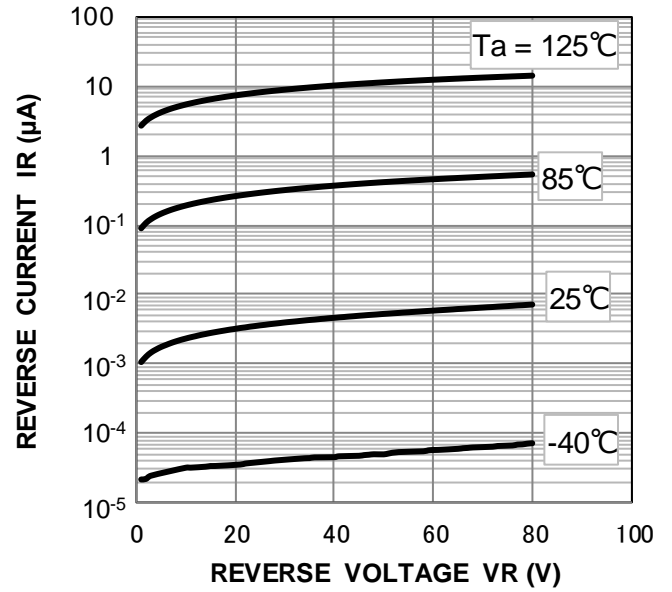


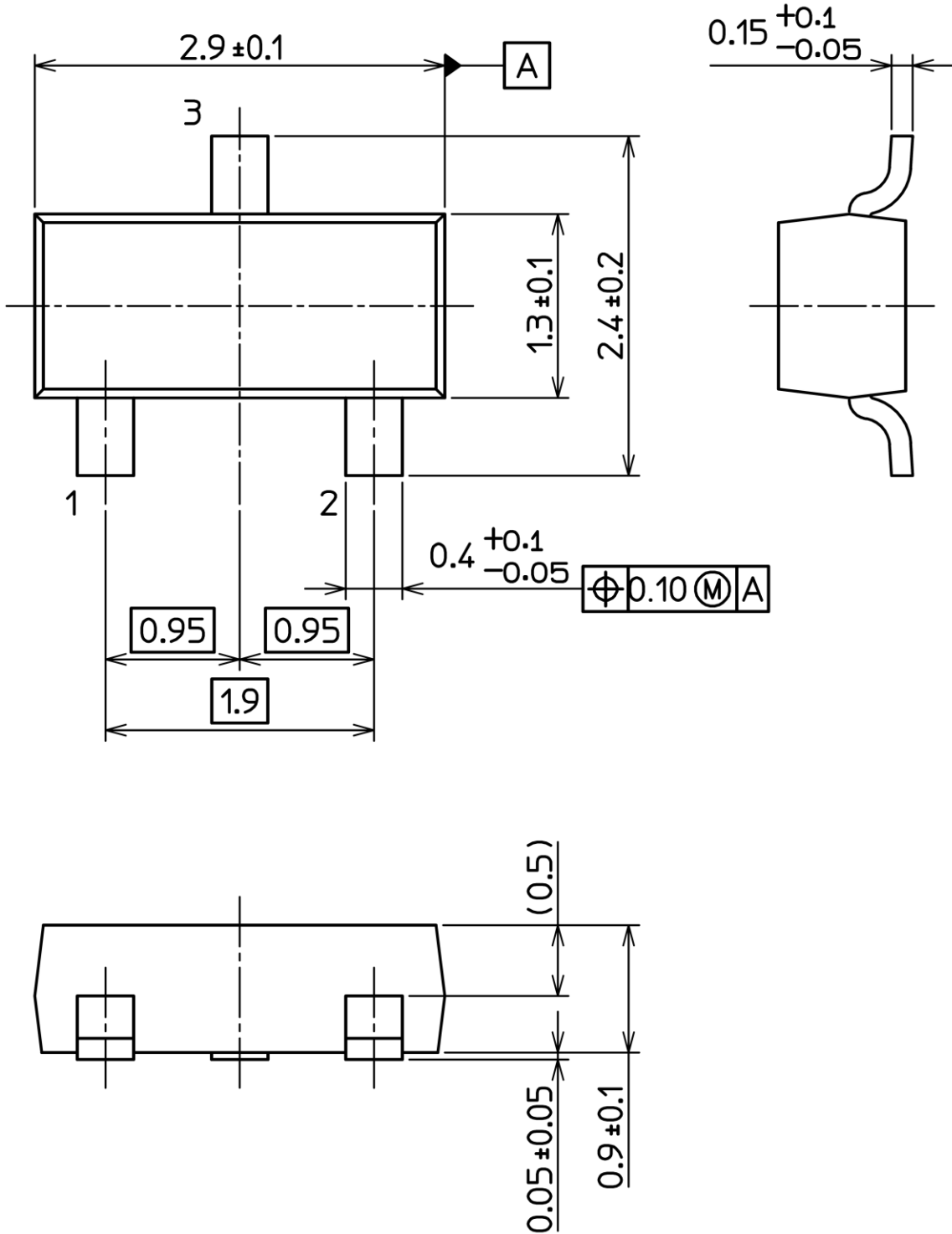
Fig IR - VR

Note: The above characteristics curves are presented for reference only and not guaranteed by production test, unless otherwise noted.

Package Dimensions

Unit: mm

SOT23



Weight: 0.009g (typ.)

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