

TOSHIBA Diode Silicon Epitaxial Schottky Barrier Type

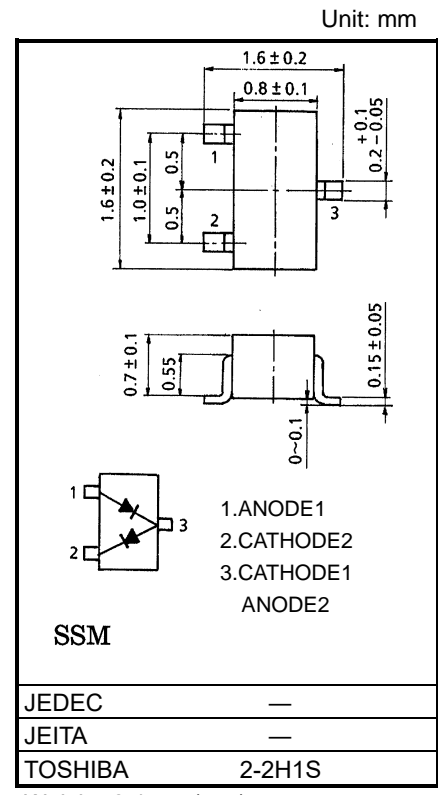
# 1SS423

## Ultra-High-Speed Switching Applications

- Small package
- Low forward voltage:  $V_F(3) = 0.56\text{ V (typ.)}$
- Low reverse current:  $I_R = 5\ \mu\text{A (max)}$

## Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

Characteristic	Symbol	Rating	Unit
Maximum (peak) reverse voltage	$V_{RM}$	45	V
Reverse voltage	$V_R$	40	V
Maximum (peak) forward current	$I_{FM}$	200*	mA
Average forward current	$I_O$	100*	mA
Surge current (10 ms)	$I_{FSM}$	1*	A
Power dissipation	$P$	100	mW
Junction temperature	$T_j$	125	$^\circ\text{C}$
Storage temperature range	$T_{stg}$	-55 to 125	$^\circ\text{C}$
Operating temperature range	$T_{opr}$	-40 to 100	$^\circ\text{C}$



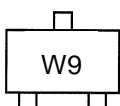
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) 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).

\*: This is the absolute maximum rating for a single diode. Where two diodes are used, the absolute maximum rating per diode is 75% that for the single diode.

## Electrical Characteristics ( $T_a = 25^\circ\text{C}$ )

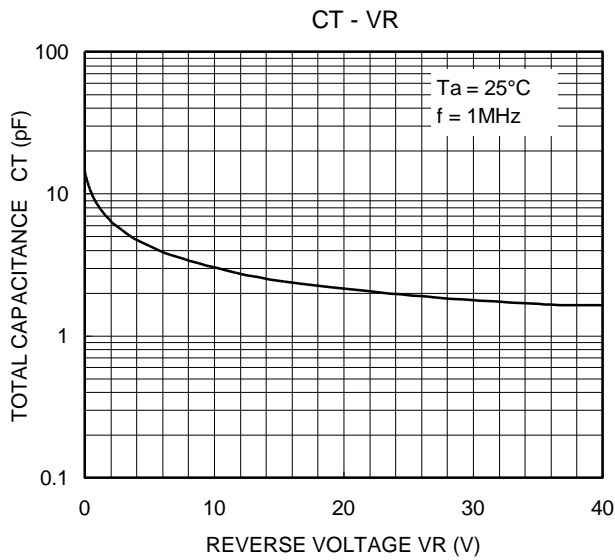
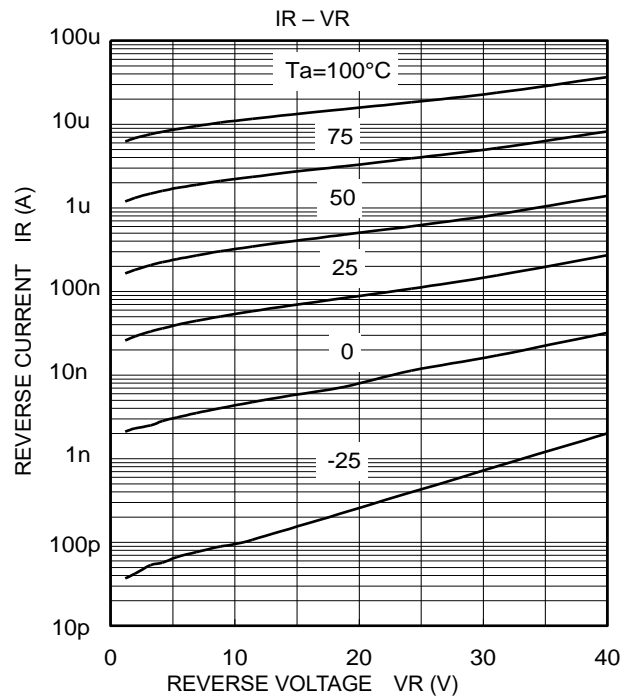
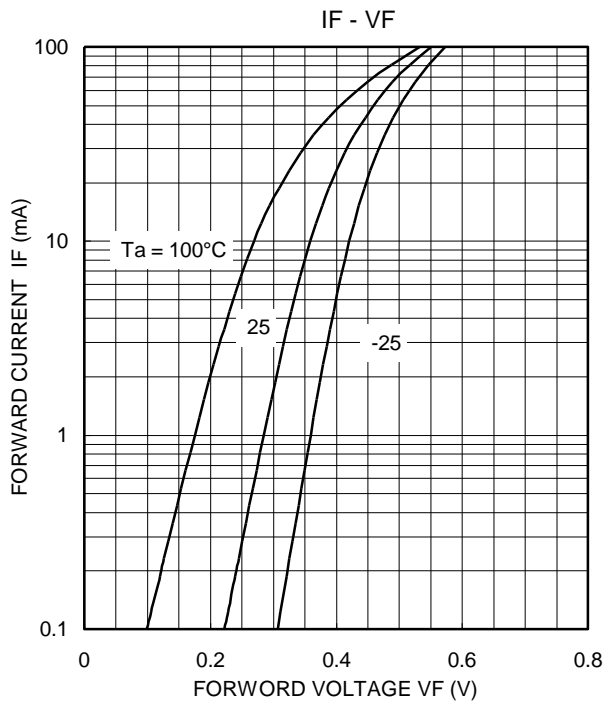
Characteristic	Symbol	Test Condition	Min	Typ.	Max	Unit
Forward voltage	$V_F(1)$	$I_F = 1\text{ mA}$	—	0.28	—	V
	$V_F(2)$	$I_F = 10\text{ mA}$	—	0.36	—	
	$V_F(3)$	$I_F = 100\text{ mA}$	—	0.56	0.62	
Reverse current	$I_R$	$V_R = 40\text{ V}$	—	—	5	$\mu\text{A}$
Total capacitance (between cathode and anode)	$C_T$	$V_R = 0\text{ V}, f = 1\text{ MHz}$	—	15	—	pF

## Marking



Start of commercial production  
2004-07

**Electrical Characteristics (Ta = 25°C)**



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

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