



Schottky Barrier Diodes

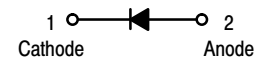
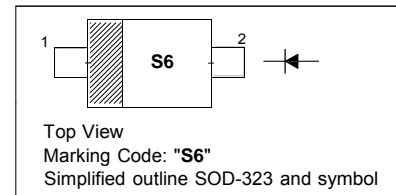
The SD301WS, and SD701WS devices are spin-offs of our popular MMBD301, and MMBD701 SOT-23 devices. They are designed for high-efficiency UHF and VHF detector applications. Readily available to many other fast switching RF and digital applications.

- Extremely Low Minority Carrier Lifetime
- Very Low Capacitance
- Low Reverse Leakage



PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Reverse Voltage	SD301WS SD701WS	30 70	Vdc
Forward Power Dissipation $T_A = 25^\circ\text{C}$	P_F	225	mW
Junction Temperature	T_J	-55 to +125	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to +150	$^\circ\text{C}$

DEVICE MARKING

MMSD301T1 = XT, MMSD701T1 = XH

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage ($I_R = 10 \mu\text{A}$)	SD301WS SD701WS	30 70	— —	— —	Volts
Diode Capacitance ($V_R = 0$, $f = 1.0 \text{ MHz}$, Note 1)	SD301WS SD701WS	— —	0.9 0.5	1.5 1.0	pF
Total Capacitance ($V_R = 15 \text{ Volts}$, $f = 1.0 \text{ MHz}$) ($V_R = 20 \text{ Volts}$, $f = 1.0 \text{ MHz}$)	SD301WS SD701WS	— —	0.9 0.5	1.5 1.0	pF
Reverse Leakage ($V_R = 25 \text{ V}$) ($V_R = 35 \text{ V}$)	SD301WS SD701WS	— —	13 9.0	200 200	nAdc nAdc
Forward Voltage ($I_F = 1.0 \text{ mAdc}$) ($I_F = 10 \text{ mA}$) ($I_F = 1.0 \text{ mAdc}$) ($I_F = 10 \text{ mA}$)	SD301WS SD701WS	— — — —	0.38 0.52 0.42 0.7	0.45 0.6 0.5 1.0	Vdc

Preferred devices are ON Semiconductor recommended choices for future use and best overall value.



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SOD-323



SD301WS-SD701WS

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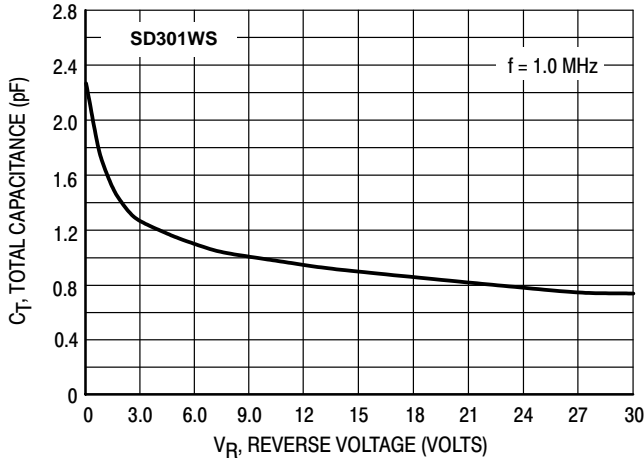


Figure 1. Total Capacitance

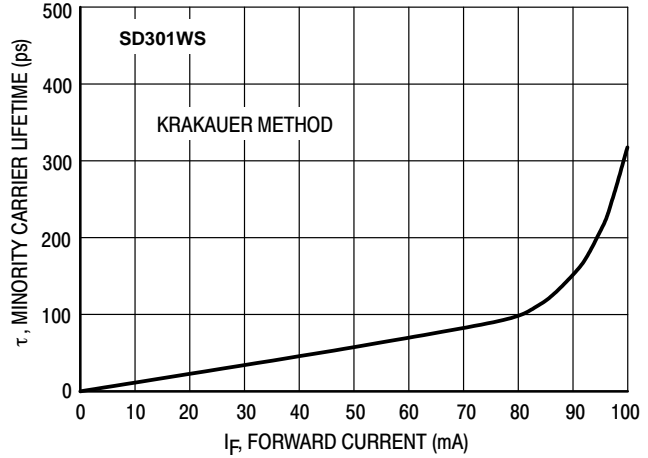


Figure 2. Minority Carrier Lifetime

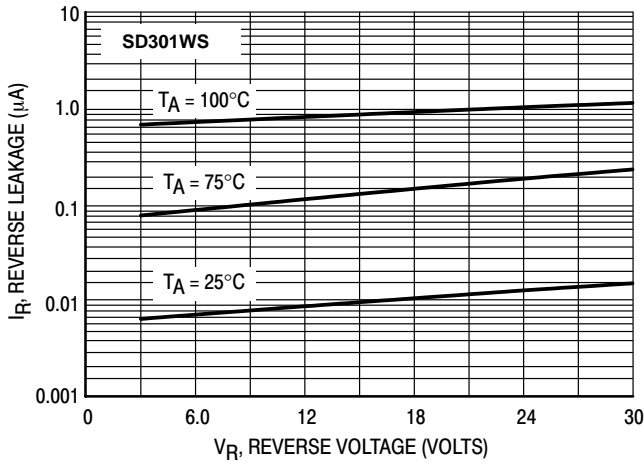


Figure 3. Reverse Leakage

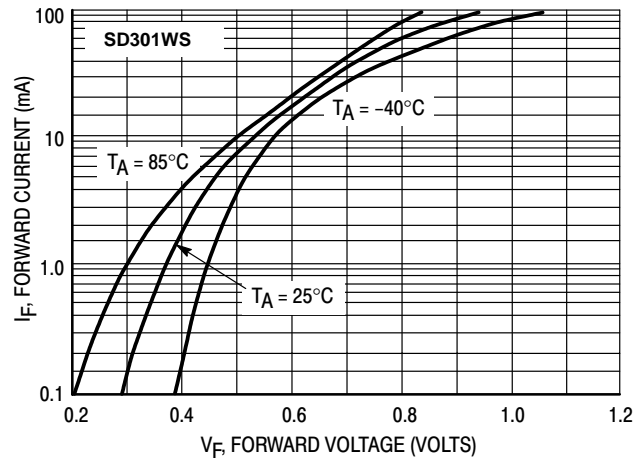


Figure 4. Forward Voltage



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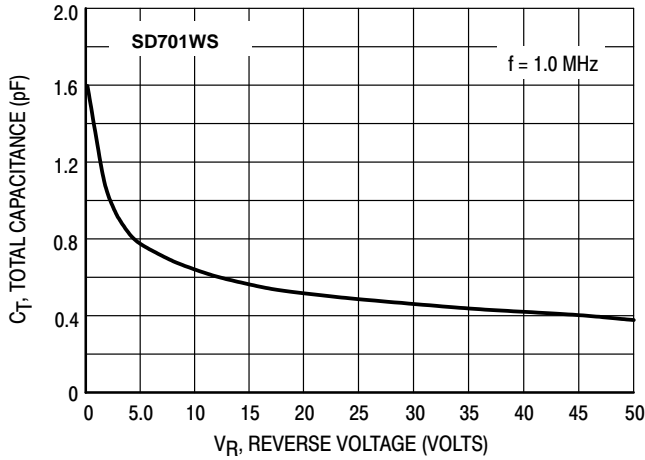


Figure 5. Total Capacitance

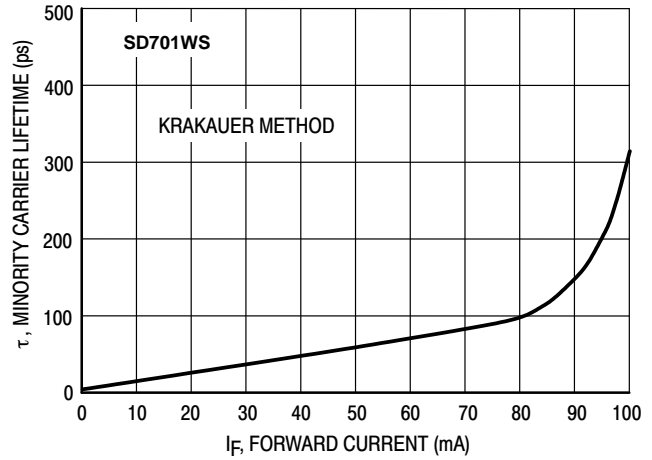


Figure 6. Minority Carrier Lifetime

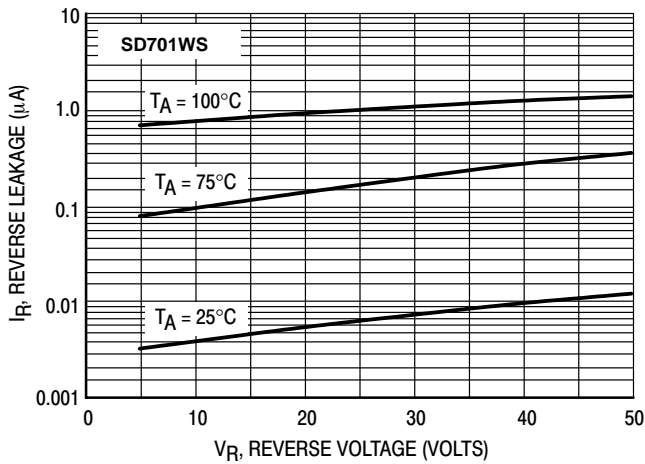


Figure 7. Reverse Leakage

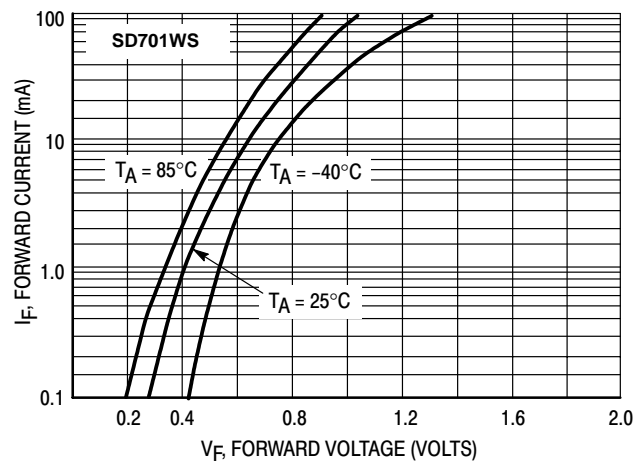


Figure 8. Forward Voltage



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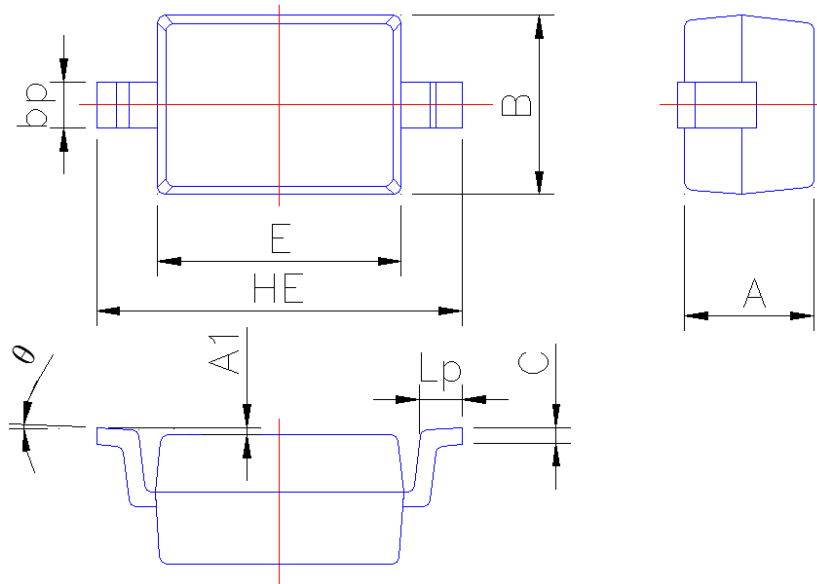
SD301WS-SD701WS

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PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD-323



Symbol	Dimension in Millimeters	
	Min	Max
A	0.95	1.15
A1	0.010	0.100
B	1.20	1.40
bp	0.25	0.40
C	0.09	0.150
E	1.60	1.80
HE	2.30	2.70
Lp	0.20	0.40
θ	0°	5°