

## Schottky Barrier Diodes

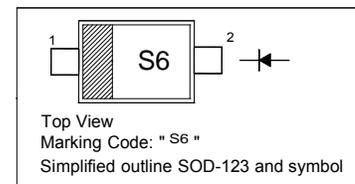
The SD301W, and SD701W devices are spin-offs of our popular MMBD301, and MMBD701 SOT-23 devices. They are designed for high-efficiency UHF and VHF detector applications. Readily available to many other fast switching RF and digital applications.

- 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	SD301W SD701W	$V_R$	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	$^\circ\text{C}$	

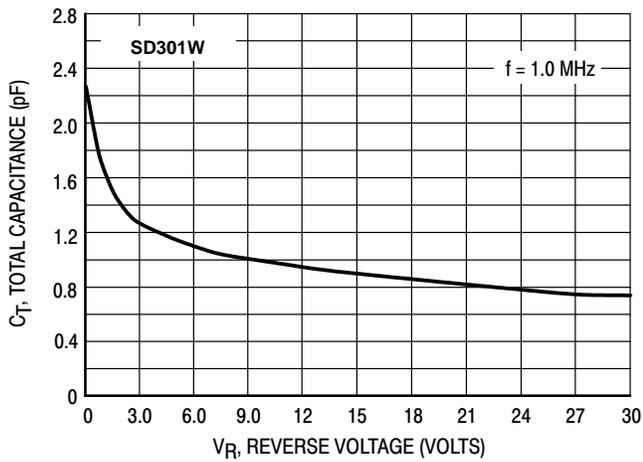
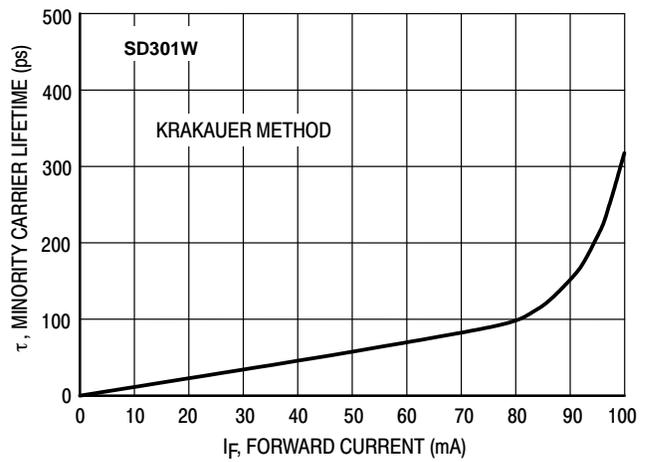
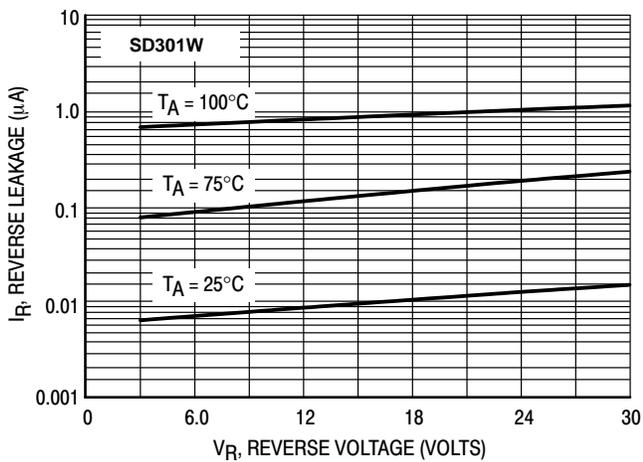
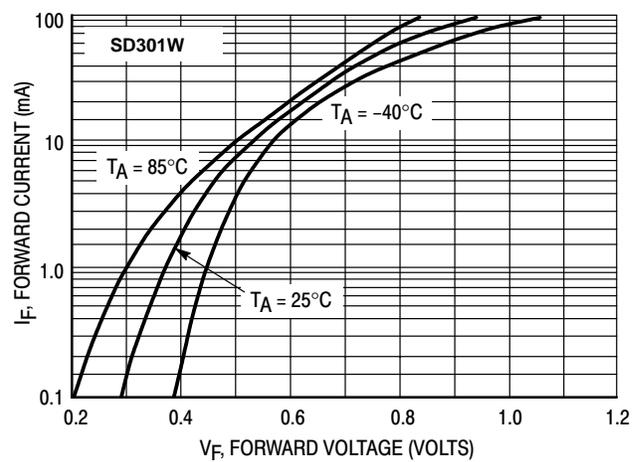
#### DEVICE MARKING

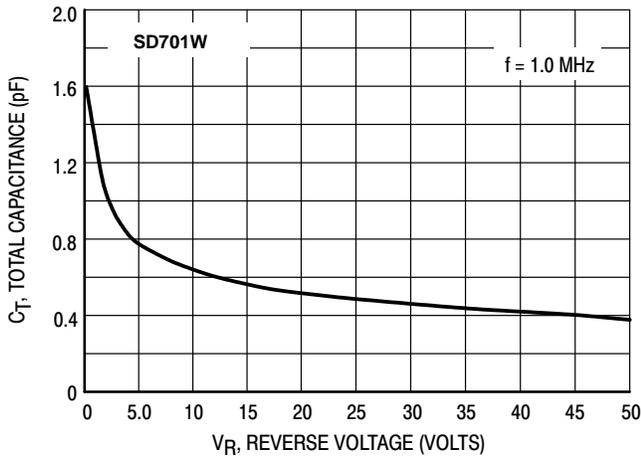
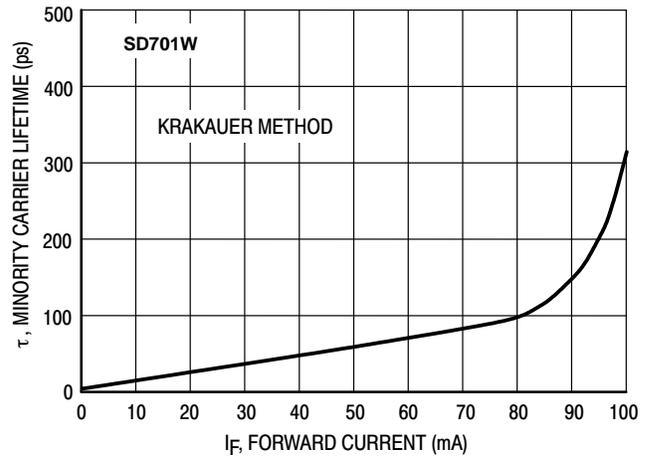
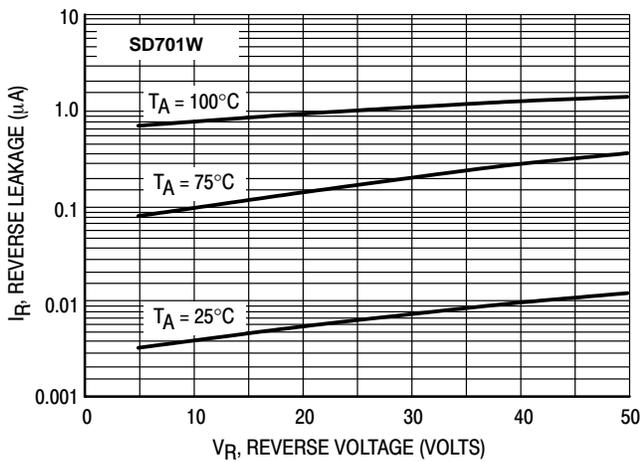
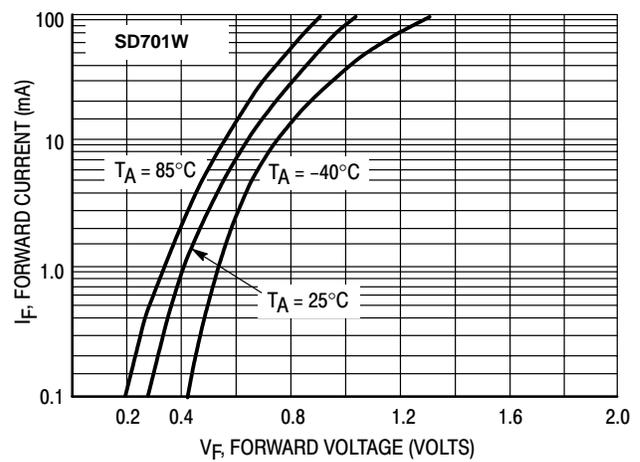
MMSD301T1 = XT, MMSD701T1 = XH

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

Characteristic	Symbol	Min	Typ	Max	Unit	
Reverse Breakdown Voltage ( $I_R = 10 \mu\text{A}$ )	SD301W SD701W	$V_{(BR)R}$	30 70	— —	Volts	
Diode Capacitance ( $V_R = 0$ , $f = 1.0 \text{ MHz}$ , Note 1)	SD301W SD701W	$C_T$	— —	0.9 0.5	1.5 1.0	pF
Total Capacitance ( $V_R = 15 \text{ Volts}$ , $f = 1.0 \text{ MHz}$ ) ( $V_R = 20 \text{ Volts}$ , $f = 1.0 \text{ MHz}$ )	SD301W SD701W	$C_T$	— —	0.9 0.5	1.5 1.0	pF
Reverse Leakage ( $V_R = 25 \text{ V}$ ) ( $V_R = 35 \text{ V}$ )	SD301W SD701W	$I_R$	— —	13 9.0	500 200	nAdc nAdc
Forward Voltage ( $I_F = 1.0 \text{ mAdc}$ ) ( $I_F = 10 \text{ mA}$ ) ( $I_F = 1.0 \text{ mAdc}$ ) ( $I_F = 10 \text{ mA}$ )	SD301W SD701W	$V_F$	— — — —	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.


**Figure 1. Total Capacitance**

**Figure 2. Minority Carrier Lifetime**

**Figure 3. Reverse Leakage**

**Figure 4. Forward Voltage**


**Figure 5. Total Capacitance**

**Figure 6. Minority Carrier Lifetime**

**Figure 7. Reverse Leakage**

**Figure 8. Forward Voltage**