

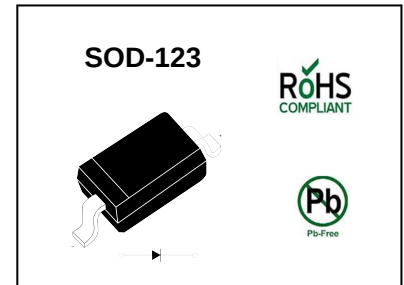
Schottky Barrier Diodes

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.

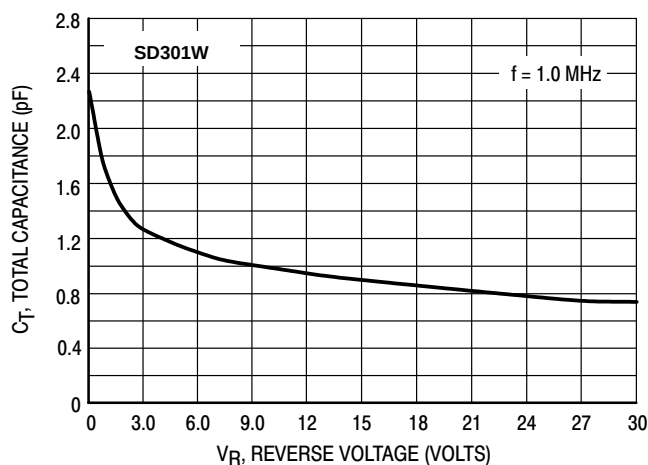


Figure 1. Total Capacitance

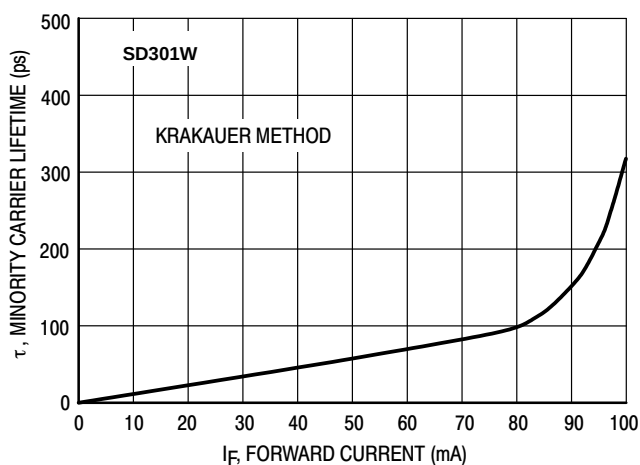


Figure 2. Minority Carrier Lifetime

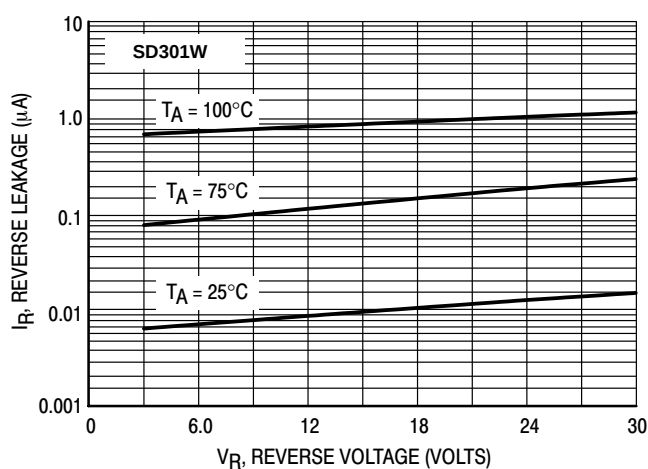


Figure 3. Reverse Leakage

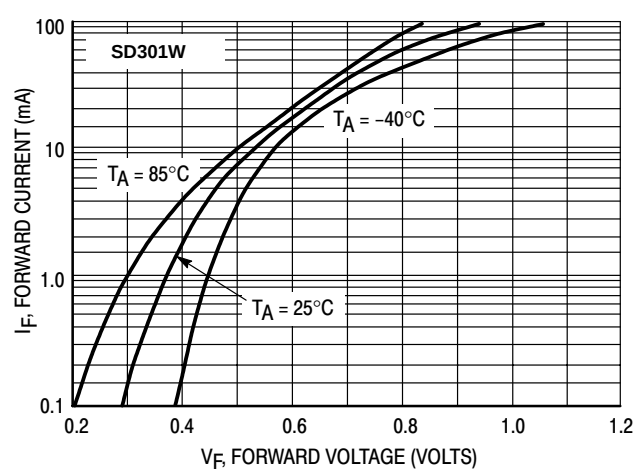
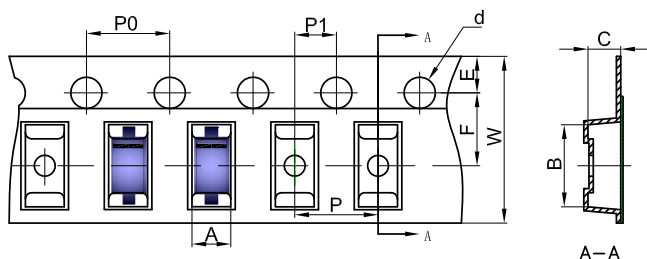


Figure 4. Forward Voltage

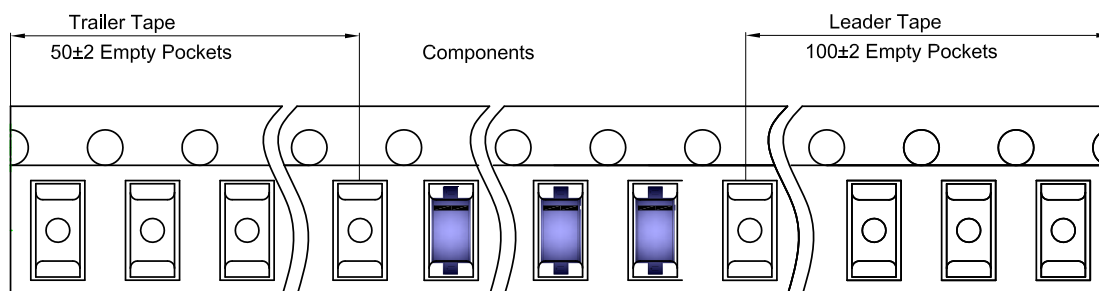
SOD-123 Tape and Reel

SOD-123 Embossed Carrier Tape

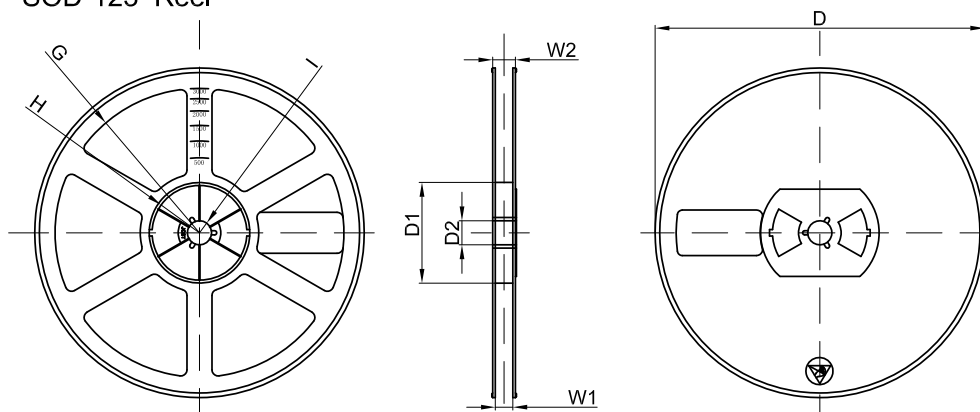


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOD-123	1.85	3.95	1.57	Ø1.55	1.75	3.50	4.00	4.00	2.00	8.00

SOD-123 Tape Leader and Trailer

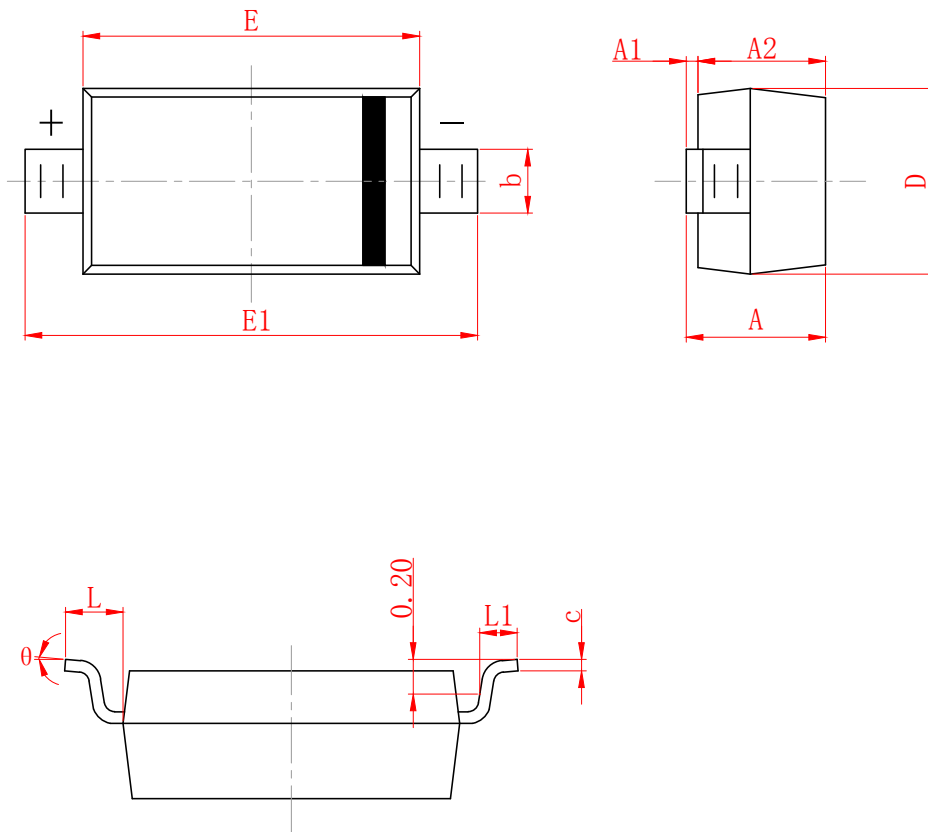


SOD-123 Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7" Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000 pcs	7 inch	45,000 pcs	203×203×195	180,000 pcs	438×438×220	



SYMBOL	MILLIMETER	
	MIN	MAX
A	1.050	1.250
A1	0.000	0.100
A2	1.050	1.150
b	0.450	0.650
c	0.008	0.150
D	1.500	1.700
E	2.600	2.800
E1	3.550	3.850
L	0.500 (REF)	
L1	0.250	0.450
θ	0°	8°

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