



# SD301W THRU SD701W

## SCHOTTKY BARRIER DIODE

### 1. Features

SOD-123

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

### 2. Mechanical Data

- Case:Molded Plastic,SOD-123.
- Epoxy:UL 94V-0 rate flame retardant.
- Terminals:Plated Leads Solderable per MIL-STD-750, Method-2026.
- Marking:SD301W: XT; SD701W: XH
- Marking:marked on body.



### 3. Maximum Ratings

Electrical Characteristics Rating at 25°C ambient temperature unless otherwise specified.

Characteristic	Symbol	Value	Unit
Peak Reverse Voltage	$V_{RM}$	30 70	V
Power Dissipation	$P_D$	225	mW
Operating Temperature Range	$T_J$	-55 to+125	°C
Storage Temperature Range	$T_{stg}$	-55 to+150	°C

### 4. Electrical Characteristics ( $T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameters	Symbol	Cindition	Min	TYP	Max	Unit
Reverse Voltage	$V_{(BR)R}$	$I_R = 10\mu\text{A}$	30 70	- -	- -	V
Reverse Current	$I_R$	$V_R = 25\text{V}$ $V_R = 35\text{V}$	-	13 9	200 200	nA
Total Capacitance	$C_{tot}$	$V_R = 15\text{V}, f = 1\text{ MHz}$ $V_R = 20\text{V}, f = 1\text{ MHz}$	- -	0.9 0.5	1.5 1	pF



### 5. Rating And Characteristic Curves

Fig.1 Forward Characteristics

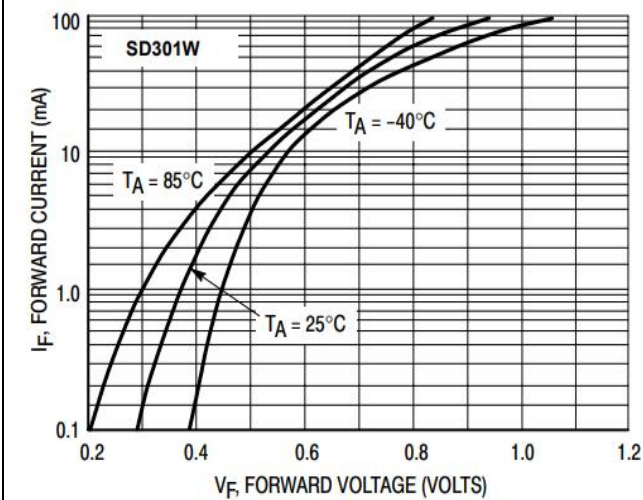


Fig.2 Reverse Characteristics

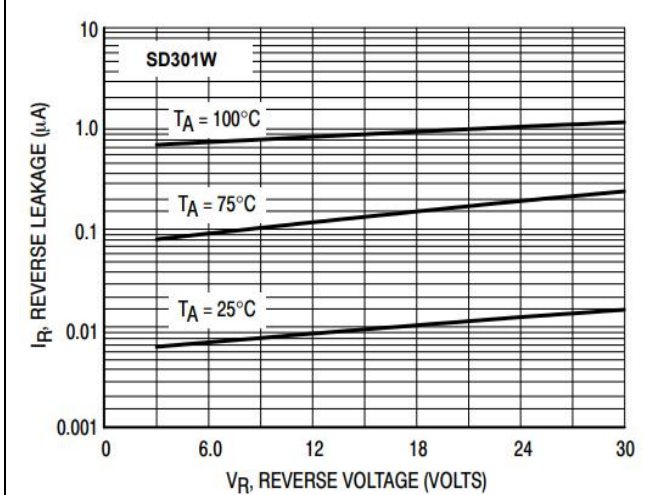


Fig.3 Total Capacitance

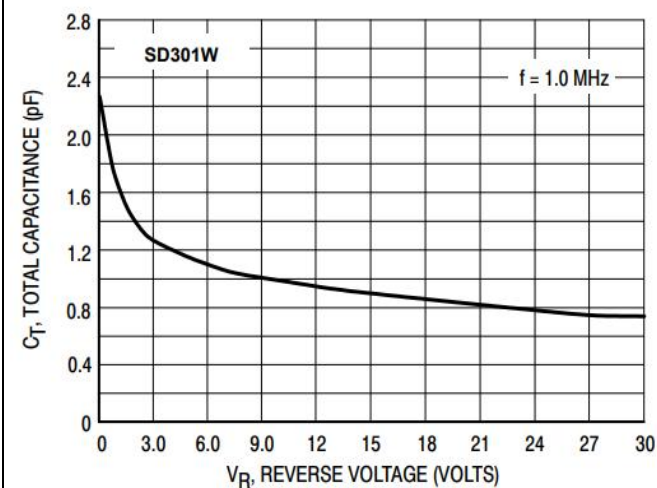


Fig.4 Minority Carrier Lifetime

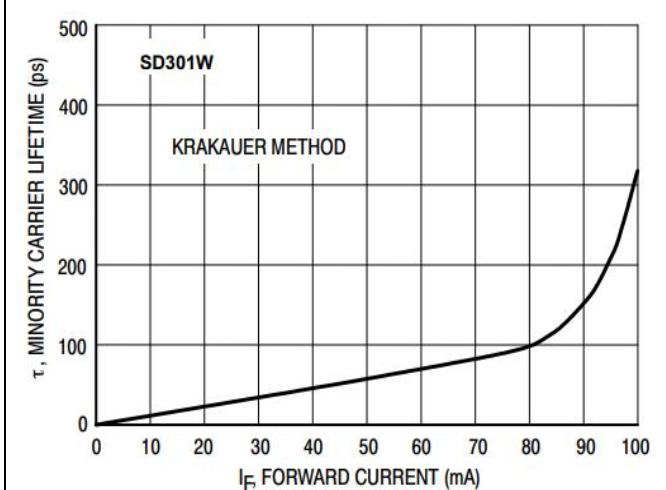


Fig.5 Forward Characteristics

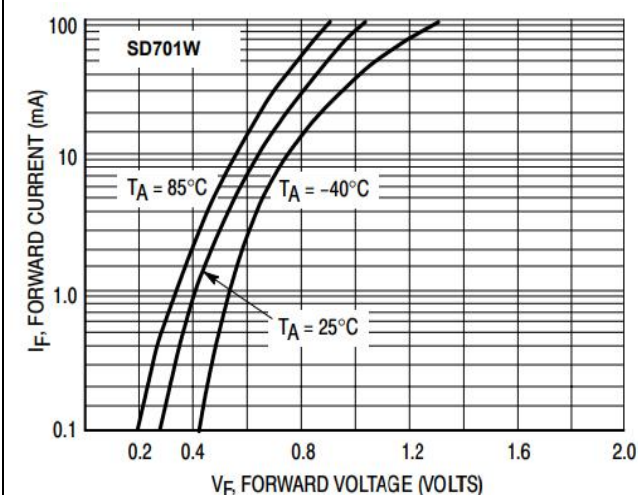


Fig.6 Reverse Characteristics

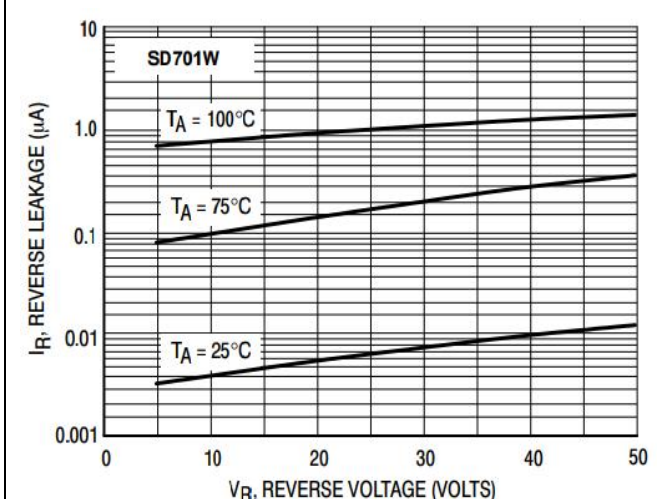




Fig.7 Total Capacitance

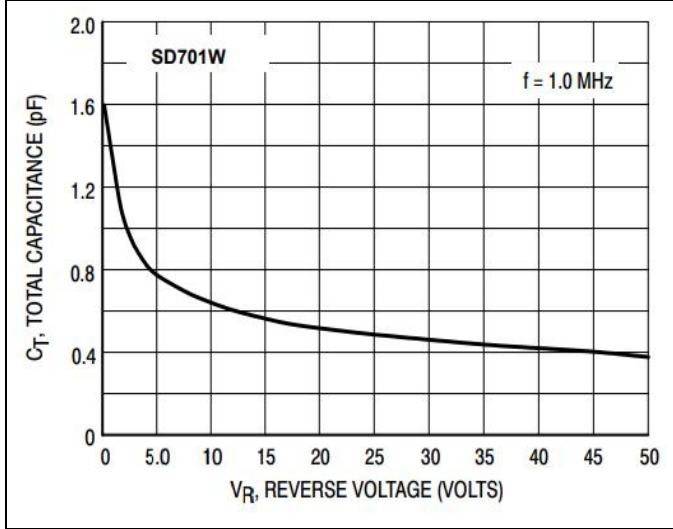
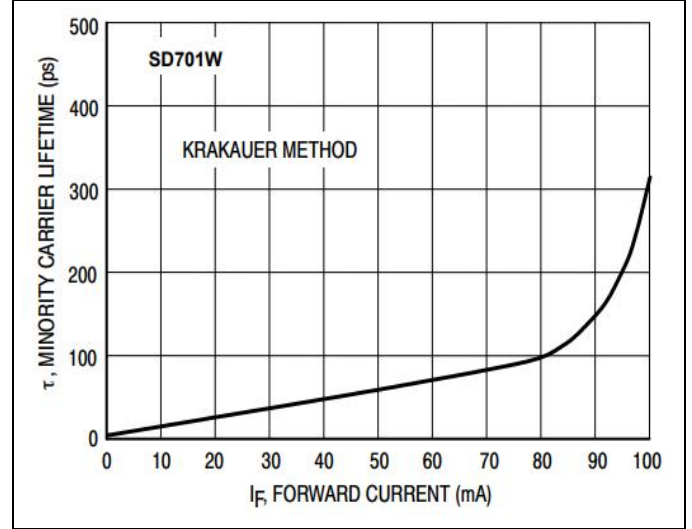


Fig.8 Minority Carrier Lifetime

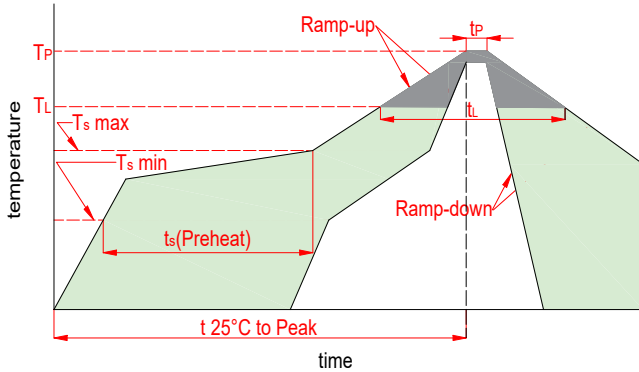




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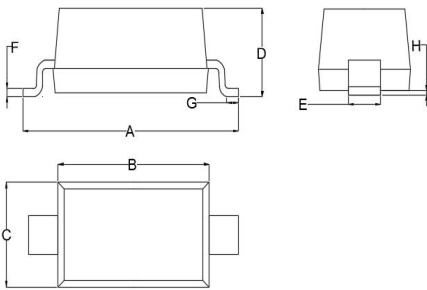
## SCHOTTKY BARRIER DIODE

### 6. Soldering Parameters



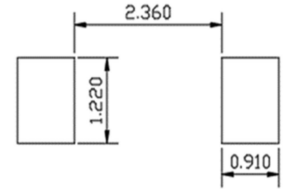
Reflow Condition		Lead-free
Pre Heat	Temp. min( $T_s$ (min))	150℃
	Temp. max( $T_s$ (min))	200℃
	Time(min to max)( $t_s$ )	60~120s
Aver. ramp up rate(Liquidus Temp.)( $T_L$ )to peak		3℃/s max
$T_s$ (max) to $T_L$ -Ramp-up Rate		3℃/s max
Reflow	Temp.( $T_L$ )(Liquidus)	217℃
	Temp.( $t_L$ )(Liquidus)	60~150s
Peak Temp.( $T_P$ )		260 <sup>+0/-5</sup> ℃
Time within actual peak Temp.( $t_p$ )		30s max
Ramp-down Rate		6℃/s max
Time 25℃ to peak Tempe.( $T_p$ )		8 minutes max
Do not exceed		260℃

### 7. Dimensions

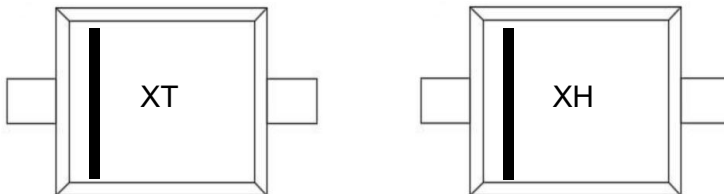


Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.136	0.152	3.450	3.850
B	0.100	0.110	2.550	2.800
C	0.059	0.067	1.500	1.700
D	0.035	0.049	0.900	1.250
E	0.018	0.028	0.450	0.700
F	0.004	0.006	0.090	0.150
G	0.008	0.020	0.200	0.500
H	0.000	0.004	0.010	0.100

Mounting PAD Layout



### 8. Part Marking System



### 9. Package Information

Package	Type	Marking	Tape Width (mm)	Quantity(pcs)
SOD-123	SD301W	XT	8	3000
SOD-123	SD701W	XH	8	3000



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