

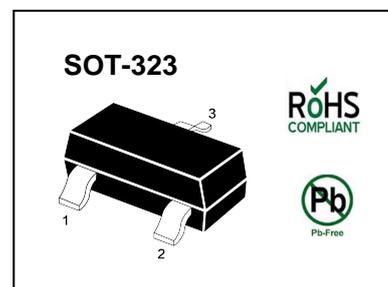
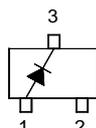
## Silicon Epitaxial Planar Switching Diode

### Features

- Small package
- Low forward voltage
- Fast reverse recovery time
- Small total capacitance

### Applications

- Ultra high speed switching application



Marking Code: **A6**

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

Parameter	Symbol	Value	Unit	
Repetitive Peak Reverse Voltage	$V_{RRM}$	85	V	
Continuous Reverse Voltage	$V_R$	75	V	
Continuous Forward Current	$I_F$	155	mA	
Repetitive Peak Forward Current	$I_{FRM}$	500	mA	
Non-Repetitive Peak Forward Surge Current	$I_{FSM}$	$t = 1\ \mu\text{s}$	4.5	A
		$t = 1\ \text{ms}$	1	
		$t = 1\ \text{s}$	0.5	
Power Dissipation	$P_{tot}$	200	mW	
Junction Temperature	$T_j$	150	$^\circ\text{C}$	
Storage Temperature Range	$T_{stg}$	- 65 to + 150	$^\circ\text{C}$	

### Characteristics at $T_a = 25\text{ }^\circ\text{C}$

Parameter	Symbol	Min.	Max.	Unit	
Forward Voltage	$V_F$	-	at $I_F = 1\ \text{mA}$	715	mV
			at $I_F = 10\ \text{mA}$	855	mV
			at $I_F = 50\ \text{mA}$	1	V
			at $I_F = 150\ \text{mA}$	1.25	V
Reverse Current	$I_R$	-	at $V_R = 25\ \text{V}$	30	nA
			at $V_R = 75\ \text{V}$	1	$\mu\text{A}$
			at $V_R = 25\ \text{V}, T_J = 150\text{ }^\circ\text{C}$	30	$\mu\text{A}$
			at $V_R = 75\ \text{V}, T_J = 150\text{ }^\circ\text{C}$	50	$\mu\text{A}$
Reverse Breakdown Voltage	$V_{(BR)R}$	75	-	V	
Diode Capacitance	$C_d$	-	1.5	pF	
Reverse Recovery Time	$t_{rr}$	-	4	ns	
at $I_F = I_R = 10\ \text{mA}, R_L = 50\ \Omega$					

## Typical Characteristics

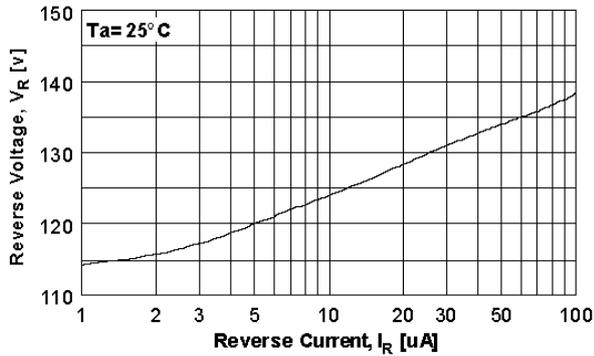
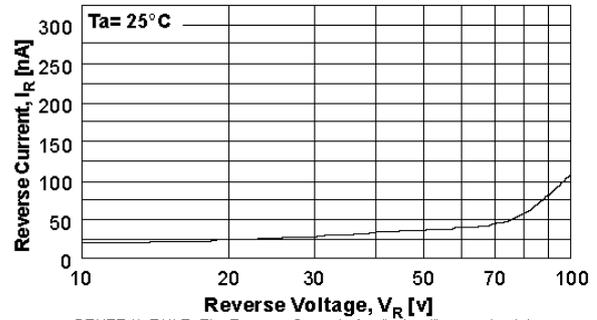


Figure 1. Reverse Voltage vs Reverse Current  
BV - 1.0 to 100 uA



GENERAL RULE: The Reverse Current of a diode will approximately double for every ten (10) Degree C increase in Temperature

Figure 2. Reverse Current vs Reverse Voltage  
IR - 10 to 100 V

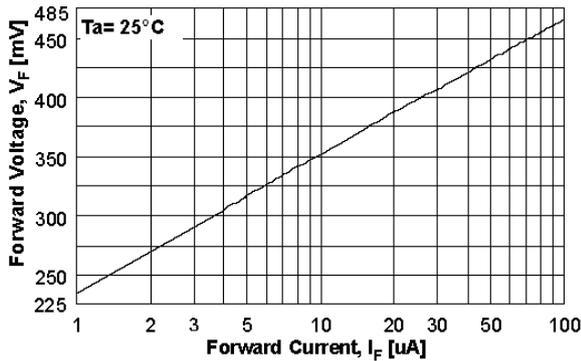


Figure 3. Forward Voltage vs Forward Current  
VF - 1.0 to 100 uA

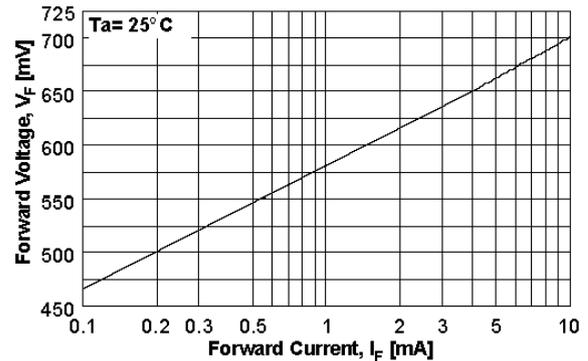


Figure 4. Forward Voltage vs Forward Current  
VF - 0.1 to 10 mA

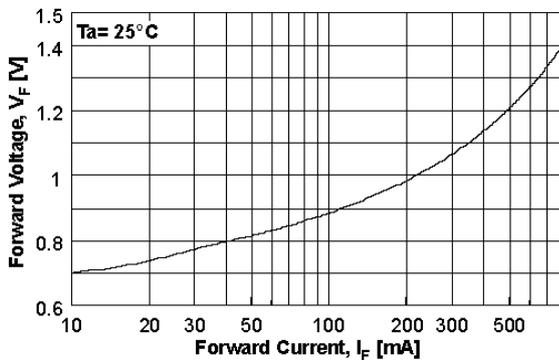


Figure 5. Forward Voltage vs Forward Current  
VF - 10 - 800 mA

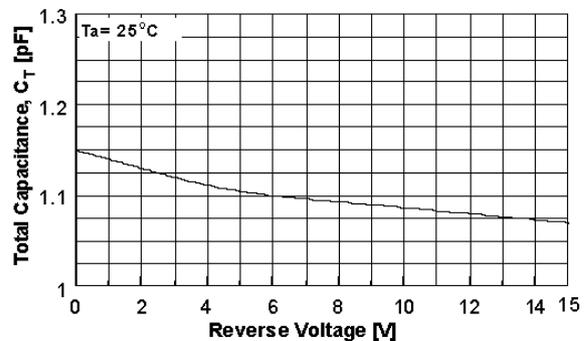
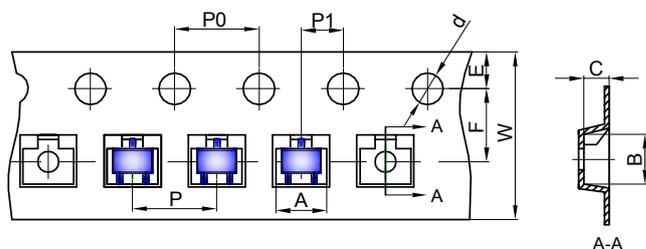


Figure 6. Total Capacitance

## SOT-323 Tape and Reel

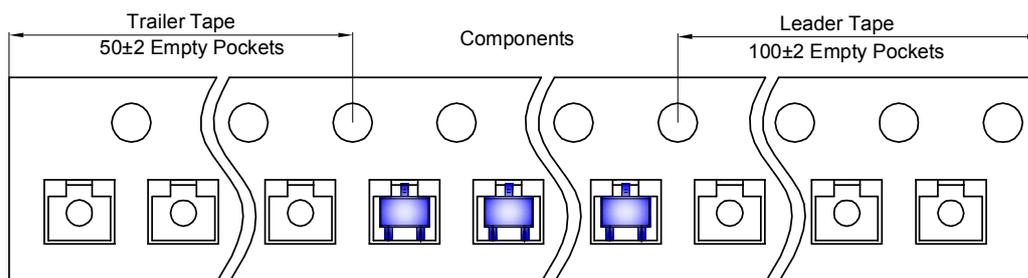
### SOT-323 Tape and reel

SOT-323 Embossed Carrier Tape

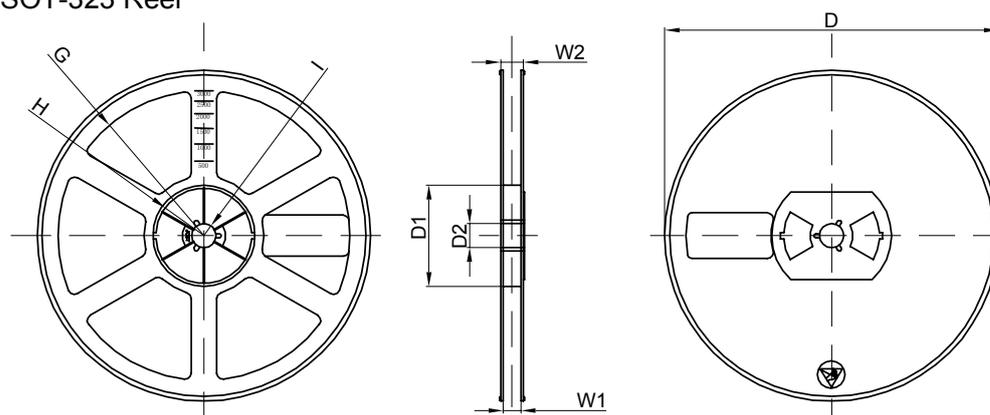


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-323	2.25	2.55	1.19	Ø1.55	1.75	3.50	4.00	4.00	2.00	8.00

### SOT-323 Tape Leader and Trailer

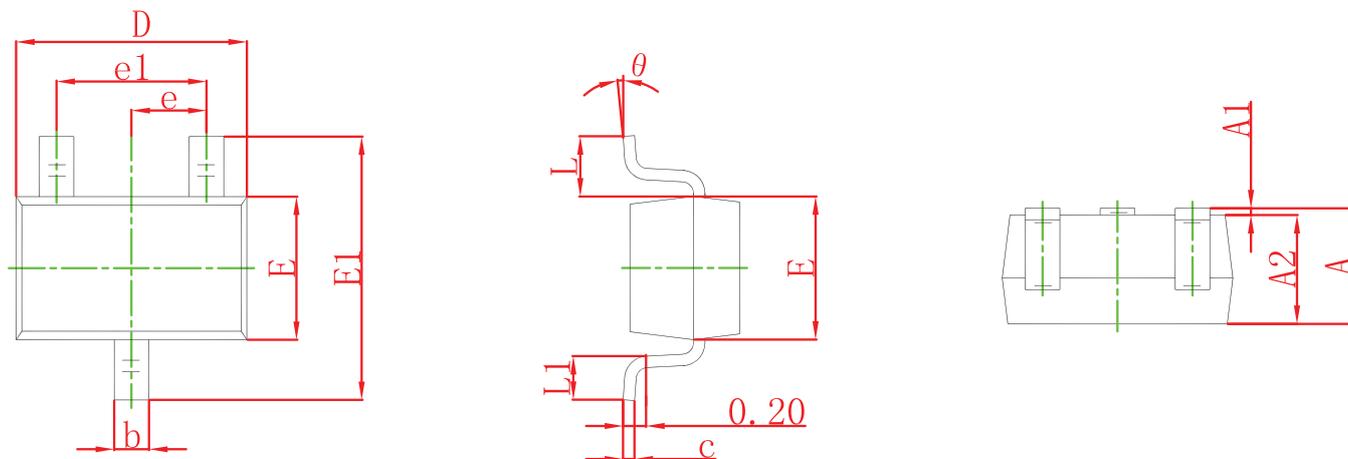


### SOT-323 Reel



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	30,000 pcs	203×203×195	120,000 pcs	438×438×220	



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
$\theta$	0°	8°	0°	8°

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