

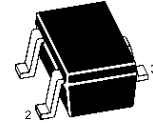
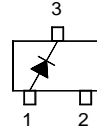
Silicon Epitaxial Planar Switching Diode

Features

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

Applications

- Ultra high speed switching application



Marking Code: **A6**
SOT-323 Plastic Package

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}	4.5	A
$t = 1\text{ }\mu\text{s}$		1	
$t = 1\text{ ms}$		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	-	715	mV
at $I_F = 1\text{ mA}$			855	mV
at $I_F = 10\text{ mA}$			1	V
at $I_F = 50\text{ mA}$			1.25	V
Reverse Current	I_R	-	30	nA
at $V_R = 25\text{ V}$			1	μA
at $V_R = 75\text{ V}$			30	μA
at $V_R = 25\text{ V}, T_J = 150\text{ }^\circ\text{C}$			50	μA
at $V_R = 75\text{ V}, T_J = 150\text{ }^\circ\text{C}$				
Reverse Breakdown Voltage	$V_{(BR)R}$	75	-	V
Diode Capacitance	C_d	-	1.5	pF
at $V_R = 0, f = 1\text{ MHz}$				
Reverse Recovery Time	t_{rr}	-	4	ns
at $I_F = I_R = 10\text{ mA}, R_L = 50\text{ }\Omega$				

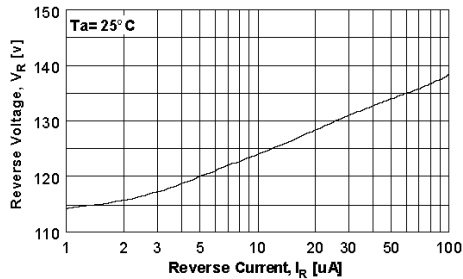


Figure 1. Reverse Voltage vs Reverse Current
BV - 1.0 to 100 μ A

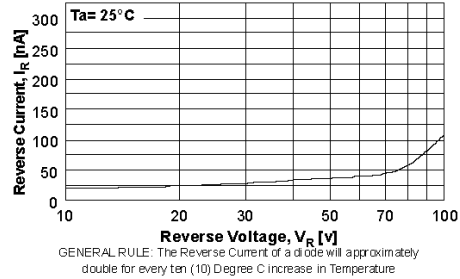


Figure 2. Reverse Current vs Reverse Voltage
IR - 10 to 100 V

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

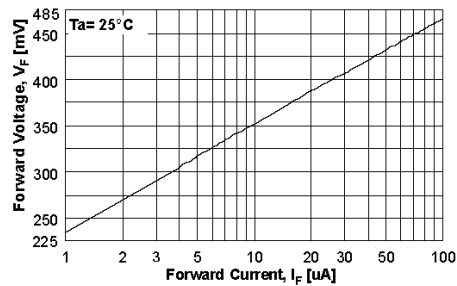


Figure 3. Forward Voltage vs Forward Current
VF - 1.0 to 100 μ A

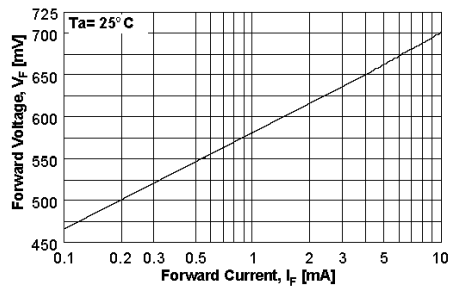


Figure 4. Forward Voltage vs Forward Current
VF - 0.1 to 10 mA

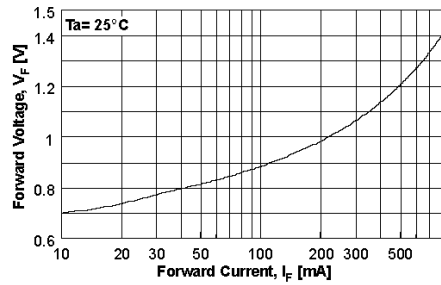


Figure 5. Forward Voltage vs Forward Current
VF - 10 - 800 mA

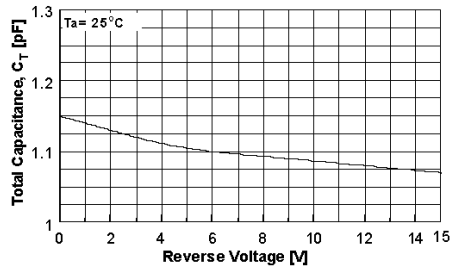


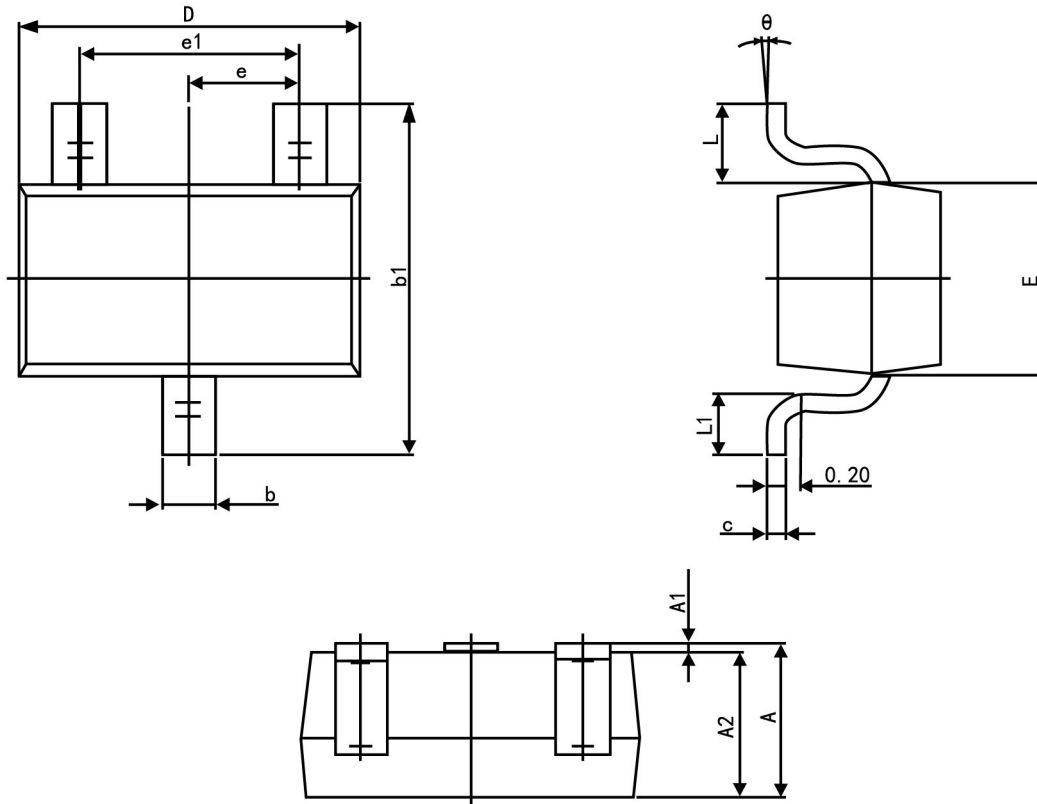
Figure 6. Total Capacitance



PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-323



Symbol	Dimension in Millimeters	
	Min	Max
A	0.900	1.100
A1	0.000	0.100
A2	0.900	1.000
b	0.200	0.400
c	0.080	0.150
D	2.000	2.200
E	1.150	1.350
E1	2.150	2.450
e	0.650 TYP.	
e1	1.200	1.400
L	0.525 REF.	
L1	0.260	0.460
θ	0°	8°