

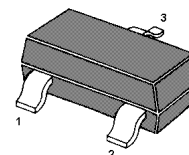
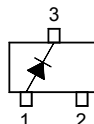
Silicon Epitaxial Planar Switching Diode

Features

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

Applications

- Ultra high speed switching application



Marking Code: **5D**
SOT-23 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	215	mA
Repetitive Peak Forward Current	I_{FRM}	500	mA
Non-Repetitive Peak Forward Surge Current	$t = 1\text{ }\mu\text{s}$	4	A
	$t = 1\text{ ms}$	1	
	$t = 1\text{ s}$	0.5	
Power Dissipation	P_{tot}	350	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				
at $I_F = 1\text{ mA}$	V_F	-	715	mV
at $I_F = 10\text{ mA}$	V_F	-	855	mV
at $I_F = 50\text{ mA}$	V_F	-	1	V
at $I_F = 150\text{ mA}$	V_F	-	1.25	V
Reverse Current				
at $V_R = 25\text{ V}$	I_R		30	nA
at $V_R = 75\text{ V}$	I_R	-	1	μA
at $V_R = 25\text{ V}, T_J = 150\text{ }^{\circ}\text{C}$	I_R	-	30	μA
at $V_R = 75\text{ V}, T_J = 150\text{ }^{\circ}\text{C}$	I_R	-	50	μA
Reverse Breakdown Voltage	$V_{(BR)R}$	75	-	V
Diode Capacitance	C_d	-	2	pF
Reverse Recovery Time	t_{rr}	-	4	ns
at $I_F = I_R = 10\text{ mA}, R_L = 50\text{ }\Omega$				

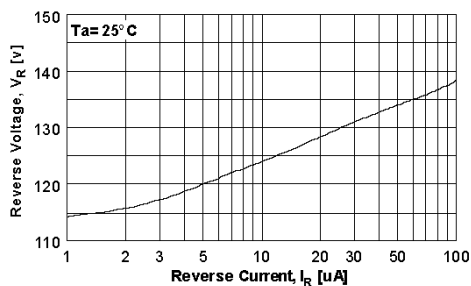


Figure 1. Reverse Voltage vs Reverse Current
BV - 1.0 to 100 uA

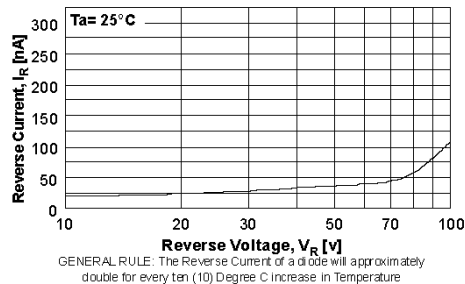


Figure 2. Reverse Current vs Reverse Voltage
IR - 10 to 100 V

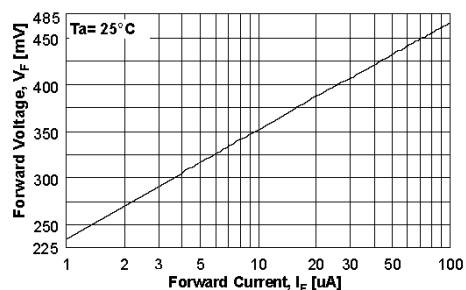


Figure 3. Forward Voltage vs Forward Current
VF - 1.0 to 100 uA

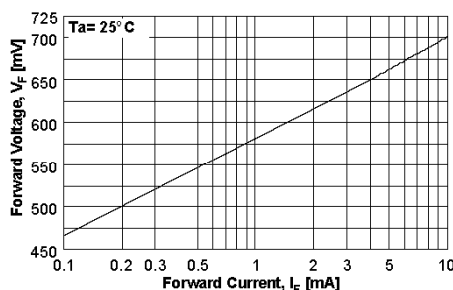


Figure 4. Forward Voltage vs Forward Current
VF - 0.1 to 10 mA

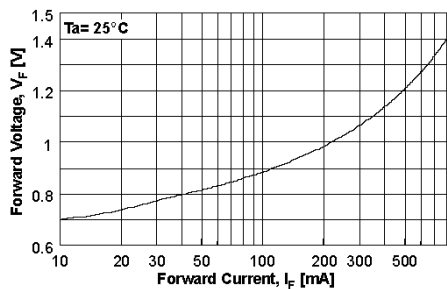


Figure 5. Forward Voltage vs Forward Current
VF - 10 - 800 mA

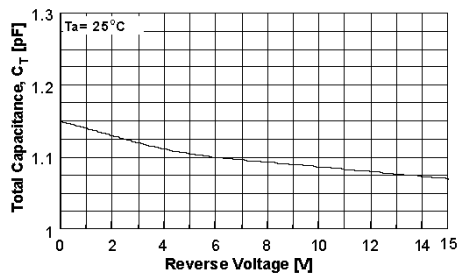
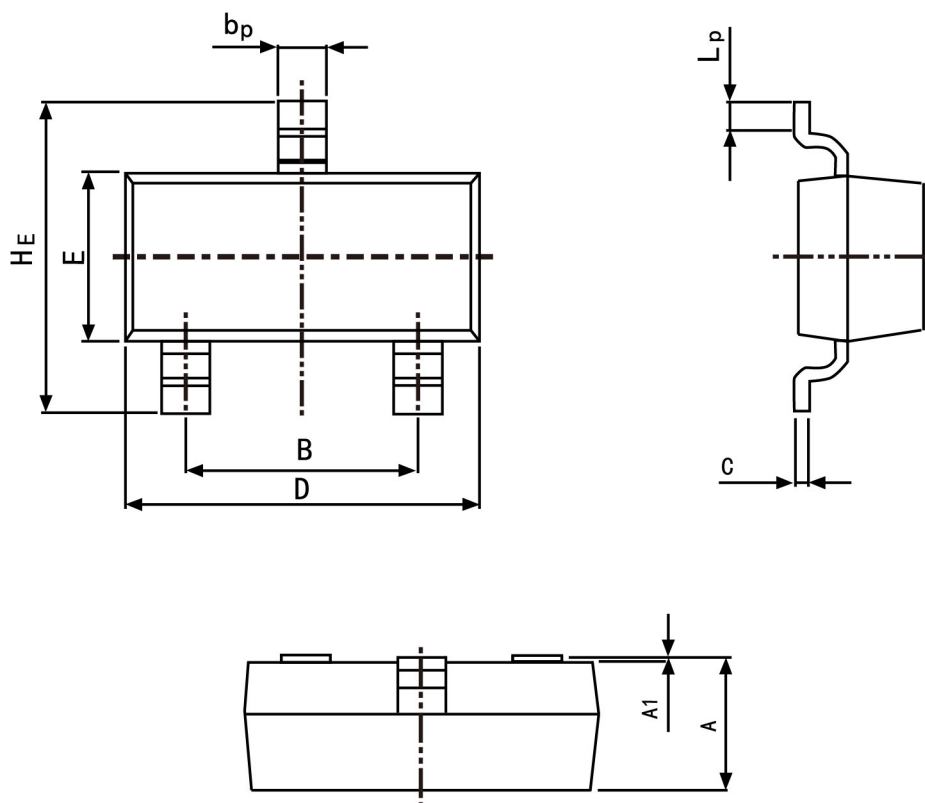


Figure 6. Total Capacitance

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



Symbol	Dimension in Millimeters	
	Min	Max
A	0.95	1.40
B	1.78	2.04
bp	0.35	0.50
C	0.08	0.19
D	2.70	3.10
E	1.20	1.65
HE	2.20	3.00
A1	0.100	0.013
Lp	0.20	0.50