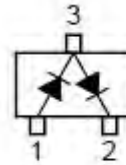


## SWITCHING DIODES

### FEATURES

Fast Switching Speed  
For General Purpose Switching Applications  
High Conductance



Marking Code: A7  
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 (Double Diode Loaded)	$I_F$	125	mA
Continuous Forward Current (Single Diode Loaded)	$I_F$	215	mA
Repetitive Peak Forward Current	$I_{FRM}$	450	mA
Non-repetitive Peak Forward Surge Current	$I_{FSM}$	at $t = 1\text{ s}$ 0.5	A
		at $t = 1\text{ ms}$ 1	
		at $t = 1\text{ }\mu\text{s}$ 4.5	
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	Max.	Unit			
Forward Voltage at $I_F = 1\text{ mA}$ at $I_F = 10\text{ mA}$ at $I_F = 50\text{ mA}$ at $I_F = 150\text{ mA}$	$V_F$	0.715 0.855 1 1.25	V			
Reverse Current at $V_R = 25\text{ V}$ at $V_R = 75\text{ V}$ at $V_R = 25\text{ V}, T_j = 150\text{ }^\circ\text{C}$ at $V_R = 75\text{ V}, T_j = 150\text{ }^\circ\text{C}$		$I_R$		30 1 30 50	nA $\mu\text{A}$ $\mu\text{A}$ $\mu\text{A}$	
Diode Capacitance at $V_R = 0, f = 1\text{ MHz}$				$C_d$	1.5	pF
Reverse Recovery Time at $I_F = I_R = 10\text{ mA}, I_R = 1\text{ mA}, R_L = 100\text{ }\Omega$				$t_{rr}$	4	ns

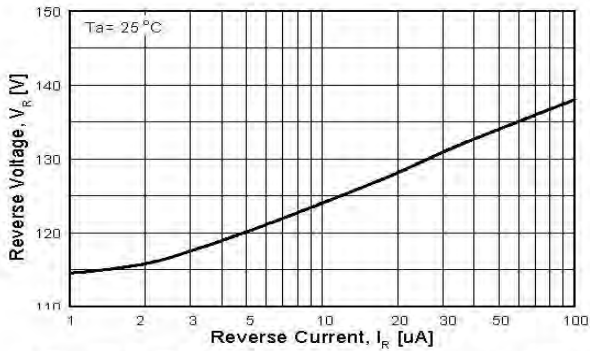


Figure 1. Reverse Voltage vs Reverse Current BV - 1.0 to 100uA

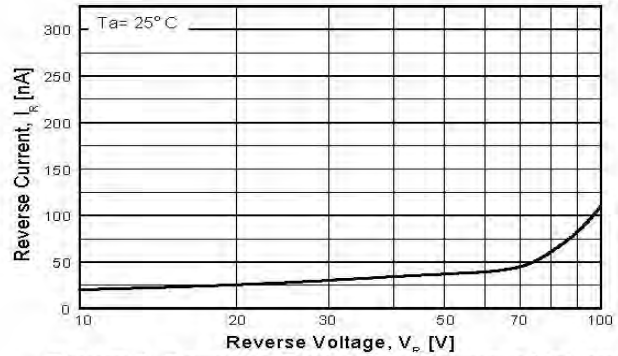


Figure 2. Reverse Current vs Reverse Voltage IR - 10 to 100 V

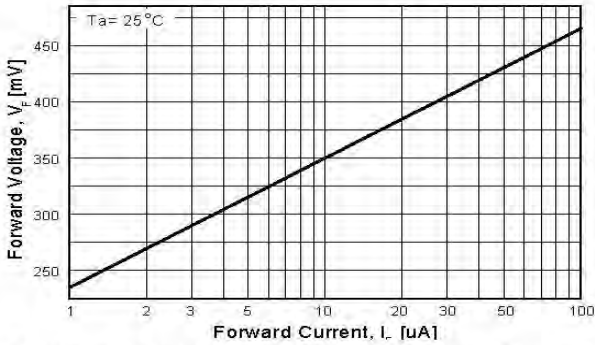


Figure 3. Forward Voltage vs Forward Current VF - 1.0 to 100 uA

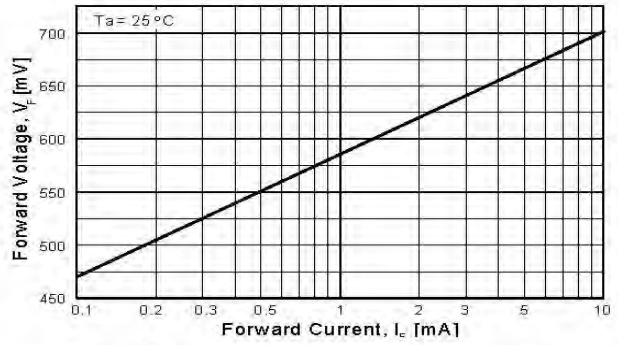


Figure 4. Forward Voltage vs Forward Current VF - 0.1 to 10 mA

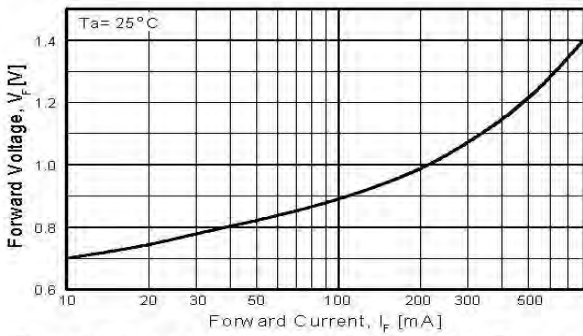


Figure 5. Forward Voltage vs Forward Current VF - 10 - 800 mA

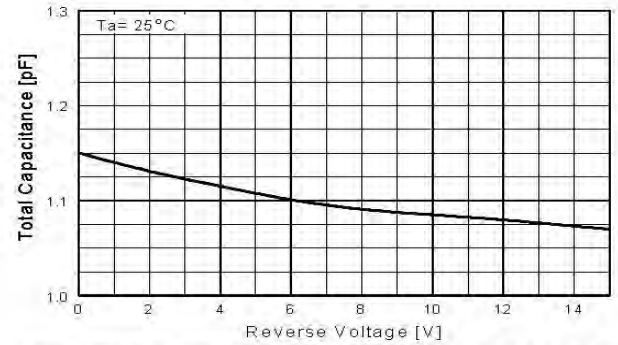


Figure 6. Total Capacitance vs Reverse Voltage

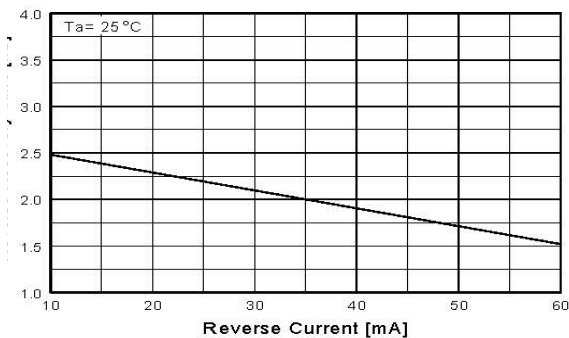


Figure 7. Reverse Recovery Time vs Reverse Current TRR - IR 10 mA vs 60 mA

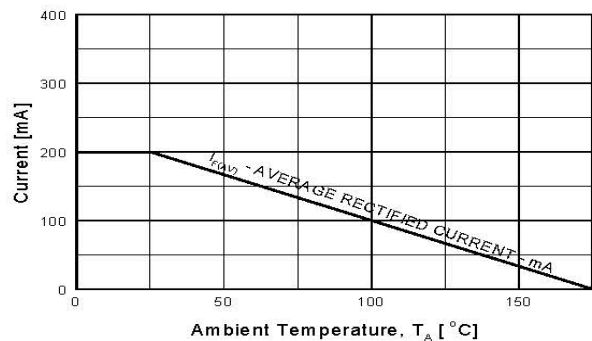
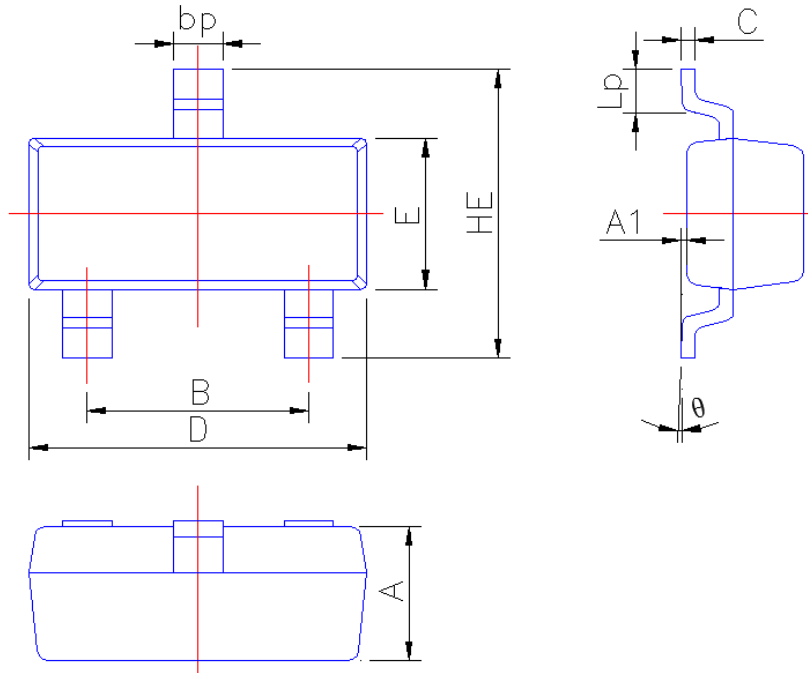


Figure 8. Average Rectified Current ( $I_{F(AV)}$ ) versus Ambient Temperature ( $T_A$ )

### PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



Symbol	Dimension in Millimeters	
	Min	Max
A	0.90	1.10
A1	0.013	0.100
B	1.80	2.00
bp	0.35	0.50
C	0.09	0.150
D	2.80	3.00
E	1.20	1.40
HE	2.20	2.80
Lp	0.20	0.50
θ	0°	5°