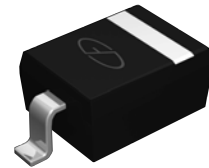


Features

- Small surface mount package
- High breakdown voltage
- Fast speed switching



Applications

- High speed switching and reverse polarity protection
- High speed rectifying applications
- Consumer, automotive and telecommunication industry

SOD-123

Absolute Maximum Ratings (T_A=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V _R	75	V
Non-Repetitive Peak Reverse Voltage	V _{RM}	100	V
Average Rectified Output Current	I _O	150	mA
Repetitive Peak Forward Current	I _{FRM}	300	mA
Non-Repetitive Peak Forward Surge Current, @t=1.0us	I _{FSM}	2.0	A
Non-Repetitive Peak Forward Surge Current, @t=1.0s		1.0	
Power Dissipation	P _D	500	mW
Thermal Resistance, Junction-to-Ambient	R _{θJA}	250	°C/W
Operating Junction Temperature Range	T _J	-55 To +150	°C
Storage Temperature Range	T _{STG}	-55 To +150	°C

Electrical Characteristics (T_A=25°C unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Max.	Unit
Reverse Breakdown Voltage	V _{(BR)R}	I _R =5.0μA	75	-	V
		I _R =100μA	100	-	
Forward Voltage	V _F	I _F =10mA	-	1	V
		I _F =100mA	-	1.25	
Reverse Current	I _R	V _R =75V	-	5	μA
		V _R =20V	-	25	nA
		V _R =20V, T _J =150°C	-	50	μA
Capacitance Between Terminals	C _T	V _R =0, f=1MHz	-	4	pF
Reverse Recovery Time	t _{rr}	I _F =10mA, V _R =6.0V, R _L =100Ω, I _R =10mA	-	4	ns

Typical Electrical Characteristic Curves

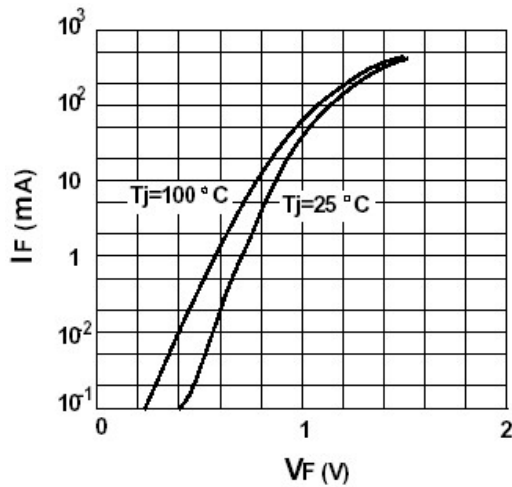


Figure 1. Forward Characteristics

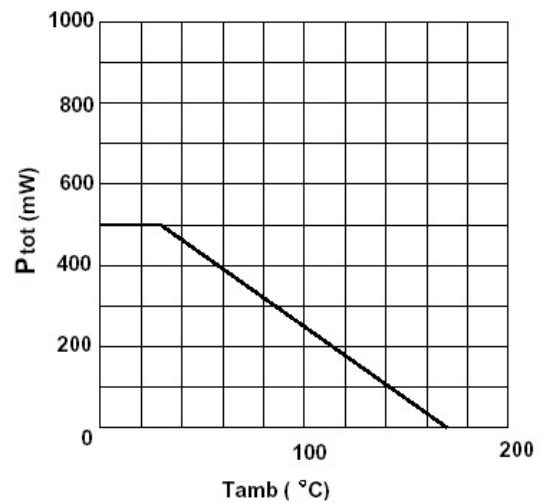


Figure 2. Admissible Power Dissipation vs. Ambient Temperature

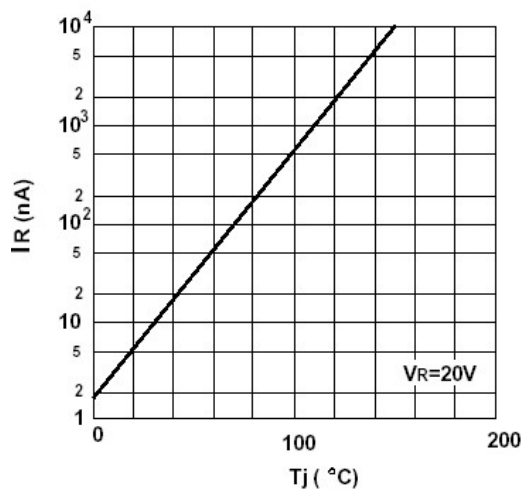


Figure 3. Leakage Current vs. Junction Temperature

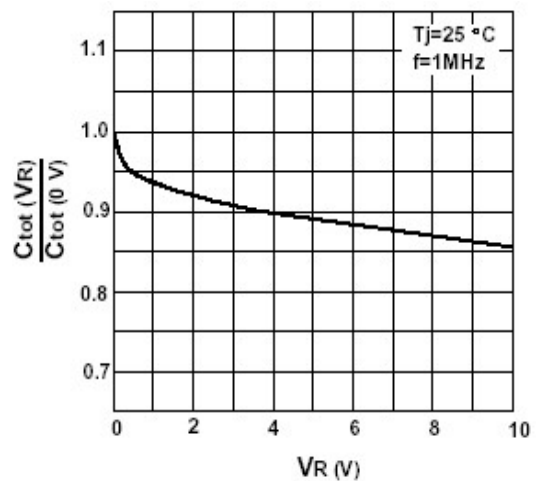


Figure 4. Reverse Capacitance vs. Reverse Voltage

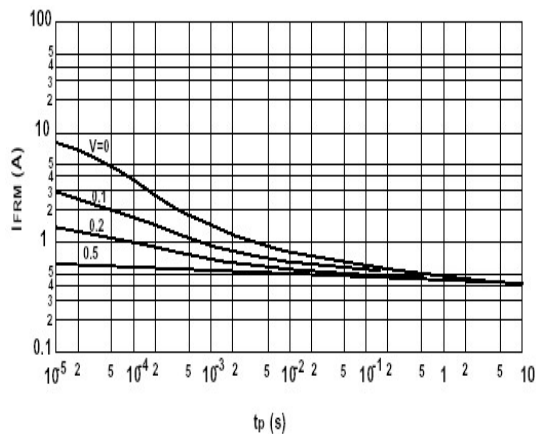
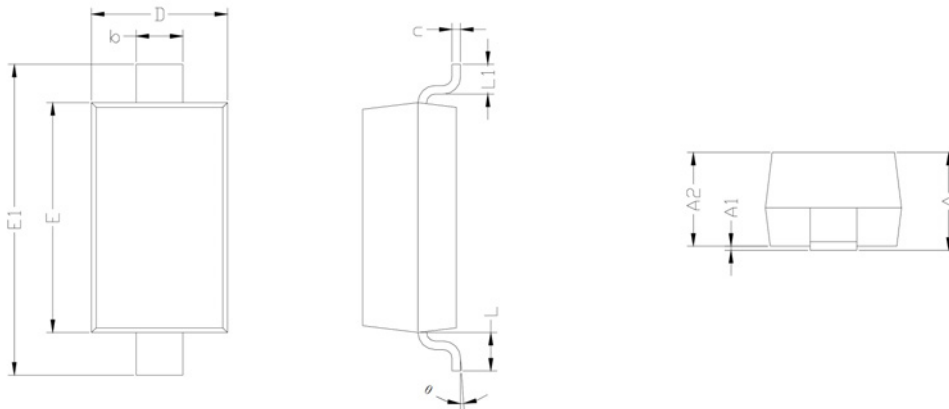


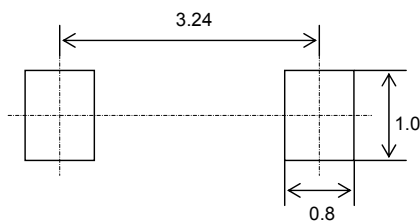
Figure 5. Admissible Repetitive Peak Forward Current vs. Pulse Duration

Package Outline Dimensions (SOD-123)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.450	0.65	0.018	0.026
c	0.080	0.150	0.003	0.006
D	1.500	1.700	0.059	0.067
E	2.600	2.800	0.102	0.110
E1	3.550	3.850	0.140	0.152
L	0.500 REF		0.020 REF	
L1	0.250	0.450	0.010	0.018
θ	0°	8°	0°	8°

Recommended Pad Layout



Note:

1. Controlling dimension: in millimeters
2. General tolerance: $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only

Order Information

Device	Package	Marking	Carrier	Quantity
1N4148W	SOD-123	T4	Tape & Reel	3,000pcs / Reel