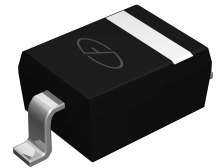


## Features

- 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<sub>A</sub>=25°C unless otherwise noted)

Parameter	Symbol	Rating	UNIT
Peak Repetitive Reverse Voltage	V <sub>R</sub>	75	V
Non-Repetitive Peak Reverse Voltage	V <sub>RM</sub>	100	V
Average Rectified Output Current	I <sub>O</sub>	150	mA
Forward Continuous Current	I <sub>FM</sub>	300	mA
Non-Repetitive Peak Forward Surge Current	I <sub>FSM</sub> (t=1.0uS)	2.0	A
	I <sub>FSM</sub> (t=1.0s)	1.0	
Power Dissipation	P <sub>TOT</sub>	500	mW
Thermal Resistance Junction to Ambient	R <sub>thja</sub>	250	°C/W
Operating Temperature	T <sub>J</sub>	150	°C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150	°C

## Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise noted)

Parameter	Symbol	Test Condition.	Min.	Max.	Unit
Reverse Breakdown Voltage	V <sub>(BR)R</sub>	I <sub>R</sub> =1.0uA	75	-	V
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =10mA	-	1.0	V
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =75V	-	5.0	uA
		V <sub>R</sub> =20V	-	25	nA
		V <sub>R</sub> =20V, T <sub>J</sub> =150°C	-	50	uA
Capacitance between terminals	C <sub>T</sub>	V <sub>R</sub> =0, f=1.0MHz	-	4.0	pF
Reverse Recovery Time	T <sub>RR</sub>	I <sub>F</sub> =10mA, V <sub>R</sub> =6.0V, I <sub>R</sub> =10mA, R <sub>L</sub> =100Ω	-	4.0	ns

**Typical Electrical Characteristic Curves**

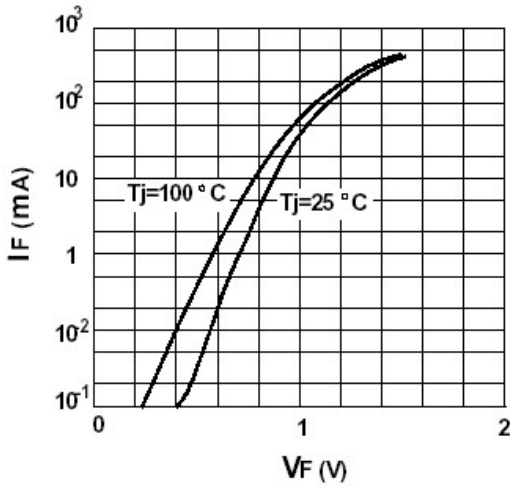


Figure 1 Forward characteristics

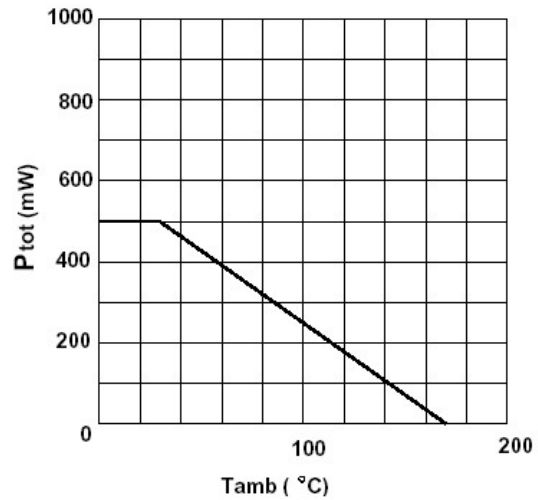


Figure 2 Admissible power dissipation versus ambient temperature

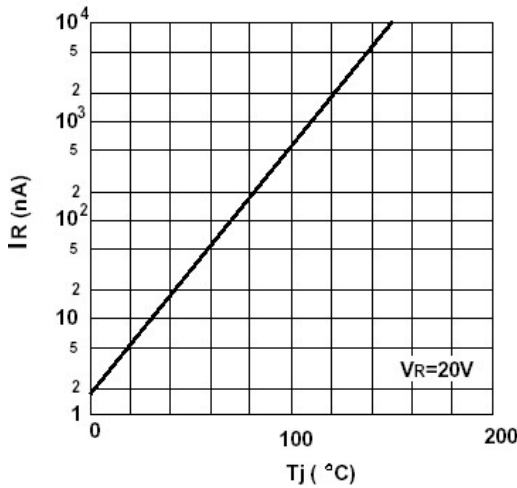


Figure 3 Leakage current versus junction temperature

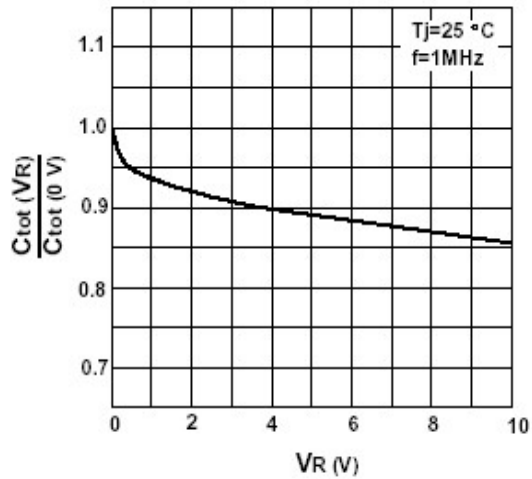


Figure 4 Reverse capacitance VS. reverse voltage

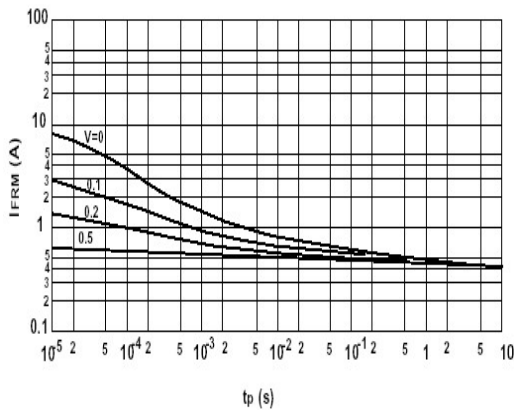
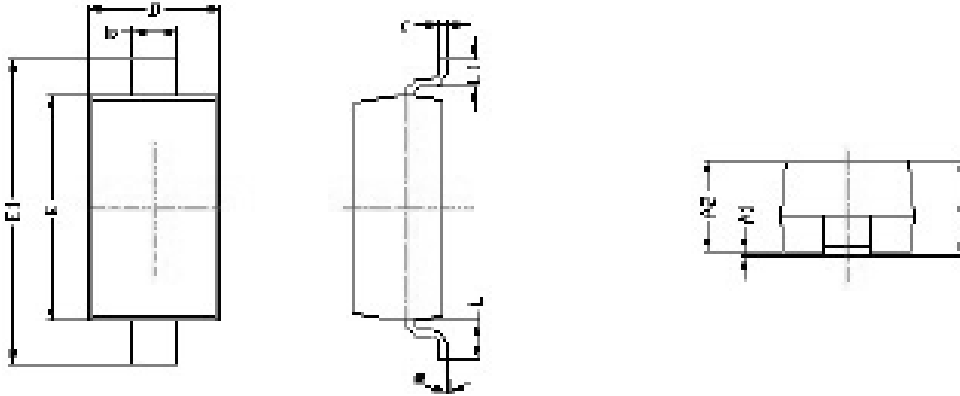


Figure 5 Admissible repetitive peak forward current VS. pulse duration

**Package Outline Dimensions** SOD-123 (in mm)



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	0.650	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°

**Marking and Ordering Information**

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