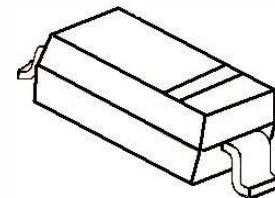


## 500mW 50D-123 Fast Switching Diode

### Features

- Fast Switching Device (TRR <4.0 nS)
- 500mW; Power Dissipation of 500mW
- High Stability and High Reliability
- Low reverse leakage
- AEC-Q 101 qualified (Automotive grade with suffix "Q" )
- Expsemi electronics

**SOD-123**



### Mechanical Data

- SOD-123 Small Outline Plastic Package
- Polarity: Color band denotes cathode end
- Epoxy UL: 94V-O
- Mounting Position: Any

**MARKING: T6**

**Maximum Ratings & Thermal Characteristics** (Ratings at 25°C ambient temperature unless otherwise specified.)

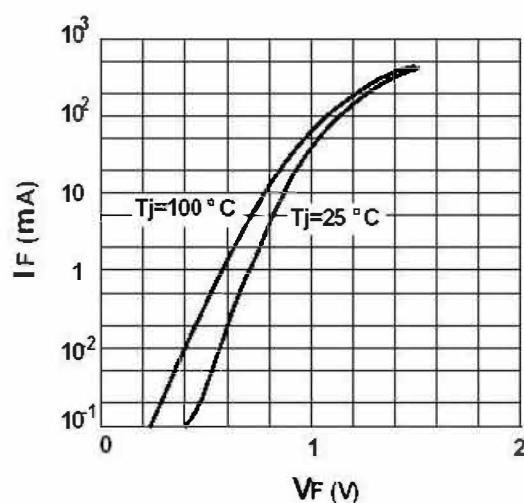
Parameters	Symbol	Value	Unit
Reverse Voltage	V <sub>R</sub>	75	V
Peak Reverse Voltage	V <sub>RM</sub>	100	V
Power Dissipation	P <sub>d</sub>	500	mW
Operating junction temperature	T <sub>j</sub>	150	°C
Storage temperature range	T <sub>s</sub>	-55~+150	°C
Working Inverse Voltage	W <sub>IV</sub>	75	V
Average Rectified Current	I <sub>o</sub>	150	mA
Non-repetitive Peak Forward Current	I <sub>FM</sub>	300	mA
Peak Forward Surge Current @tp=1us; TA=25°C	I <sub>FSM</sub>	2.0	A

Valid provided that electrodes are kept at ambient temperature.

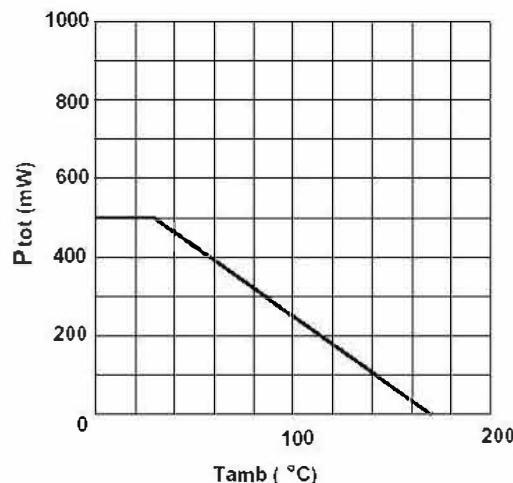
**Electrical Characteristics** (Ratings at 25°C ambient temperature unless otherwise specified).

Symbols	Parameter	Test Condition	Limits		Unit
			Min	Max	
<b>B<sub>v</sub></b>	Breakdown Voltage	IR=100uA	100		V
		IR=5uA	75		
<b>I<sub>R</sub></b>	Reverse Leakage Current	VR=20V	---	25	nA
		VR=75	---	1	
<b>V<sub>F</sub></b>	Forward Voltage	IF=150mA	---	1.25	V
		IF=50mA	---	1.00	
		IF=10mA	---	0.855	
		IF=1.0mA	---	0.715	
<b>T<sub>RR</sub></b>	Reverse Recovery Time	IF= 10mA, IR=60mA RL=100Ω, IRR=1mA	---	4	nS
<b>C</b>	Capacitance	VR=0V, f=1MHZ	---	2	pF

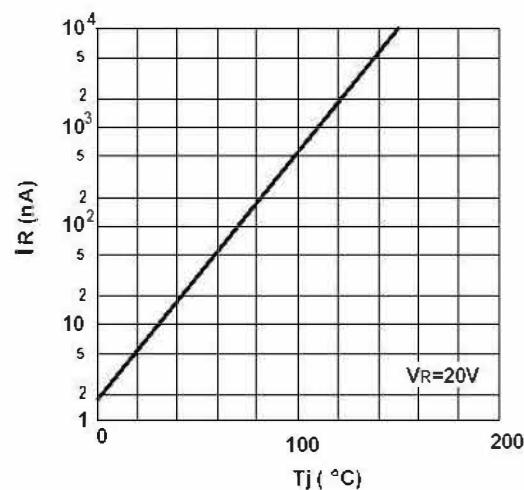
Forward characteristics



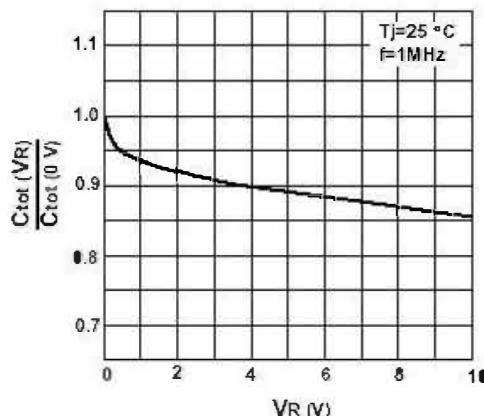
Admissible power dissipation versus ambient temperature



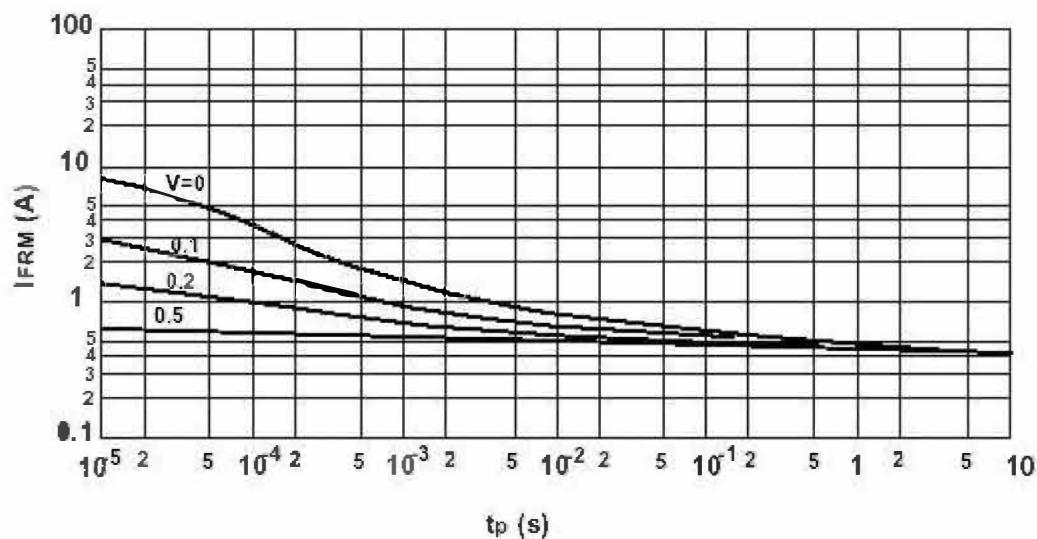
Leakage current versus junction temperature



Reverse capacitance VS. reverse voltage

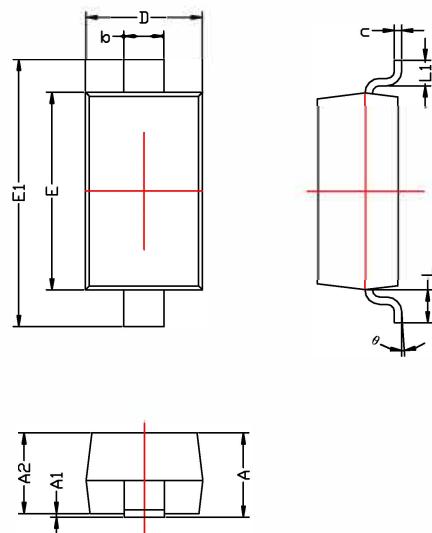


Admissible repetitive peak forward current VS. pulse duration



**SOD-123 PACKAGE OUTLINE**

Plastic surface mounted package

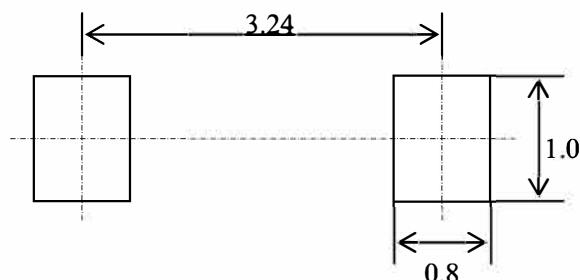


SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	1.050	1.250
A1	0.000	0.100
A2	1.050	1.150
b	0.450	0.650
c	0.080	0.150
D	1.500	1.700
E	2.600	2.800
E1	3.550	3.850
L	0.500REF	
L1	0.250	0.450
θ	0°	8°

**焊盘设计参考**

Precautions: PCB Design

Recommended land dimensions for SOD-123 diode. Electrode patterns for PCBs


**技术要求:**

- 1, 塑封体尺寸: 2.70 X 1.60
  - 2: 未注公差为: ±0.05
  - 3, 所有单位: mm
- 中心距: 3.24  
 脚 宽: 0.55  
 焊盘宽: 1.00  
 脚 长: 0.50  
 焊盘长: 0.80