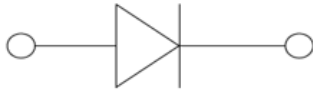


## High Speed Switching Diode



**SOD123**

### Features

- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 1
- $V_R$  75V
- $I_{FAV}$  150mA
- Part no. with suffix "Q" means AEC-Q101 qualified

### Applications

- Extreme fast switches
- Automotive

### Mechanical Data

- **Case:** SOD123
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end

### ■ Maximum Ratings ( $T_a=25^\circ\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	CONDITIONS	VALUE
RMS Reverse Voltage	$V_{R(RMS)}$	V		71
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage	$V_{RRM}$ $V_{RWM}$	V		100
DC Blocking Voltage	$V_R$	V		75
Average Forward Current	$I_{FAV}$	mA		150
Repetitive Peak Forward Current	$I_{FRM}$	mA		300
Peak Forward Surge Current	$I_{FSM}$	A	Pulse width=1 us Pulse width=1 s	2 1
Power Dissipation	$P_{tot}$	mW		400
Thermal Resistance Junction to Ambient	$R_{thJA}$	K/W		315
Maximum Junction Temperature	$T_J$	$^\circ\text{C}$		-55 to +150
Storage Temperature Range	$T_{stg}$	$^\circ\text{C}$		-55 to +150



# 1N4148WQ

## ■ Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	CONDITIONS	MIN	MAX
Forward Voltage	V <sub>F</sub>	V	I <sub>F</sub> =1mA		0.715
			I <sub>F</sub> =10mA		0.855
			I <sub>F</sub> =50mA		1.0
			I <sub>F</sub> =150mA		1.25
Reverse Current	I <sub>R</sub>	μA	V <sub>R</sub> =20V		0.025
			V <sub>R</sub> =75V		1.0
Breakdown Voltage	V <sub>R</sub>	V	I <sub>R</sub> =10μA	75	
Diode Capacitance	C <sub>D</sub>	pF	V <sub>R</sub> =V <sub>F</sub> =0V, f =1MHz		4
Reverse Recovery Time	t <sub>rr</sub>	ns	I <sub>F</sub> =10mA, I <sub>rr</sub> =0.1I <sub>R</sub> , R <sub>L</sub> =100Ω		4

## ■ Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
1N4148WQ	F2	Approximate 0.010	3000	30000	120000	7" reel



# 1N4148WQ

## ■ Characteristics (Typical)

Fig.1:  $P_D-T_A$

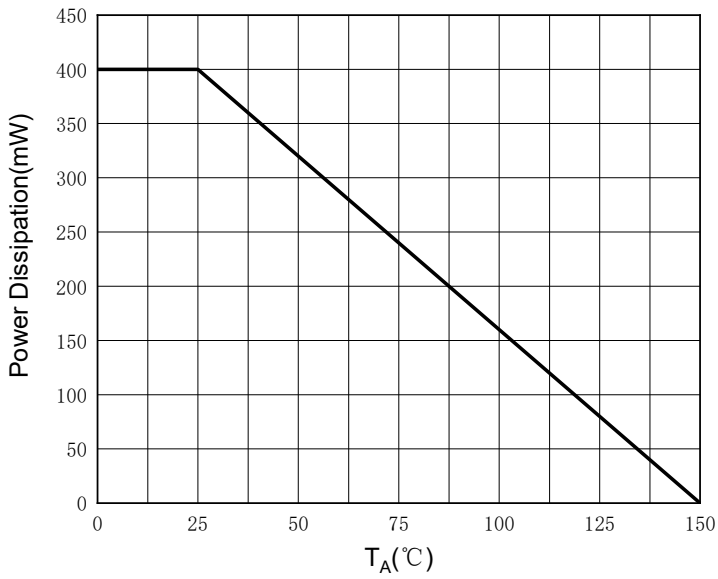


Fig.2: Capacitance Characteristics

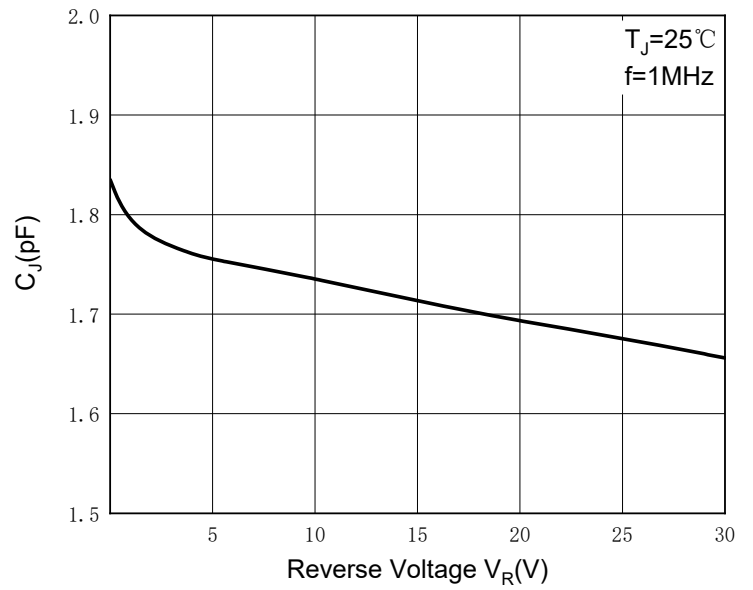


Fig.3: Forward Characteristics

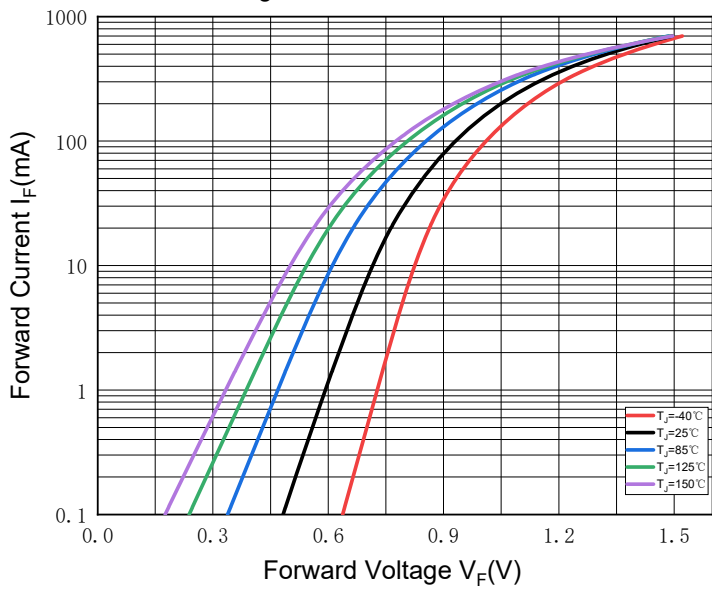
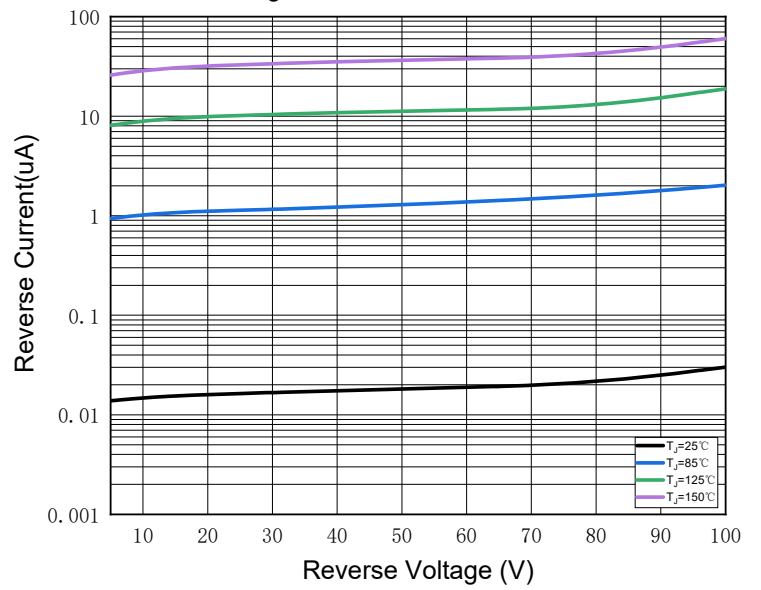


Fig.4: Reverse Characteristics

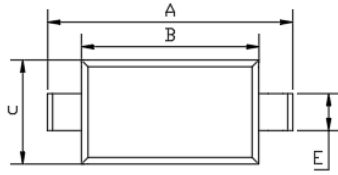




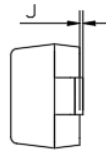
# 1N4148WQ

## ■ Outline Dimensions

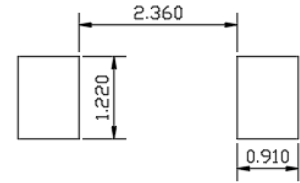
SOD-123



TOP VIEW

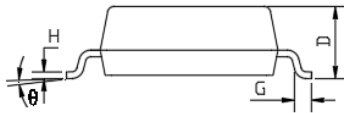


SIDE VIEW



UNIT : mm

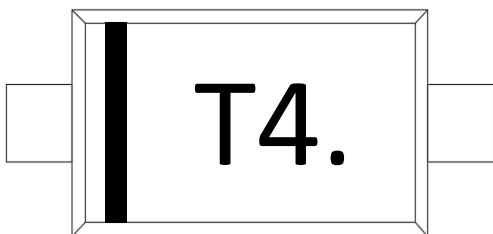
SUGGESTED SOLDER PAD LAYOUT



SIDE VIEW

DIMENSIONS				
DIM	INCHES		MM	
	MIN	MAX	MIN	MAX
A	0.140	0.152	3.550	3.850
B	0.100	0.112	2.550	2.850
C	0.055	0.071	1.400	1.800
D	0.037	0.053	0.950	1.350
E	0.020	0.028	0.510	0.710
G	0.006	0.018	0.150	0.450
H	0.003	0.010	0.080	0.250
J	0.000	0.006	0.000	0.150
$\theta$	0	8°	0	8°

## ■ Marking Information



**Note:**

1. All marking is at middle of the product body
2. All marking is in laser marking
3. Body color: Black



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## Disclaimer

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