

High Speed Switching Diode

Features

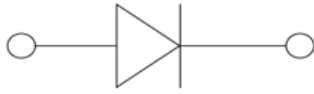
- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 1
- V_R 75V
- I_{FAV} 150mA
- Part no. with suffix "Q" means AEC-Q101 qualified

Applications

- Extreme fast switches
- Automotive

Mechanical Data

- **Case:** SOD323
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end
- **Marking:** T4



SOD323

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

PARAMETER	SYMBOL	UNIT	CONDITIONS	VALUE
Repetitive Peak Reverse Voltage	V_{RRM}	V		100
Peak Forward Surge Current	I_{FSM}	A	$t_p=1\mu\text{s}$	2
Average Forward Current	I_{FAV}	mA		150
Power Dissipation	P_{tot}	mW		200
Thermal Resistance	R_{thJA}	$^\circ\text{C}/\text{W}$		625
Thermal Resistance	R_{thJC}	$^\circ\text{C}/\text{W}$		500
Maximum Junction Temperature	T_j	$^\circ\text{C}$		-55 to +150
Storage Temperature Range	T_{stg}	$^\circ\text{C}$		-55 to +150

■ Electrical Characteristics ($T_a=25^\circ\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	CONDITIONS	MIN	MAX
Maximum Forward Voltage	V_F	V	$I_F=10\text{mA}$		1.0
Maximum Reverse Current	I_R	nA	$V_R=20\text{V}$		25
	I_R	μA	$V_R=75\text{V}$		1.0
Minimum Breakdown Voltage	V_R	V	$I_R=1\mu\text{A}$	75	
Maximum Diode Capacitance	C_D	pF	$V_R=V_F=0\text{V}$, $f=1\text{MHz}$		4
Maximum Reverse Recovery Time	t_{rr}	ns	$I_F=50\text{mA}$, $I_{rr}=0.1I_R$, $R_L=100\Omega$		4



1N4148WSQ

■ Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
1N4148WSQ	F2	Approximate 0.004	3000	30000	120000	7" reel

■ Characteristics (Typical)

Fig.1: P_D-T_A

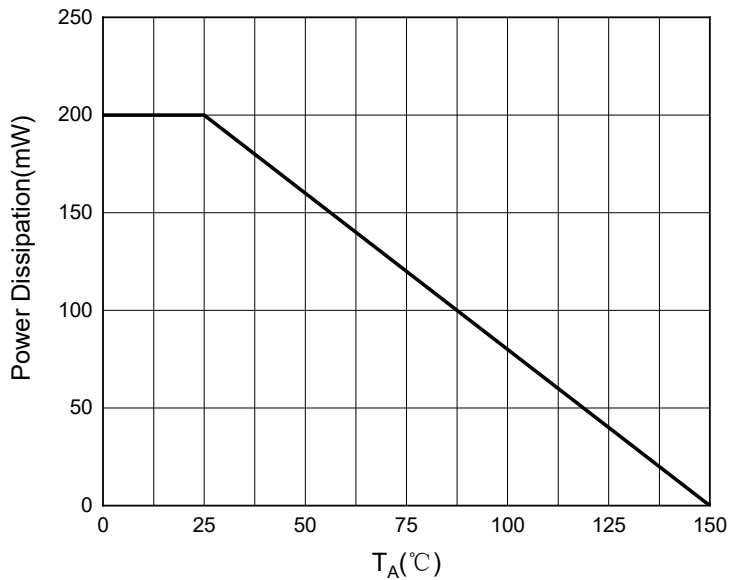


Fig.2: Capacitance Characteristics

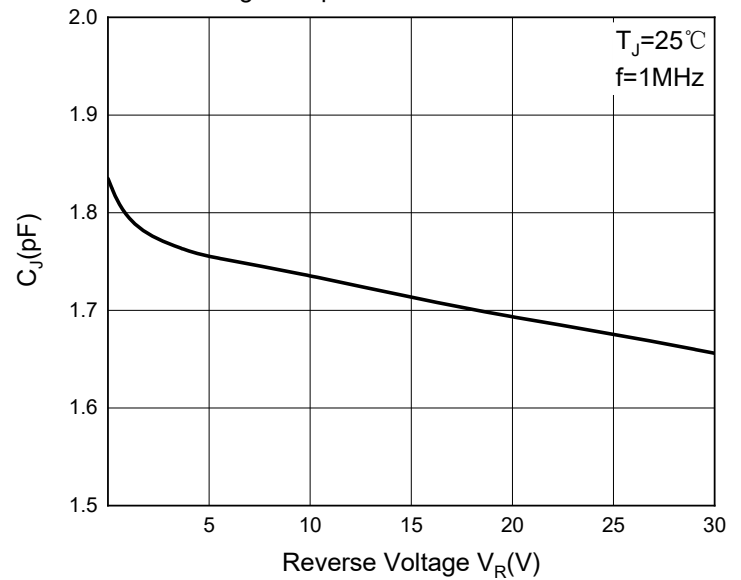


Fig.3: Forward Characteristics

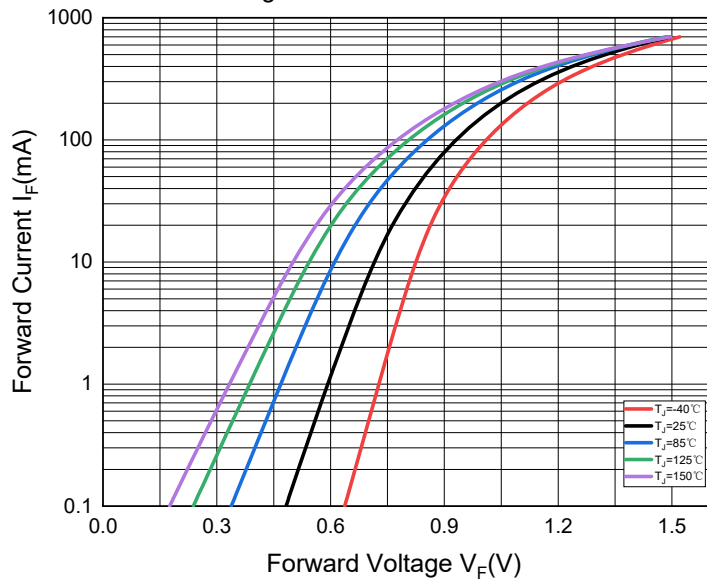
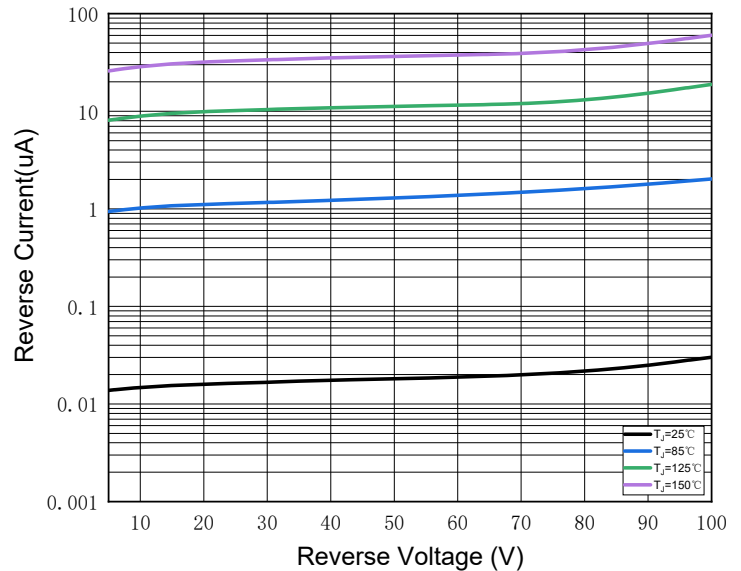


Fig.4: Reverse Characteristics

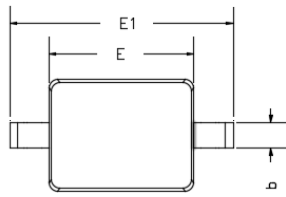


■ Outline Dimensions

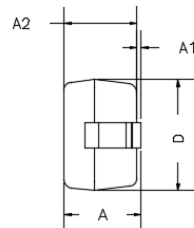


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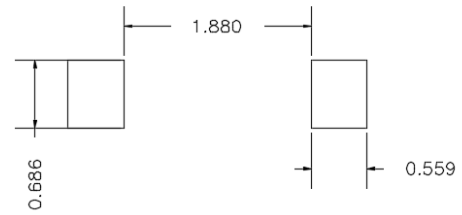
SOD-323



TOP VIEW

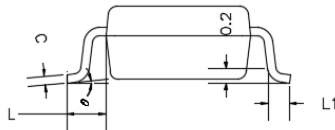


SIDE VIEW



UNIT : mm

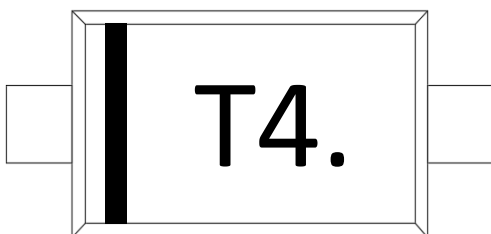
SUGGESTED SOLDER PAD LAYOUT



SIDE VIEW

DIMENSIONS				
DIM	INCHES		MM	
	MIN	MAX	MIN	MAX
A	---	0.0393	---	1.0000
A1	0.0000	0.0039	0.0000	0.1000
A2	0.0314	0.0354	0.8000	0.9000
b	0.0098	0.0157	0.2500	0.4000
c	0.0031	0.0059	0.0800	0.1500
D	0.0472	0.0551	1.2000	1.4000
E	0.0629	0.0709	1.6000	1.8000
E1	0.0984	0.1063	2.5000	2.7000
L	0.0187TYP		0.475TYP	
L1	0.0098	0.0157	0.250	0.400
θ	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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