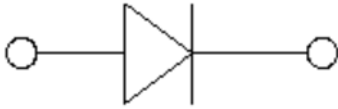


## Small-Signal Fast Switching Diodes



### Features

- Moisture sensitivity level 1
- Reverse voltage: 75V
- Average forward current : 150mA

### Application

- High frequency rectifier
- Signal switching

### Mechanical data

- **Package:** SOD-123
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102

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

Parameter	Symbol	Unit	Value
Device marking code			T4
Repetitive peak reverse voltage	V <sub>RRM</sub>	V	100
Forward current	I <sub>F</sub>	mA	150
Repetitive peak forward current	I <sub>FRM</sub>	mA	300
Non-repetitive surge peak forward current @ t=8.3ms half-sine wave	I <sub>FSM</sub>	A	1
Non-repetitive surge peak forward current @ t=1ms square wave			1.5
Power dissipation	P <sub>D</sub>	mW	400
Junction temperature	T <sub>J</sub>	°C	-55 to +150
Storage temperature	T <sub>STG</sub>	°C	-55 to +150



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

Parameter	Symbol	Unit	Conditions	Min	Typ	Max
Breakdown voltage	V <sub>R</sub>	V	I <sub>R</sub> =10uA	100		
Forward voltage	V <sub>F1</sub>	V	I <sub>F</sub> =10mA			1
	V <sub>F2</sub>	V	I <sub>F</sub> =100mA			1.25
Reverse leakage current	I <sub>R1</sub>	nA	V <sub>R</sub> =20V			25
	I <sub>R2</sub>	uA	V <sub>R</sub> =75V			1
Junction capacitance	C <sub>j</sub>	pF	V <sub>R</sub> =0V, f =1MHZ			4
Reverse recovery time	T <sub>rr</sub>	ns	I <sub>F</sub> =10mA, V <sub>R</sub> =6V, I <sub>rr</sub> =1mA, R <sub>L</sub> =100Ω			4

## ■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	R <sub>θJ-A</sub> <sup>(1)</sup>	°C/W	315
Thermal resistance, junction-to-case	R <sub>θJ-C</sub> <sup>(1)</sup>	°C/W	255

### Note:

(1) Thermal resistance from junction to ambient and from junction to case mounted on P.C.B. with 8mm\*9mm copper pad areas



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## ■ Characteristics

Fig 1:  $P_D$ - $T_a$  Curve

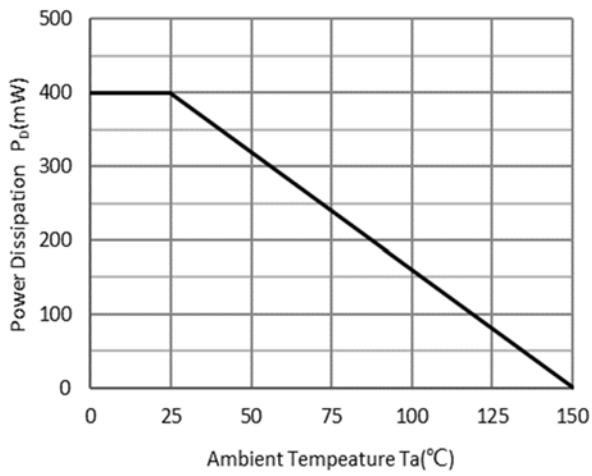


Fig 2: Capacitance Capability

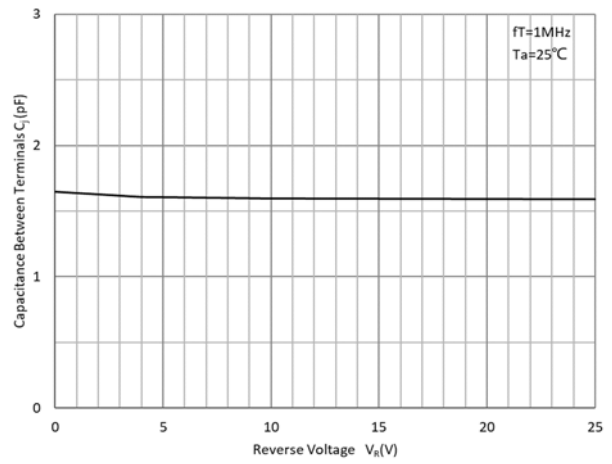


Fig 3: Typical Forward Characteristics

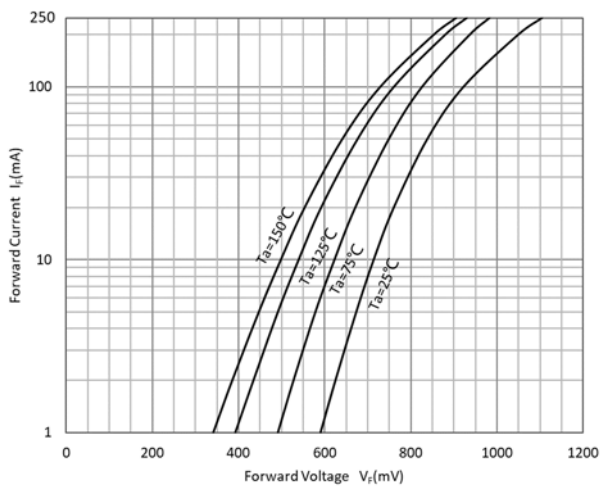
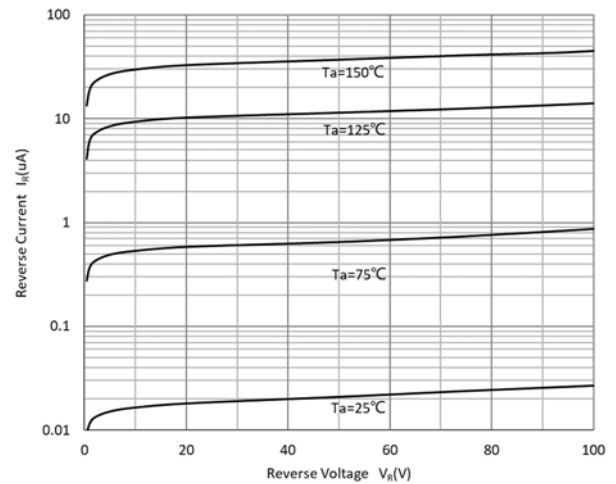


Fig 4: Typical Reverse Characteristics



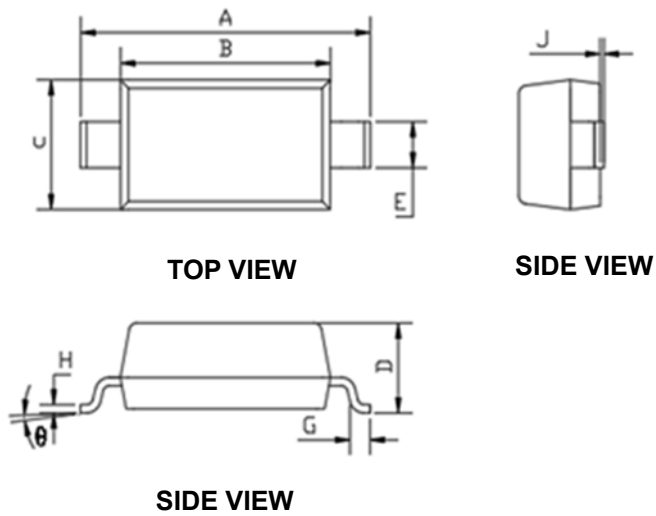


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## ■ Ordering Information

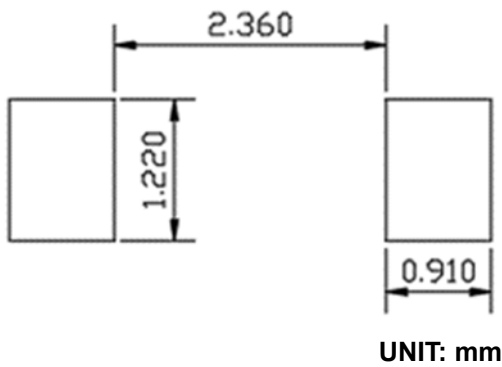
Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
1N4148W	F2	Approximate 0.011	3000	30000	120000	7" reel
1N4148W	F3	Approximate 0.011	10000	/	210000	13" reel

## ■ Outline Dimensions



DIMENSIONS				
DIM	INCHES		MM	
	MIN	MAX	MM	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°

## ■ Suggested Pad Layout





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