

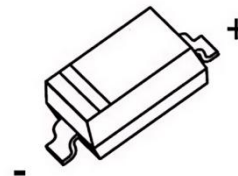
# 1N4148W

## FAST SWITCHING DIODE

SOD-123

### FEATURES

- \*Fast Switching Speed
- \*Surface Mount Package Ideally Suited for Automatic Insertion
- \*For General Purpose Switching Applications
- \*High Conductance



### MARKING

|                                                                                    |  |
|------------------------------------------------------------------------------------|--|
| 1N4148W                                                                            |  |
|  |  |

The marking bar indicates the cathode

Solid dot = Green molding compound device, if none, the normal device.

### ABSOLUTE MAXIMUM RATINGS (TC=25°C, unless otherwise specified)

| SYMBOL          | PARAMETER                                           | TEST CONDITION | Limit | UNIT |
|-----------------|-----------------------------------------------------|----------------|-------|------|
| <b>VRM</b>      | Non-Repetitive Peak Reverse Voltage                 |                | 100   | V    |
| <b>VRRM</b>     | Peak Repetitive Peak Reverse Voltage                |                | 100   | V    |
| <b>VRWM</b>     | Working Peak Reverse Voltage                        |                |       |      |
| <b>VR</b>       | DC Blocking Voltage                                 |                |       |      |
| <b>VR(RMS)</b>  | RMS Reverse Voltage                                 |                | 71    | V    |
| <b>IFM</b>      | Forward Continuous Current                          |                | 300   | mA   |
| <b>IO</b>       | Average Rectified Output Current                    |                | 150   | mA   |
| <b>IFSM</b>     | Non-Repetitive Peak Forward Surge Current           | tp=8.3ms       | 2.0   | A    |
| <b>Pd</b>       | Power Dissipation                                   | 1N4148W        | 350   | mW   |
| <b>RθJA</b>     | Thermal Resistance from Junction to Ambient(Note 1) | 1N4148W        | 357.1 | °C/W |
| <b>Tj, Tstg</b> | Operation Junction and Storage Temperature Range    |                | 150   | °C   |

Note: Device mounted on 1"x1" FR4 PCB, 1oz single-side copper.



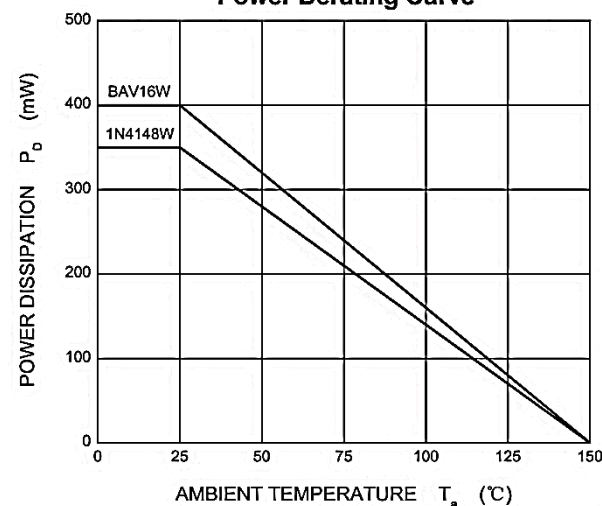
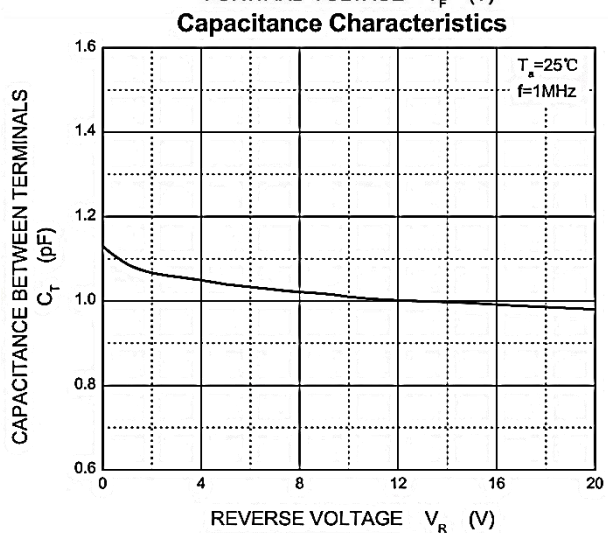
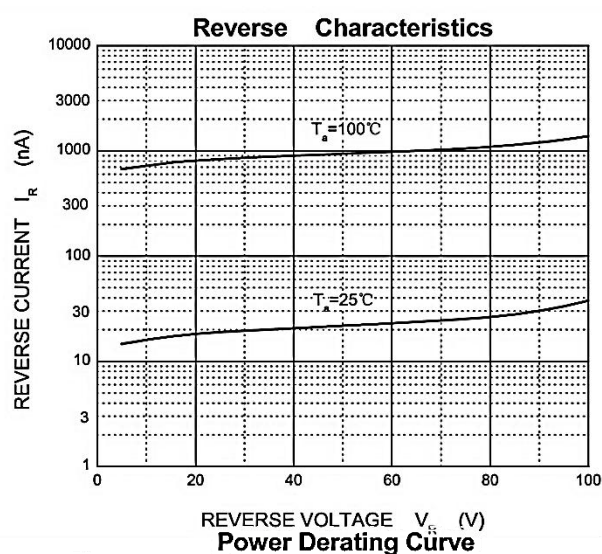
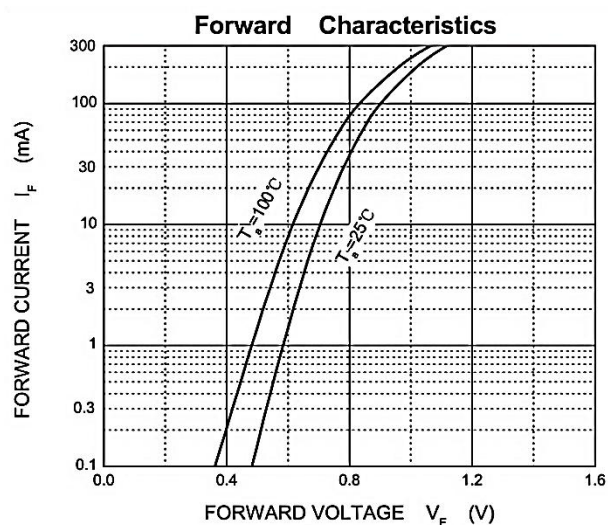
# 1N4148W

## FAST SWITCHING DIODE

### ■ ELECTRICAL CHARACTERISTICS ( $T_c=25^\circ\text{C}$ unless otherwise noted)

| PARAMETER                     | SYMBOL | TEST CONDITIONS                                    | MIN | TYP | MAX   | UNIT          |
|-------------------------------|--------|----------------------------------------------------|-----|-----|-------|---------------|
| Forward voltage               | VF1    | IF=1mA                                             |     |     | 0.715 | V             |
|                               | VF2    | IF=10mA                                            |     |     | 0.855 | V             |
|                               | VF3    | IF=50mA                                            |     |     | 1.0   | V             |
|                               | VF4    | IF=150mA                                           |     |     | 1.25  | V             |
| Reverse current               | IR1    | VR=75V                                             |     |     | 1     | $\mu\text{A}$ |
|                               | IR2    | VR=20V                                             |     |     | 25    | nA            |
| Capacitance between terminals | CT     | VR=0V, f=1MHz                                      |     |     | 2     | pF            |
| Reverse recovery time         | trr    | IF=IR=10mA<br>Irr=0.1 $\times$ IR, RL=100 $\Omega$ |     |     | 4     | ns            |

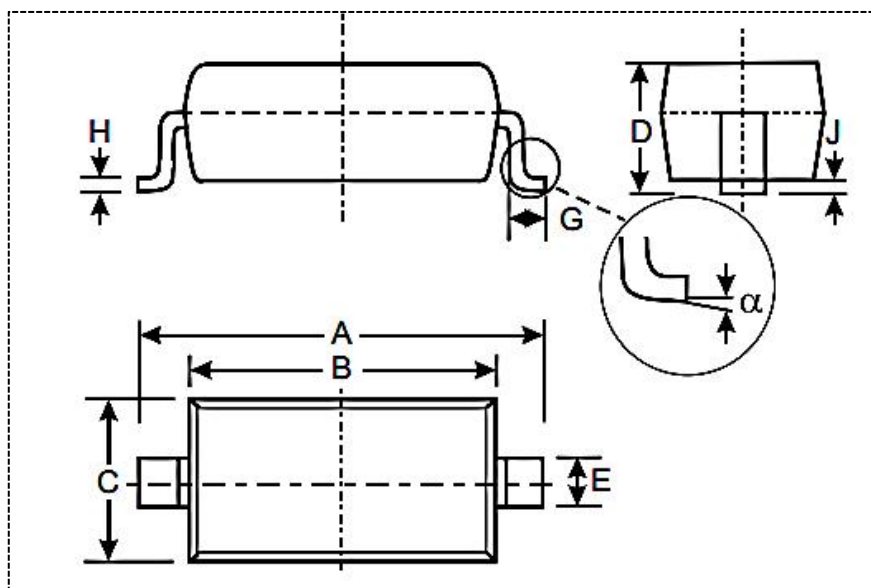
### ■ TYPICAL CHARACTERISTICS



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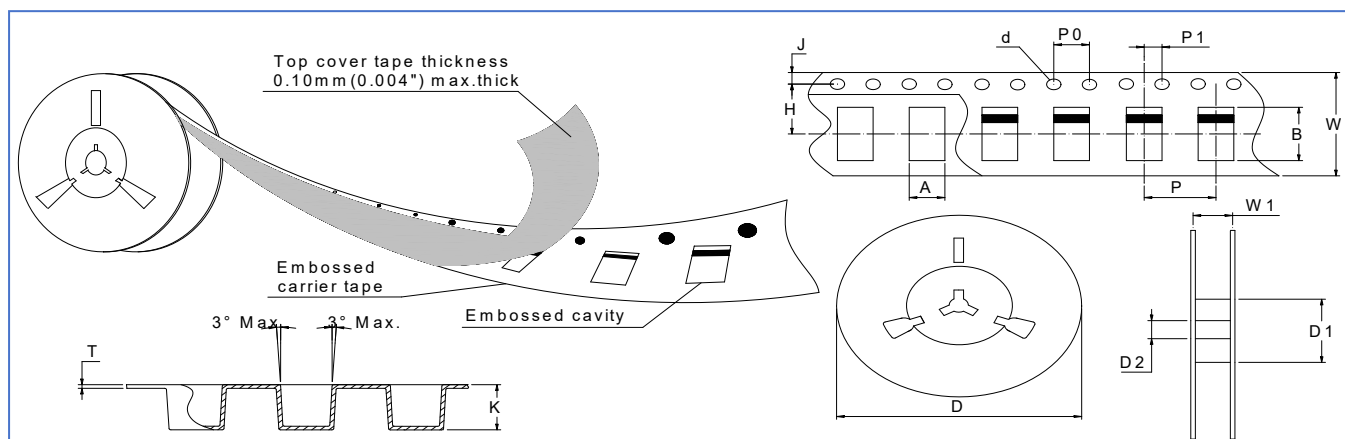
## FAST SWITCHING DIODE

### SOD-123 PACKAGE OUTLINE DIMENSIONS



| SOD-123              |              |      |
|----------------------|--------------|------|
| Dim                  | Min          | Max  |
| A                    | 3.55         | 3.85 |
| B                    | 2.60         | 2.80 |
| C                    | 1.50         | 1.70 |
| D                    | —            | 1.20 |
| E                    | 0.55 Typical |      |
| G                    | 0.25         | —    |
| H                    | 0.10 Typical |      |
| J                    | —            | 0.10 |
| $\alpha$             | 0°           | 8°   |
| All Dimensions in mm |              |      |

### REEL PACKING



| SYMBOL                                                       | A          | B          | d            | D*                | D1          | D2          | J           | H           | K           | P           | P0          | P1          | T           | W           | W1          |
|--------------------------------------------------------------|------------|------------|--------------|-------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                                                              | Max.       | Max.       | Typ.         | /                 | Min.        | Typ.        | Typ.        | Typ.        | Typ.        | Typ.        | Typ.        | Typ.        | Typ.        | Typ.        | Min.        |
|                                                              | mm(inch)   |            |              |                   |             |             |             |             |             |             |             |             |             |             |             |
| <b>SOD123</b>                                                | 2.1(0.083) | 4.0(0.157) | Φ1.55(0.061) | 330.0/178.0(13/7) | 50.0(1.969) | 13.0(0.512) | 1.75(0.069) | 3.50(0.138) | 1.60(0.063) | 4.00(0.157) | 4.00(0.157) | 2.00(0.079) | 0.25(0.010) | 8.15(0.321) | 10.5(0.413) |
| *NOTE: D=13inch Q.TY PER REEL=10K ; D=7inch Q.TY PER REEL=3K |            |            |              |                   |             |             |             |             |             |             |             |             |             |             |             |