# 30V, 0.1A Schottky Barrier Diode

## Product Summary

| Parameter | Rating |
|---|---|
| $V_{RRM}$ | 30 V |
| $V_F$ Max @ 100mA | 1 V |
| $I_{F(AV)}$ | 100 mA |
| $I_R$ Max @ $V_R$ = 30 V | 50 µA |



RoHS Compliant Lead Free Halogen Free

**SOD-923**

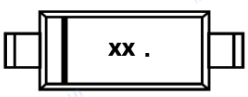
## Features

- High Reliability
- Low Reverse Current and Low Forward Voltage
- Small Surface Mount Type

## Mechanical Data

- Package: SOD-923
- Moisture Sensitivity: Level 1, per J-STD-020
- Halogen Free. "Green" Device (Note1)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish & RoHS Compliant
- Weight: 0.0006 g (approximate)

## Body Marking and Pin Layout

| Body Marking | Internal structure |
|---|---|
|   **XX**: Device Marking Code[1] **Bar**: Cathode Pin indicator **Dot**(optional): Manufacturing Site Marking [1] \| Refer to the ordering information for the specific device code. |   |

## Ordering Information

| Ordering Product Name | Device Marking Code | Reel Size | Packing Type | Qty/Reel |
|---|---|---|---|---|
| Product Name-TP | F | 7" | Tape & Reel | 8,000 |

*For packaging details, visit our website at* https://www.mccsemi.com/Package/List



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## Maximum Ratings ($T_A$=25℃ unless otherwise specified)

| Parameter | | Symbol | Rating | Unit |
|---|---|---|---|---|
| Peak Repetitive Reverse Voltage | | $V_{RRM}$ | 30 | V |
| RMS Reverse Voltage | | $V_{R(RMS)}$ | 21 | V |
| Reverse Voltage | | $V_R$ | 30 | V |
| Average Forward Current | | $I_{F(AV)}$ | 100 | mA |
| Non-Repetitive Peak Surge Current | $t_p$= 8.3ms Half Sine Wave, $T_J$ = 25℃ | $I_{FSM}$ | 0.5 | A |
| Power Dissipation (Note 2) | | $P_D$ | 150 | mW |
| Operating Junction Temperature Range | | $T_J$ | -55 to +125 | ℃ |
| Storage Temperature Range | | $T_{STG}$ | -55 to +150 | ℃ |

Notes:
1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. Device mounted on an FR4 Printed-Circuit Board (PCB) with the recommended pad layout.

## Thermal characteristics ($T_A$=25℃ unless otherwise specified)

| Parameter | Symbol | Rating | Unit |
|---|---|---|---|
| Thermal Resistance from Junction to Ambient (Note 2) | $R_{\theta JA}$ | 667 | ℃/W |

## Electrical Characteristics ($T_A$=25℃ unless otherwise specified)

| Parameter | Test Conditions | Symbol | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Reverse Breakdown Voltage | $I_R$=100 μA (pulse test) | $V_{BR}$ | 30 | | | V |
| Forward Voltage | $I_F$ = 10 mA | $V_F$ | | | 0.35 | V |
| | $I_F$ = 20 mA | | | | 0.40 | |
| | $I_F$ = 100 mA | | | | 1.00 | |
| Reverse Current | $V_R$ = 10 V | $I_R$ | | | 10 | μA |
| | $V_R$ = 30 V | | | | 50 | |
| Junction Capacitance | $V_R$=0 V, f=1.0MHz | $C_J$ | | | 15 | pF |
| Reverse Recovery Time | $I_F$=10mA, $I_R$=10mA, $I_{rr}$=0.1 x $I_R$, $R_L$=100Ω | $t_{rr}$ | | | 8 | ns |



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## Curve Characteristics

**Fig.1 - Typical Instantaneous Forward Characteristics (per diode)**

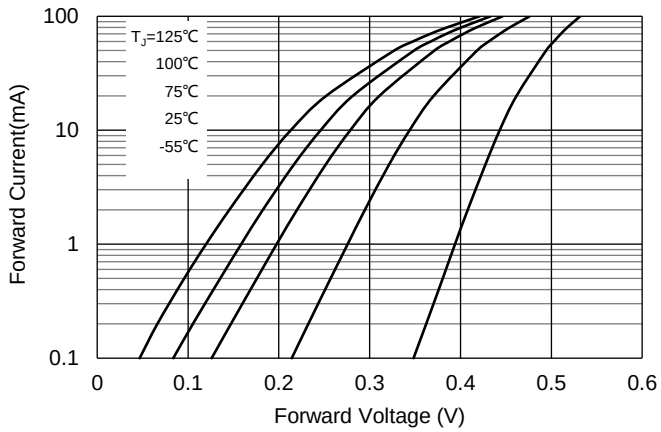



**Fig.2 - Typical Reverse Leakage Characteristics (per diode)**

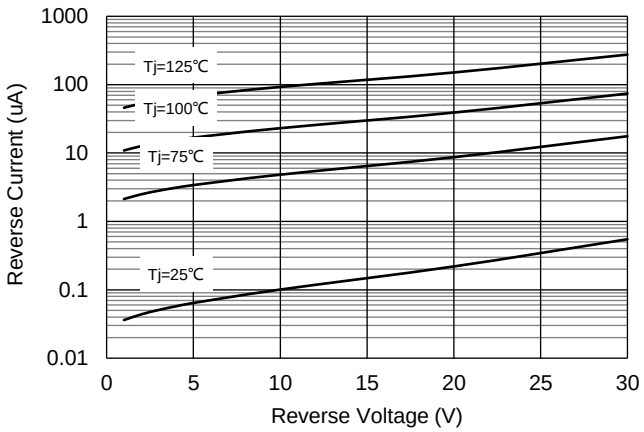



**Fig.3 - Typical Capacitance Characteristics (per diode)**

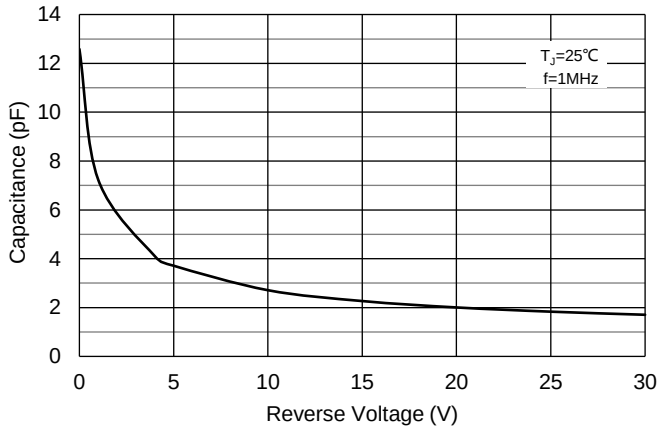
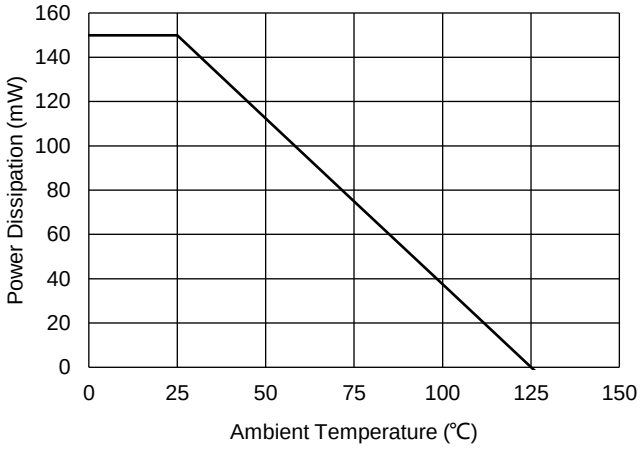



**Fig.4 - Power Derating Curve**



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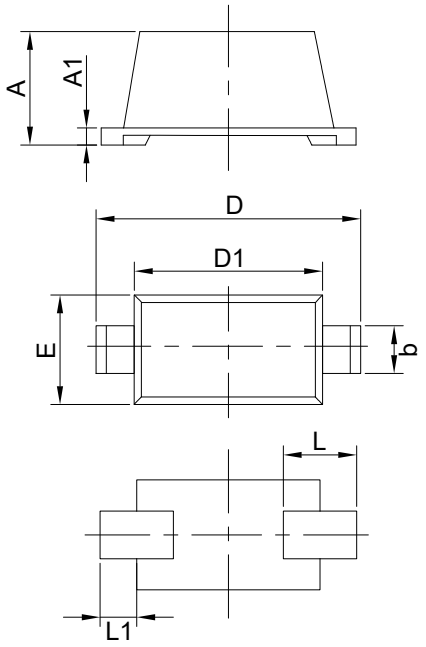
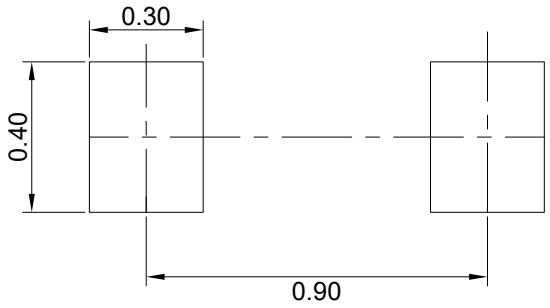
## Package Outline




| DIM | INCH | | MM | | NOTE |
|---|---|---|---|---|---|
| | MIN | MAX | MIN | MAX | |
| A | 0.014 | 0.021 | 0.36 | 0.52 | |
| A1 | 0.003 | 0.007 | 0.07 | 0.17 | |
| b | 0.006 | 0.010 | 0.15 | 0.25 | |
| D | 0.037 | 0.041 | 0.95 | 1.05 | |
| D1 | 0.030 | 0.033 | 0.75 | 0.85 | |
| E | 0.022 | 0.026 | 0.55 | 0.65 | |
| L | 0.007 | | 0.19 | | TYP |
| L1 | 0.002 | 0.006 | 0.05 | 0.15 | |

## Suggested Pad Layout (Unit:mm)




Notes:

1. The suggested land pattern dimensions have been provided for reference only.
2. For further information, please refer to document IPC-7351A.



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