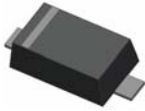


Small Signal Diode



Features

- ✧ Low power loss, high current capability, low V_F
- ✧ Surface device type mounting
- ✧ Moisture sensitivity level 1
- ✧ Matte Tin(Sn) lead finish with Nickel(Ni) underplate
- ✧ Pb free version and RoHS compliant
- ✧ Green compound (Halogen free) with suffix "G" on packing code and prefix "G" on date code

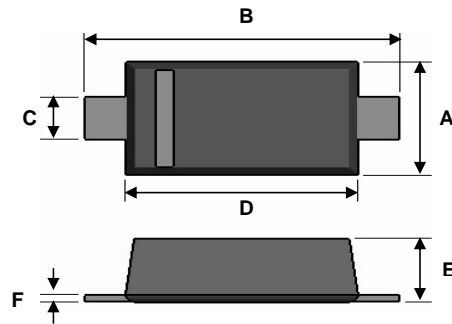
Mechanical Data

- ✧ Case : SOD-523F small outline plastic package
- ✧ Terminal: Matte tin plated, lead free, solderable per MIL-STD-202, Method 208 guaranteed
- ✧ High temperature soldering guaranteed: 260°C/10s
- ✧ Polarity : Indicated by cathode band
- ✧ Weight : 1.68±0.5 mg
- ✧ Marking Code: C

Ordering Information

| Part No. | Packaging Code | Package | Packing | Marking |
|-----------|----------------|----------|--------------|---------|
| RB521S-30 | RK | SOD-523F | 3K / 7" Reel | C |
| RB521S-30 | RKG | SOD-523F | 3K / 7" Reel | C |

SOD-523F

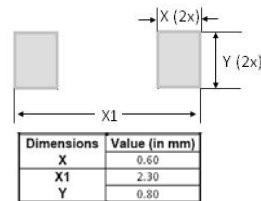


| Dimensions | Unit (mm) | | Unit (inch) | |
|------------|-----------|------|-------------|-------|
| | Min | Max | Min | Max |
| A | 0.70 | 0.90 | 0.028 | 0.035 |
| B | 1.50 | 1.70 | 0.059 | 0.067 |
| C | 0.25 | 0.40 | 0.010 | 0.016 |
| D | 1.10 | 1.30 | 0.043 | 0.051 |
| E | 0.60 | 0.70 | 0.024 | 0.028 |
| F | 0.10 | 0.14 | 0.004 | 0.006 |

Pin Configuration



Suggested PAD Layout



Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Maximum Ratings

| Type Number | Symbol | Value | Units |
|---|----------------|--------------|---------------------------|
| Power Dissipation | P_D | 200 | mW |
| Repetitive Peak Reverse Voltage | V_{RRM} | 30 | V |
| Reverse Voltage | V_R | 30 | V |
| Mean Forward Current @ $T_L=100^\circ\text{C}$ (Lead Temperature) | I_o | 200 | mA |
| Non-Repetitive Peak Forward Surge Current (Note 1) | I_{FSM} | 1 | A |
| Thermal Resistance (Junction to Ambient) | $R\theta_{JA}$ | 500 | $^\circ\text{C}/\text{W}$ |
| Junction Temperature | T_J | 125 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{STG} | -55 to + 125 | $^\circ\text{C}$ |

Note 1: Test Condition: 8.3ms Single half Sine-Wave Superimposed on Rated Load (JEDEC Method)

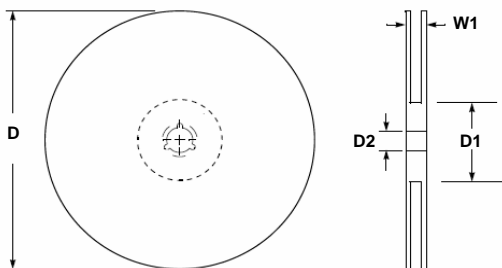
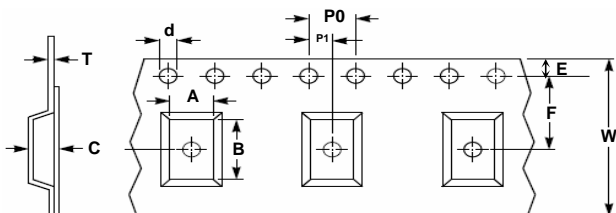
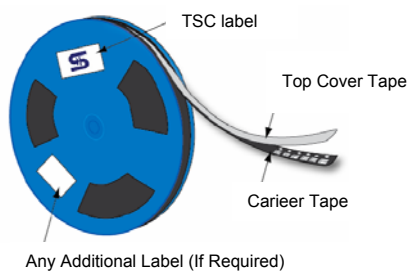
Small Signal Diode

Maximum Ratings

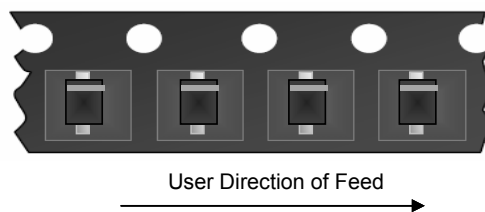
Rating at 25°C ambient temperature unless otherwise specified.

| Type Number | | Symbol | Min | Max | Units |
|---------------------------|------------------|------------|-----|------|---------|
| Reverse Breakdown Voltage | $I_R = 500\mu A$ | $V_{(BR)}$ | 30 | - | V |
| Forward Voltage | $I_F = 200mA$ | V_F | - | 0.50 | V |
| Reverse Leakage Current | $V_R = 10V$ | I_R | - | 30 | μA |

Carrier & Reel specification



| Item | Symbol | Dimension (mm) |
|------------------------|--------|----------------|
| Carrier width | A | 3.15 ±0.10 |
| Carrier length | B | 3.94 ±0.05 |
| Carrier depth | C | 1.35 ±0.10 |
| Sprocket hole | d | 1.75 ±0.10 |
| Reel outside diameter | D | 178 ±1 |
| Reel inner diameter | D1 | 54.4 ±0.40 |
| Feed hole width | D2 | 13.0 ±0.20 |
| Sprocket hole position | E | 1.75 ±0.10 |
| Punch hole position | F | 3.50 ±0.05 |
| Sprocket hole pitch | P0 | 4.00 ±0.10 |
| Embossment center | P1 | 2.00 ±0.05 |
| Overall tape thickness | T | 0.22 ±0.05 |
| Tape width | W | 8.10 ±0.20 |
| Reel width | W1 | 12.3 ±0.20 |



Small Signal Diode

Rating and Characteristic Curves

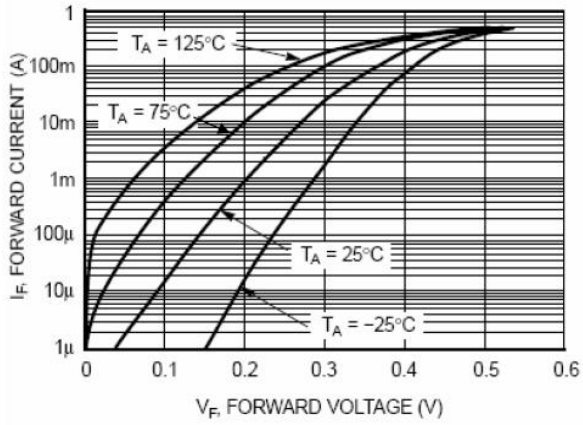


Figure 1. Forward Characteristics

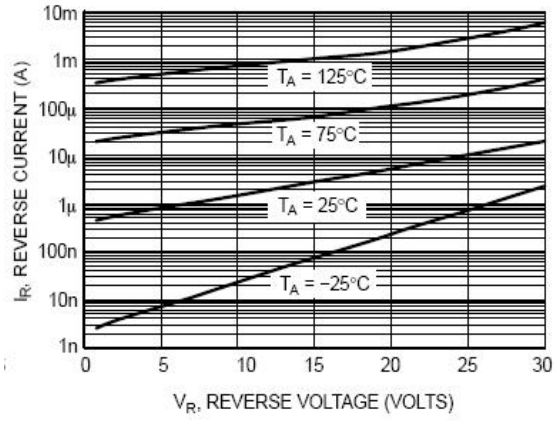
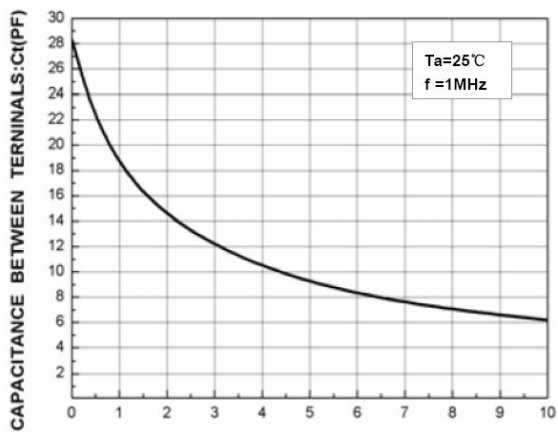


Figure 2. Reverse Characteristics



REVERSE VOLTAGE : V_R (V)

Figure3.Total Capacitance