



1. Features

SOD-523

- Extremely small surface mounting type



2. Mechanical Data

- Case: Molded Plastic, SOD-523.
- Epoxy: UL 94V-0 rate flame retardant.
- Terminals: Plated Leads Solderable per MIL-STD-750, Method-2026.
- Marking: C
- Mounting Position : Any.



3. Maximum Ratings

Electrical Characteristics Rating at 25°C ambient temperature unless otherwise specified.

| Characteristic | Symbol | Value | Unit |
|---|-----------|-------------|------|
| DC reverse voltage | V_R | 30 | V |
| Mean rectifying current | I_O | 0.2 | A |
| Peak Forward Surge Current (at $t_p \leq 8.3$ ms) | I_{FSM} | 1 | A |
| Junction Temperature Range | T_J | -40 to +125 | °C |
| Storage Temperature Range | T_{stg} | -40 to +125 | °C |

4. Electrical Characteristics ($T_a = 25^\circ\text{C}$ unless otherwise noted)

| Parameters | Symbol | Condition | Min | TYP | Max | Unit |
|-------------------------|----------|---------------------|-----|-----|-----|---------------|
| Forward Voltage | V_F | $I_F = 0.2\text{A}$ | - | - | 0.6 | V |
| Maximum Leakage Current | I_{RM} | $V_R = 10\text{V}$ | - | - | 30 | μA |



5. Rating And Characteristic Curves

Fig.1 Typical Forward Voltage

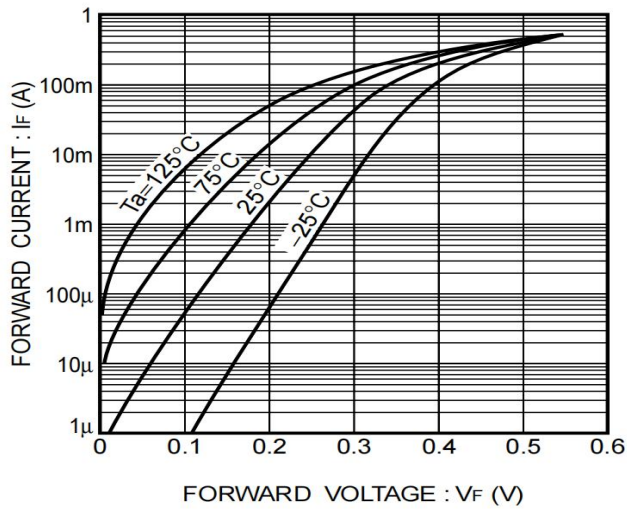


Fig.2 Typical Reverse Current

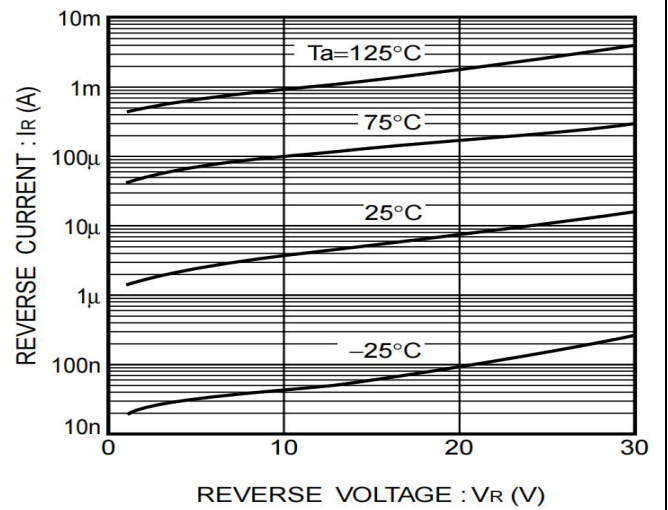
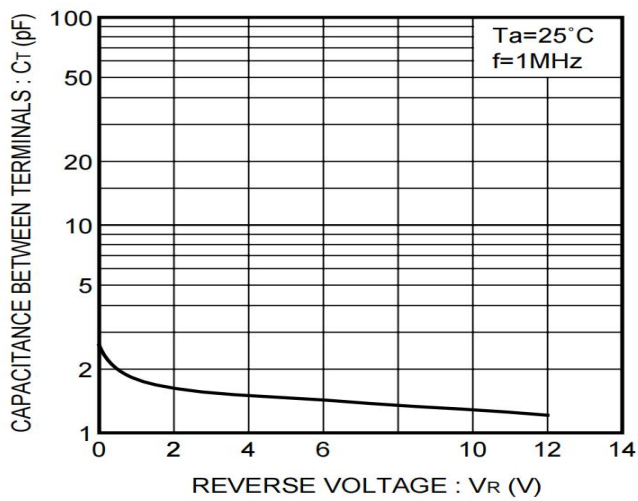
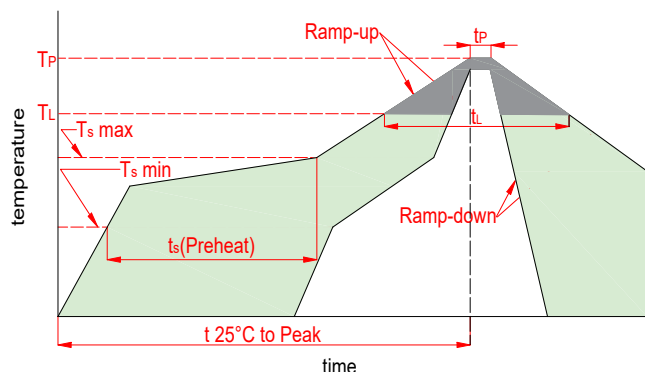


Fig.3 Typical Capacitance



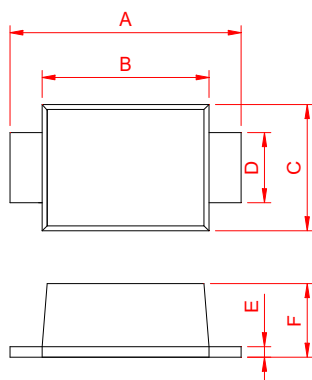


6. Soldering Parameters



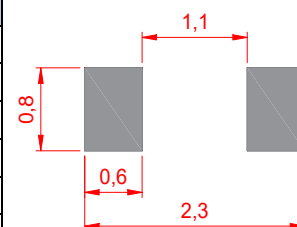
| Reflow Condition | | Lead-free |
|--|---------------------------|-------------------------|
| Pre Heat | Temp. min(T_s (min)) | 150°C |
| | Temp. max(T_s (min)) | 200°C |
| | Time(min to max)(t_s) | 60~120s |
| Aver. ramp up rate(Liquidus Temp.)(T_L)to peak | | 3°C/s max |
| T_s (max) to T_L -Ramp-up Rate | | 3°C/s max |
| Reflow | Temp.(T_L)(Liquidus) | 217°C |
| | Temp.(t_L)(Liquidus) | 60~150s |
| Peak Temp.(T_P) | | 260 ^{+0/-5} °C |
| Time within actual peak Temp.(t_p) | | 30s max |
| Ramp-down Rate | | 6°C/s max |
| Time 25°C to peak Tempe.(T_p) | | 8 minutes max |
| Do not exceed | | 260°C |

7. Dimensions

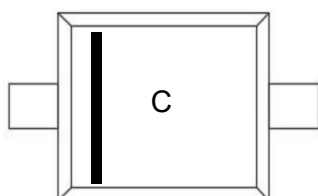


| Dimensions | Inches | | Millimeters | |
|------------|--------|-------|-------------|------|
| | Min | Max | Min | Max |
| A | 0.059 | 0.067 | 1.50 | 1.70 |
| B | 0.043 | 0.051 | 1.10 | 1.30 |
| C | 0.030 | 0.033 | 0.75 | 0.85 |
| D | 0.010 | 0.016 | 0.25 | 0.40 |
| E | 0.003 | 0.006 | 0.08 | 0.15 |
| F | 0.020 | 0.030 | 0.51 | 0.77 |

Mounting PAD Layout



8. Part Marking System



9. Package Information

| Package | Type | Tape Width(mm) | Quantity(pcs) |
|---------|-----------|----------------|---------------|
| SOD-523 | RB521S-30 | 8 | 3000 |



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