

Features

- Multilayer Metal -Silicon Potential Structure
- High Current Capability, High Efficiency
- High Junction Temperature Capability
- Low Leakage Current
- RoHs Product

Applications

- Surface mount schottky barrier rectifier
- Buck and Boost dc-dc Converters
- Low Voltage High Frequency Switching Power Supply
- Low Voltage High Frequency Invers Circuit
- Low Voltage Continued Circuit and Protection Circuit



SOD-323

Marking:SF



Absolute Maximum Ratings

| PARAMETER | SYMBOL | UNIT | VALUE |
|-------------------------------------------------------------------|--------|-------|-----------|
| Maximum repetitive peak reverse voltage | VRRM | V | 40 |
| Maximum RMS voltage | VRMS | V | 28 |
| Maximum DC blocking voltage | VDC | V | 40 |
| Maximum average forward rectified current | IF(AV) | A | 0.5 |
| Non-repetitive Peak Forward Surge Current @t=8.3ms Half-sine wave | IFSM | A | 5.5 |
| Power Dissipation | PD | mW | 200 |
| Junction Temperature | Tj | °C | -40 ~+125 |
| Storage temperature range | TSTG | °C | -55 ~+150 |
| Typical thermal resistance | RθJA | °C /W | 500 |

Electrical Characteristics (TA=25°C unless otherwise specified)

| Parameter | Symbol | Test Condition | Min | Typ | Max | Unit |
|-----------------------|--------|-------------------------------------|-----|-----|------|------|
| Reverse current | IR | VR=40V | -- | -- | 20 | uA |
| | | VR=20V | -- | -- | 10 | uA |
| | | VR=10V | -- | -- | 6.0 | uA |
| Forward voltage | VF | IF=100mA | -- | -- | 0.37 | V |
| | | IF=500mA | -- | -- | 0.51 | V |
| Total Capacitance | CT | VR = 0V, f = 1 MHz | -- | -- | 170 | pF |
| Reverse recovery time | Trr | IF=IR=200mA ,Irr=0.1×IR RL =100Ω | -- | 10 | -- | nS |

Typical Electrical Characteristic Curves

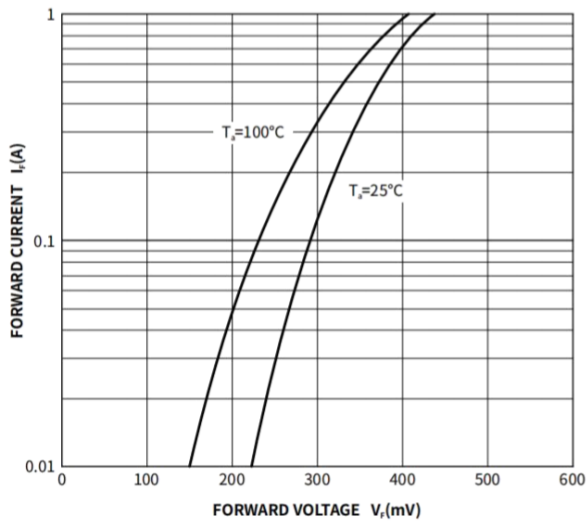


Fig.1 Typical Instantaneous Forward Characteristics

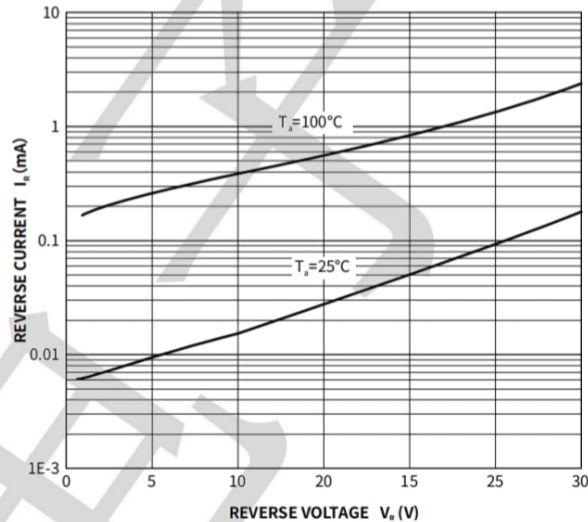


Fig.2 Typical Reverse Characteristics

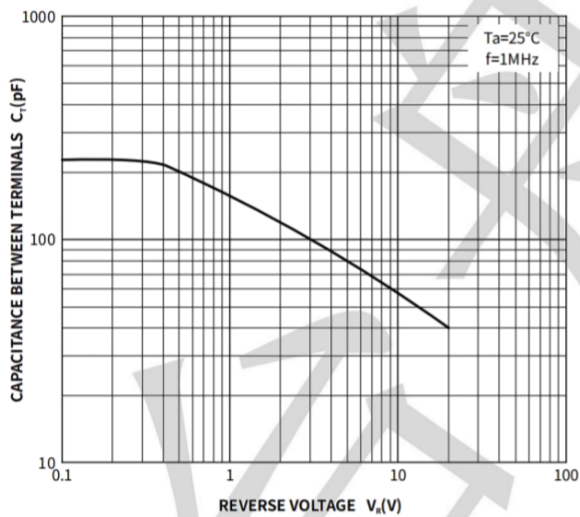


Fig.3 Typical Junction Capacitance

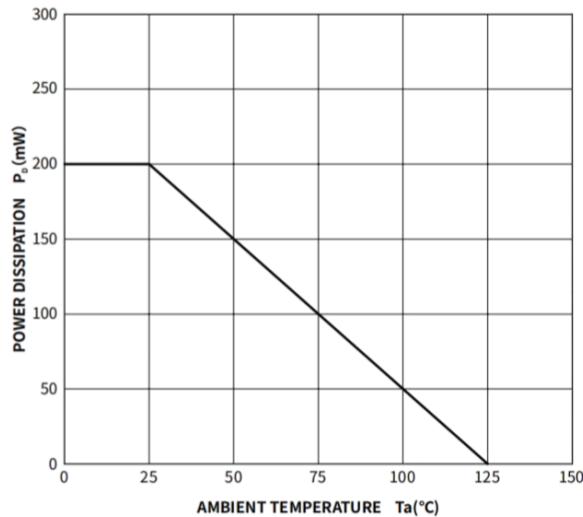
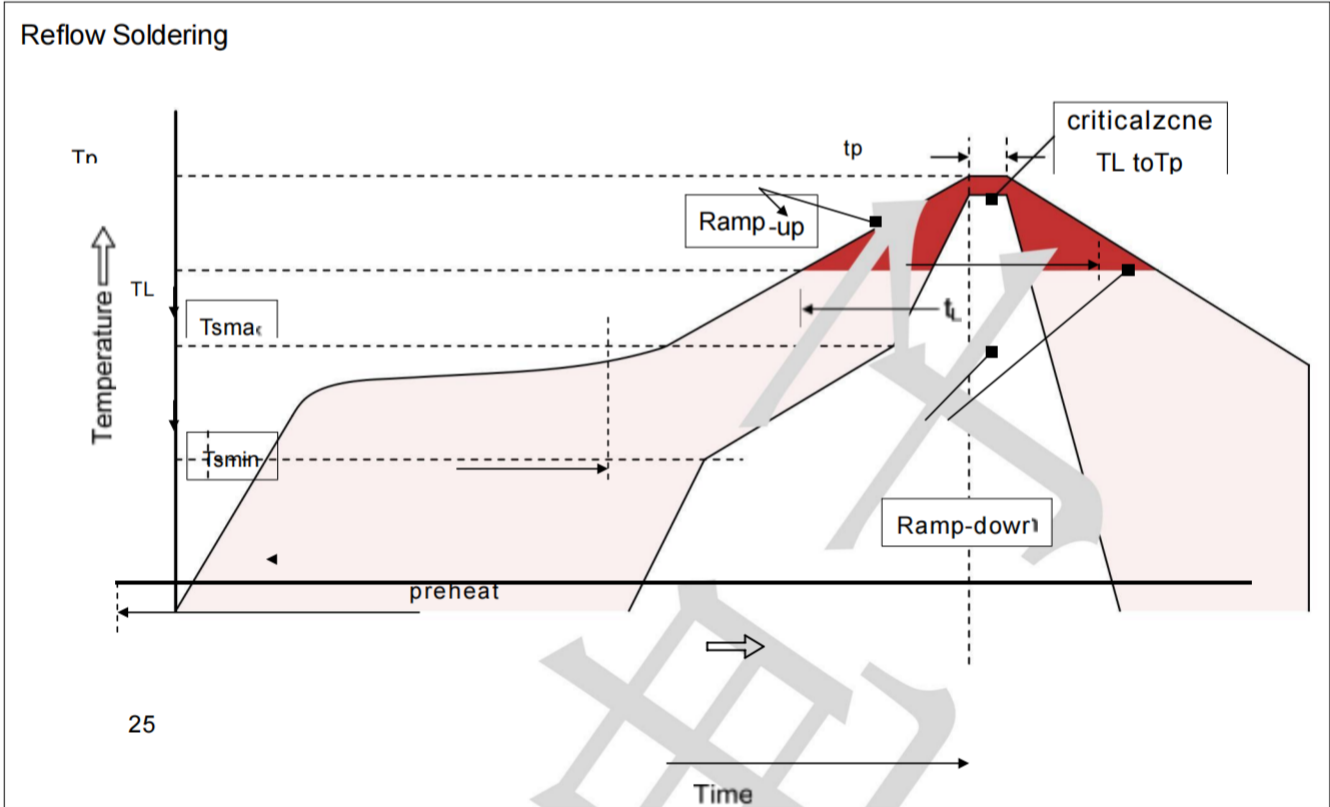


Fig.4 Power Derating Curve

Recommended Soldering Conditions

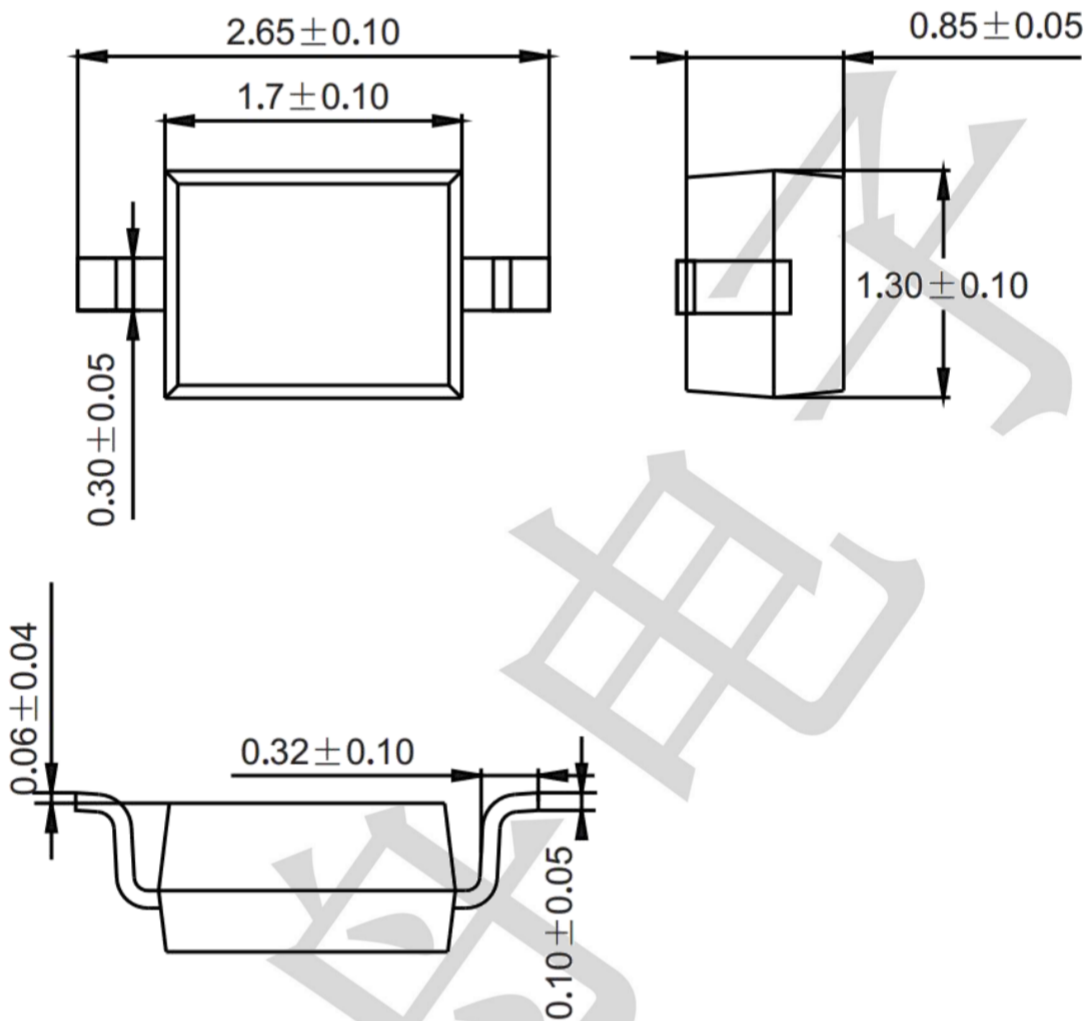


Recommended Conditions

| Profile Feature | Pb-Free Assembly |
|------------------------------------------------------|------------------|
| Average ramp-up rate (T_L to T_p) | 3°C/second max. |
| Preheat | |
| -Temperature Min (T_{Smin}) | 150°C |
| -Temperature Max (T_{Smax}) | 200°C |
| -Time (min to max) (t_s) | 60-180 seconds |
| T_{Smax} to T_L | |
| -Ramp-up Rate | 3°C/second max. |
| Time maintained above: | |
| -Temperature (T_L) | 217°C |
| -Time (t_L) | 60-150 seconds |
| Peak Temperature (T_p) | 260°C |
| Time within 5°C of actual Peak Temperature (t_p) | 20-40 seconds |
| Ramp-down Rate | 6°C/second max. |
| Time 25°C to Peak Temperature | 8 minutes max. |

Package Outline Dimensions (unit: mm)

SOD-323



Mounting Pad Layout (unit: mm)

