

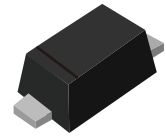
FEATURES

- | Ultra Small Mold Type

- | Low V_F

- | High Reliability

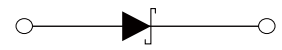
- | Meet AEC-Q101 Requirements



SOD-523



Marking



Schematic Symbol

APPROVALS

| | |
|-------------|------------------------------------|
| RoHS | Compliance with 2011/65/EU |
| HF | Compliance with IEC61249-2-21:2003 |

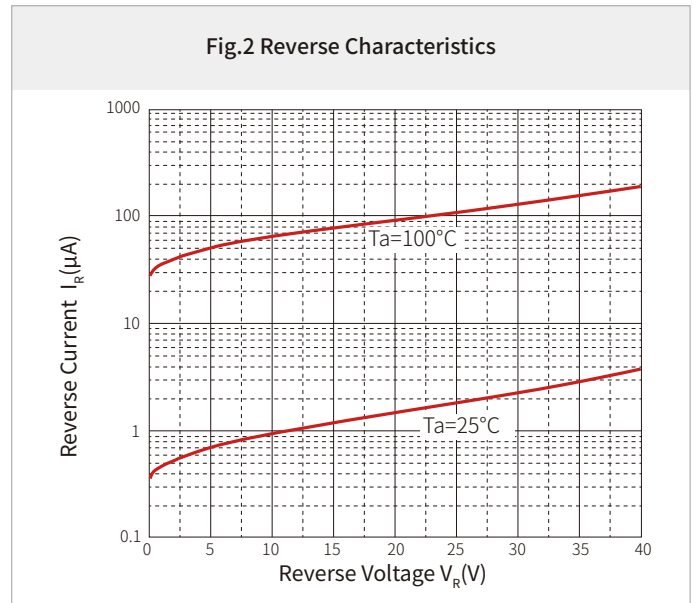
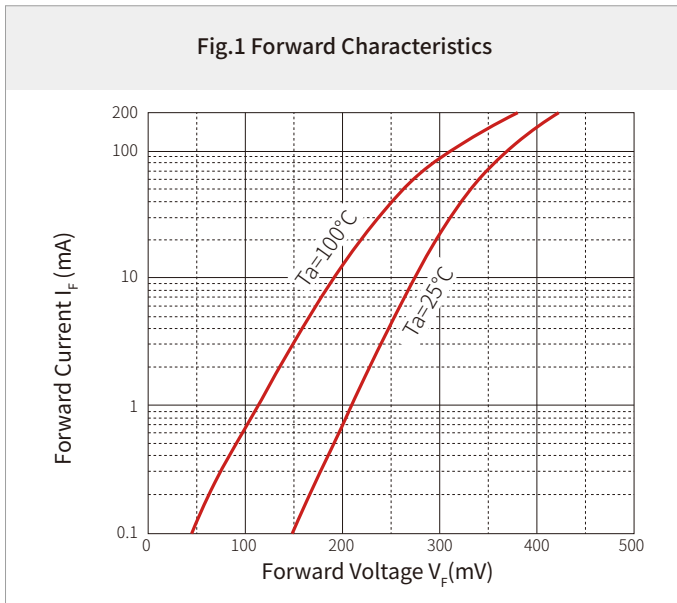
MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

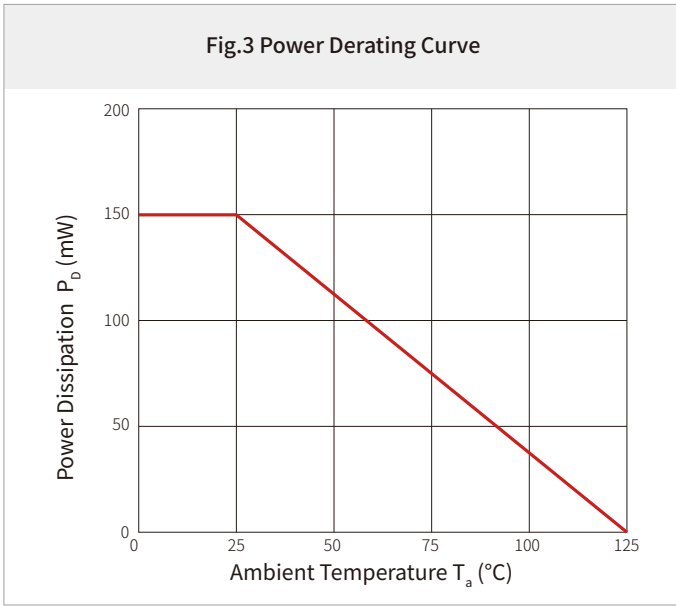
| Parameter | Symbol | Value | Unit |
|--|--------------|------------|-----------------------------|
| Non-repetitive peak reverse voltage | V_{RM} | 45 | V |
| Peak repetitive reverse voltage | V_{RRM} | 40 | V |
| Working peak reverse voltage | V_{RWM} | 40 | V |
| RMS reverse voltage | $V_{R(RMS)}$ | 28 | V |
| Mean rectifying current | I_O | 200 | mA |
| Non-repetitive peak forward surge current @ $t = 8.3\text{ms}$ | I_{FSM} | 1 | A |
| Power Dissipation | P_D | 150 | mW |
| Thermal resistance from junction to ambient | $R_C^{1)}$ | 667 | $^{\circ}\text{C}/\text{W}$ |
| Operating junction temperature range | T_J | -40 to 125 | $^{\circ}\text{C}$ |
| Storage temperature range | T_{STG} | -55 to 150 | $^{\circ}\text{C}$ |

ELECTRICAL CHARACTERISTICS(T_A=25°C)

| Parameter | Symbol | Test Conditions | Min. | Typ. | Max. | Unit |
|-----------------|-------------------|-----------------------|------|------|------|------|
| Forward voltage | V _F | I _F =10mA | 0.16 | | 0.3 | V |
| | | I _F =100mA | 0.31 | | 0.45 | V |
| | | I _F =200mA | 0.41 | | 0.54 | V |
| Reverse voltage | V _(BR) | I _R =0.1mA | 40 | | | V |
| Reverse current | I _R | V _R =10V | | | 20 | μA |
| | | V _R =40V | | | 90 | μA |

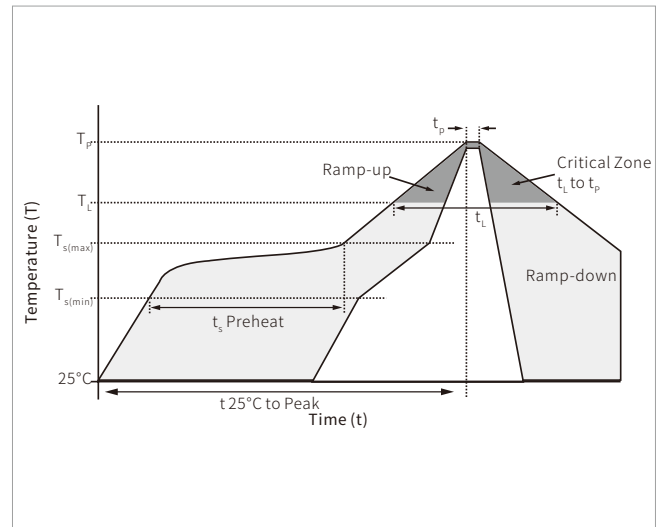
CHARACTERISTIC CURVES



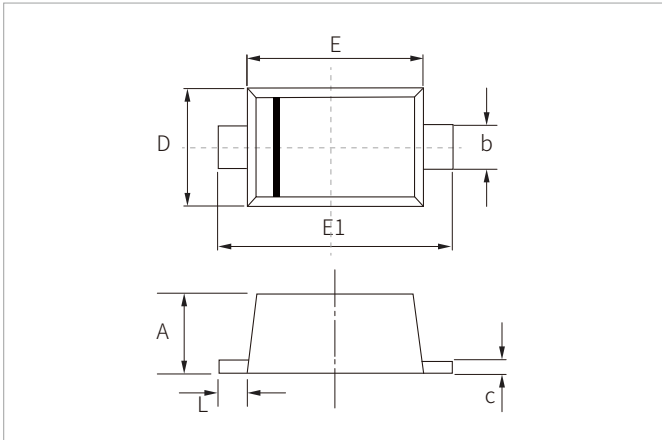


SOLDERING PARAMETERS

| Reflow Condition | | Lead-free assembly |
|--|----------------------------------|--------------------|
| Pre Heat | Temperature Max ($T_{s(min)}$) | 150°C |
| | Temperature Max ($T_{s(max)}$) | 200°C |
| | Time (min to max) (t_s) | 60 – 180 secs |
| Average ramp up rate (Liquidus Temp (T_L) to peak) | | 3°C/second max |
| $T_{s(max)}$ to T_L - Ramp-up Rate | | 3°C/second max |
| Reflow | Temperature (T_L) (Liquidus) | 217°C |
| | Time (min to max) (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 (T_p) | | 8 minutes max. |
| Do not exceed | | 260°C |

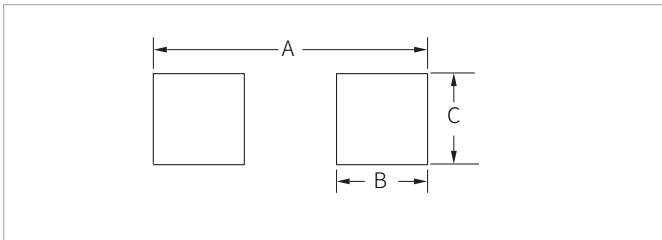


SOD-523 PACKAGE INFORMATION



| Ref. | Millimeters | | Inches | |
|------|-------------|------|--------|-------|
| | Min. | Max. | Min. | Max. |
| A | 0.50 | 0.80 | 0.020 | 0.031 |
| b | 0.25 | 0.35 | 0.010 | 0.014 |
| c | 0.07 | 0.20 | 0.003 | 0.008 |
| D | 0.70 | 0.90 | 0.028 | 0.035 |
| E | 1.10 | 1.30 | 0.043 | 0.051 |
| E1 | 1.50 | 1.70 | 0.059 | 0.067 |
| L | 0.15 | 0.25 | 0.006 | 0.010 |

RECOMMENDED PAD LAYOUT DIMENSIONS



| Ref. | Millimeters | Inches |
|------|-------------|--------|
| | Min. | Min. |
| A | 2.00 | 0.0787 |
| B | 0.60 | 0.0236 |
| C | 0.70 | 0.0276 |

ORDERING INFORMATION

| Part Number | Component Package | QTY/Reel | Reel Size |
|-------------|-------------------|----------|-----------|
| SRB521S-40Q | SOD-523 | 8000PCS | 7" |

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