

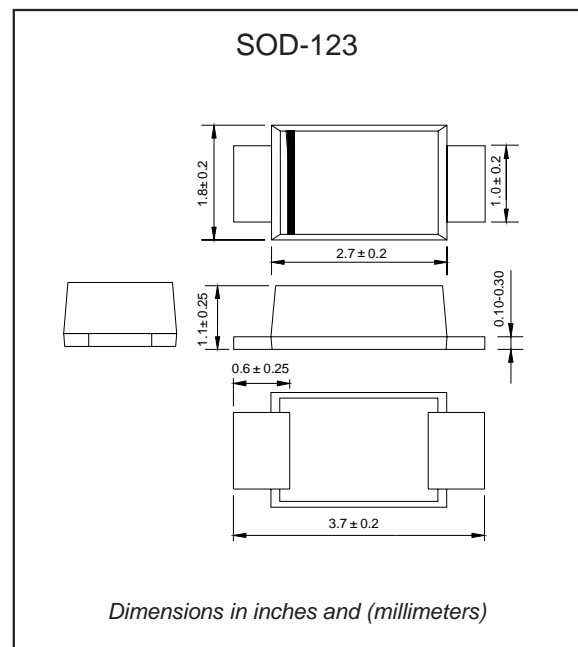
Features

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ Metal silicon junction, majority carrier conduction
- ◆ Low power loss, high efficiency
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed: 260°C/10 seconds
- ◆ Compliant to RoHS Directive 2011/65/EU
- ◆ Compliant to Halogen-free

Mechanical data

- ◆ **Case**: JEDEC SOD-123 molded plastic body
- ◆ **Terminals**: Plated axial leads, solderable per MIL-STD-750, Method 2026
- ◆ **Polarity**: Color band denotes cathode end
- ◆ **Mounting Position**: Any

Package outline



Maximum ratings and Electrical Characteristics (AT $T_A=25^\circ\text{C}$ unless otherwise noted)

| PARAMETER | SYMBOLS | DSK32 | DSK33 | DSK34 | DSK35 | DSK36 | DSK38 | DSK310 | DSK315 | DSK320 | UNITS |
|--|-----------------|-------------|-------|-------|-------|-------------|-------|--------|--------|--------|---------------------------|
| Maximum repetitive peak reverse voltage | V_{RRM} | 20 | 30 | 40 | 50 | 60 | 80 | 100 | 150 | 200 | V |
| Maximum RMS voltage | V_{RMS} | 14 | 21 | 28 | 35 | 42 | 56 | 70 | 105 | 140 | V |
| Maximum DC blocking voltage | V_{DC} | 20 | 30 | 40 | 50 | 60 | 80 | 100 | 150 | 200 | V |
| Maximum average forward rectified current at T_L (see fig.1) | $I_{(AV)}$ | 3.0 | | | | | | | | | A |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load | I_{FSM} | 60.0 | | | | | | | | | A |
| Maximum instantaneous forward voltage at 3.0A | V_F | 0.55 | | | 0.70 | | 0.85 | | 0.92 | | V |
| Maximum DC reverse current at rated DC blocking voltage | I_R | 0.5 | | | 0.1 | | 5.0 | | 2.0 | | mA |
| Typical junction capacitance (NOTE 1) | C_J | 240 | | | | | | | | | pF |
| Typical thermal resistance (NOTE 2) | $R_{\theta JA}$ | 80 | | | | | | | | | $^\circ\text{C}/\text{W}$ |
| Operating junction temperature range | T_J | -55 to +125 | | | | -55 to +150 | | | | | $^\circ\text{C}$ |
| Storage temperature range | T_{STG} | -55 to +150 | | | | | | | | | $^\circ\text{C}$ |

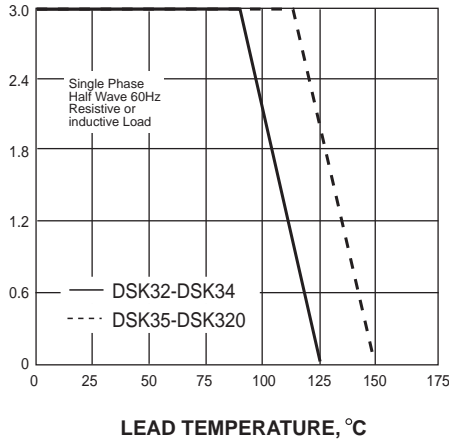
Note:1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

2. P.C.B. mounted with 2.0x2.0" (5.0x5.0cm) copper pad areas

Rating and characteristic curves

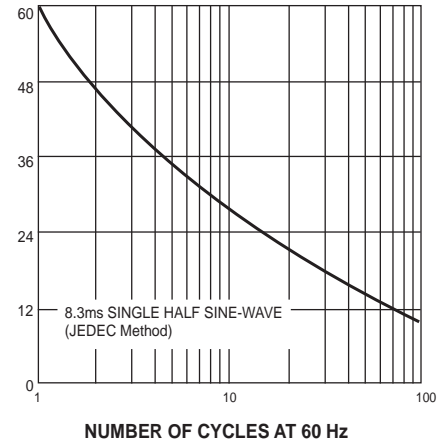
AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



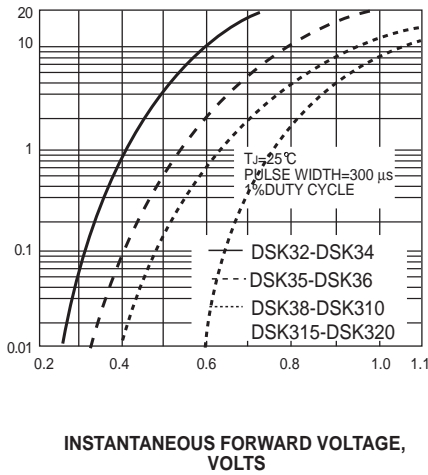
PEAK FORWARD SURGE CURRENT, AMPERES

FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



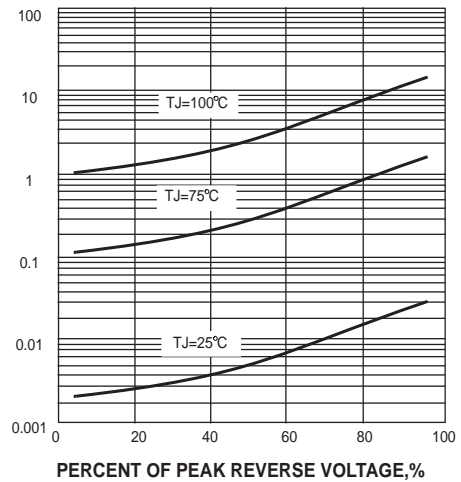
INSTANTANEOUS FORWARD CURRENT, AMPERES

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



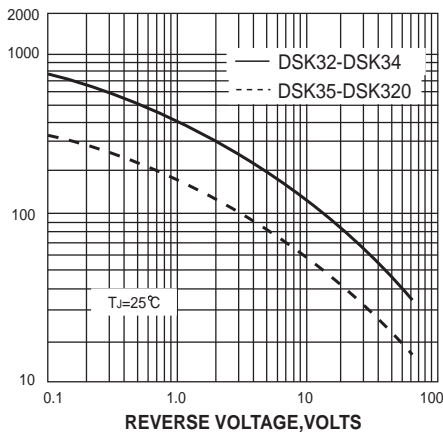
INSTANTANEOUS REVERSE CURRENT, MILLIAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS





JUNCTION CAPACITANCE, pF

FIG. 5-TYPICAL JUNCTION CAPACITANCE



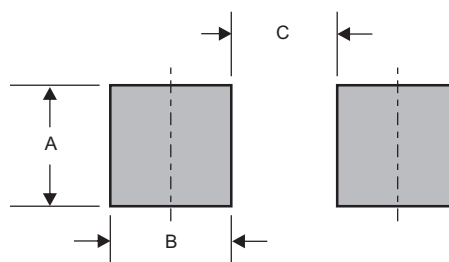
Pinning information

| Pin | Simplified outline | Symbol |
|----------------------------|---|---|
| Pin1 cathode Pin2 anode |  |  |

Marking

| Type number | Marking code |
|-------------|--------------|
| DSK32 | K32 |
| DSK33 | K33 |
| DSK34 | K34 |
| DSK35 | K35 |
| DSK36 | K36 |
| DSK38 | K38 |
| DSK310 | K310 |
| DSK315 | K315 |
| DSK320 | K320 |

Suggested solder pad layout

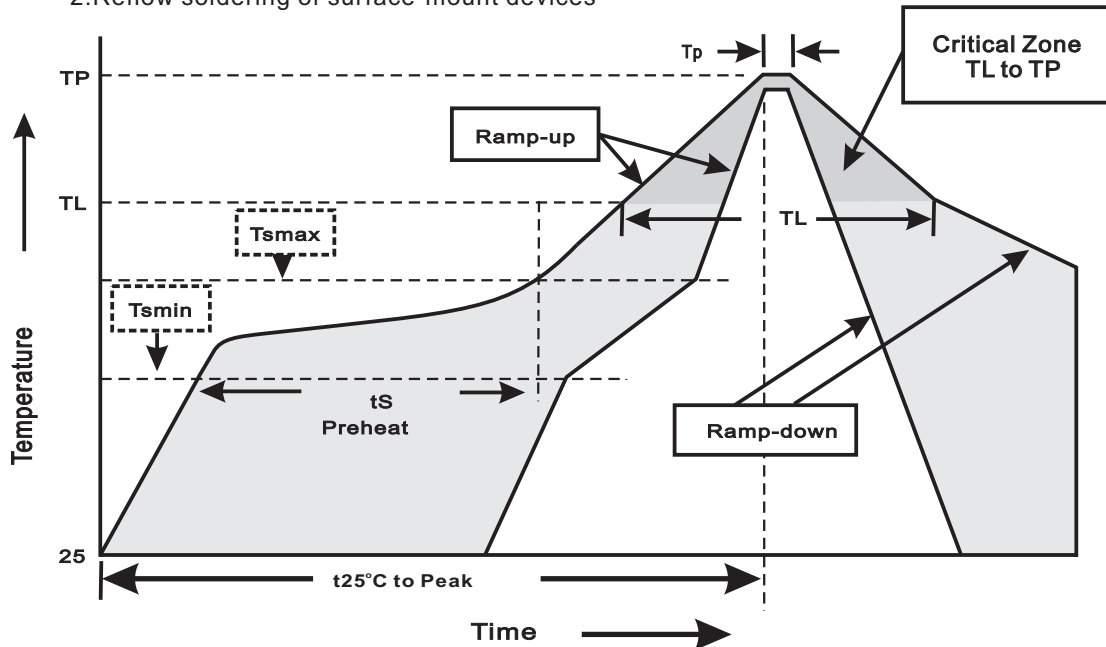


Dimensions in inches and (millimeters)

| PACKAGE | A | B | C |
|---------|--------------|--------------|--------------|
| SOD-123 | 0.075 (1.90) | 0.055 (1.40) | 0.075 (1.90) |

Suggested thermal profiles for soldering processes

- 1.Storage environment: Temperature=5°C~40°C Humidity=55%±25%
- 2.Reflow soldering of surface-mount devices



3.Reflow soldering

| Profile Feature | Soldering Condition |
|--|-----------------------------|
| Average ramp-up rate(TL to TP) | <3°C/sec |
| Preheat -Temperature Min(Tsmin) -Temperature Max(Tsmax) -Time(min to max)(ts) | 150°C 200°C 60~120sec |
| Tsmax to TL -Ramp-upRate | <3°C/sec |
| Time maintained above: -Temperature(TL) -Time(tL) | 217°C 60~260sec |
| Peak Temperature(TP) | 255°C-0/+5°C |
| Time within 5°C of actual Peak Temperature(tp) | 10~30sec |
| Ramp-down Rate | <6°C/sec |
| Time 25°C to Peak Temperature | <6minutes |

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