

1.0A Surface Mount Schottky Barrier Rectifiers - 20V-200V

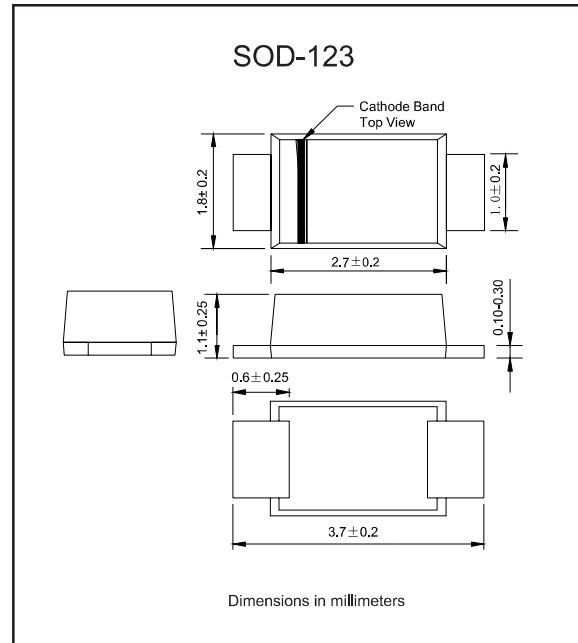
Features

- ▶ 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:
250°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension
- ▶ 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
- ▶ **Weight**: 0.0007 ounce, 0.02 grams

Package outline



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

| PARAMETER | CONDITIONS | Symbol | MIN. | TYP. | MAX. | UNIT |
|----------------------------|---|-----------------|------|------|------|---------------------------|
| Forward rectified current | See Fig.2 | I_O | | | 1.0 | A |
| Forward surge current | 8.3ms single half sine-wave (JEDEC methode) | I_{FSM} | | | 25 | A |
| Reverse current | $V_R = V_{RRM} \quad T_A = 25^\circ\text{C}$ | I_R | | | 0.5 | mA |
| | $V_R = V_{RRM} \quad T_A = 100^\circ\text{C}$ | | | | 10 | |
| Thermal resistance | Junction to ambient NOTE 1 | $R_{\theta JA}$ | | 92 | | $^\circ\text{C}/\text{W}$ |
| Diode junction capacitance | f=1MHz and applied 4V DC reverse voltage | C_J | | 110 | | pF |
| Storage temperature | | T_{STG} | -65 | | +150 | $^\circ\text{C}$ |

Note: 1.P.C.B. mounted with 0.2x0.2" (5.0x5.0mm) copper pad areas

| SYMBOLS | V_{RRM}^{*1} (V) | V_{RMS}^{*2} (V) | V_R^{*3} (V) | V_F^{*4} (V) | Operating temperature T_J , ($^\circ\text{C}$) |
|---------|-----------------------|-----------------------|-------------------|-------------------|---|
| DSK12 | 20 | 14 | 20 | 0.55 | -55 to +125 |
| DSK13 | 30 | 21 | 30 | | |
| DSK14 | 40 | 28 | 40 | | |
| DSK15 | 50 | 35 | 50 | 0.70 | -55 to +150 |
| DSK16 | 60 | 42 | 60 | | |
| DSK18 | 80 | 56 | 80 | 0.85 | |
| DSK110 | 100 | 70 | 100 | | |
| DSK115 | 150 | 105 | 150 | 0.92 | |
| DSK120 | 200 | 140 | 200 | | |

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage@ $I_F=1.0\text{A}$

Rating and characteristic curves (DSK12 THRU DSK120)

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

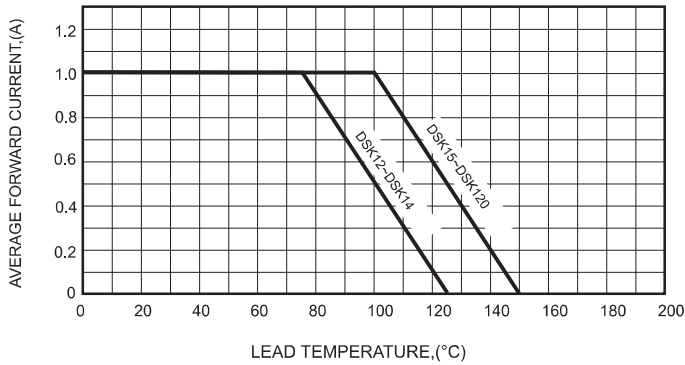


FIG.2-TYPICAL FORWARD CHARACTERISTICS

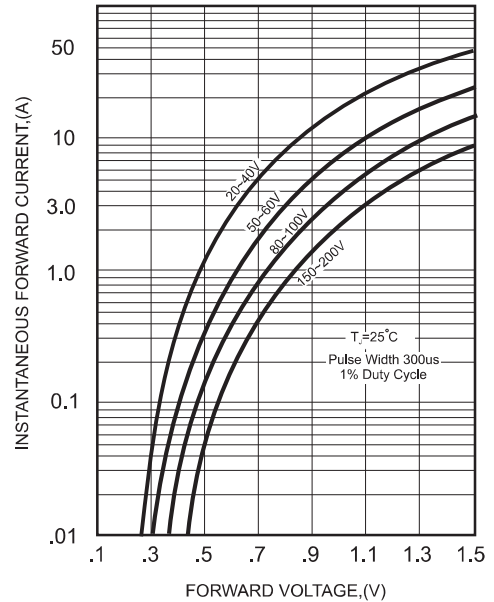


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

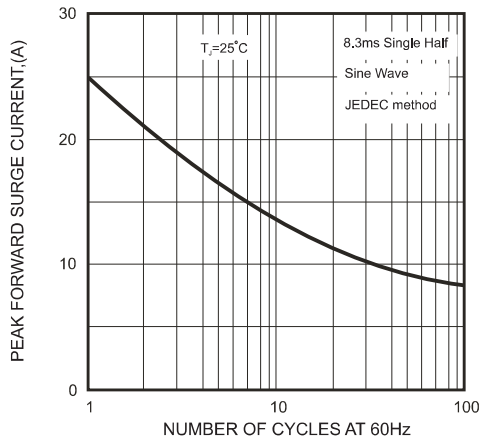


FIG.4-TYPICAL JUNCTION CAPACITANCE

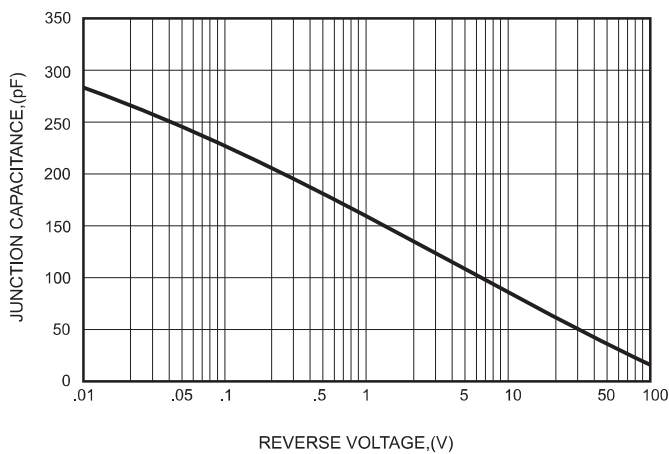
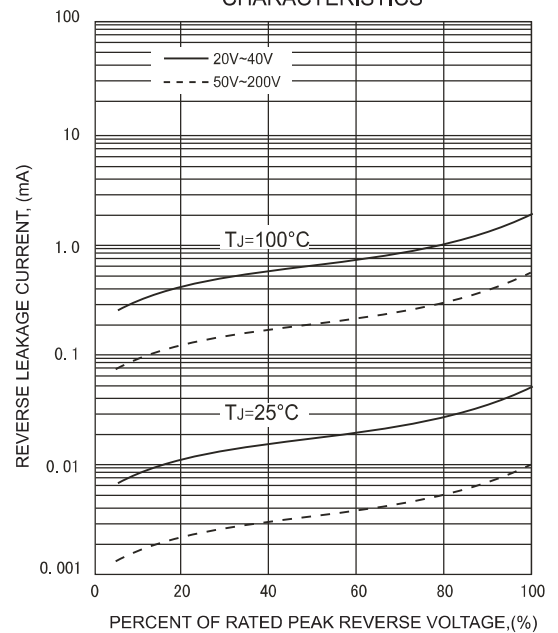




FIG.5 - TYPICAL REVERSE CHARACTERISTICS



Pinning information

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

Marking

| Type number | Marking code |
|-------------|--------------|
| DSK12 | 12 |
| DSK13 | 13 |
| DSK14 | 14 |
| DSK15 | 15 |
| DSK16 | 16 |
| DSK18 | 18 |
| DSK110 | 10 |
| DSK115 | 115 |
| DSK120 | 120 |

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) |

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