

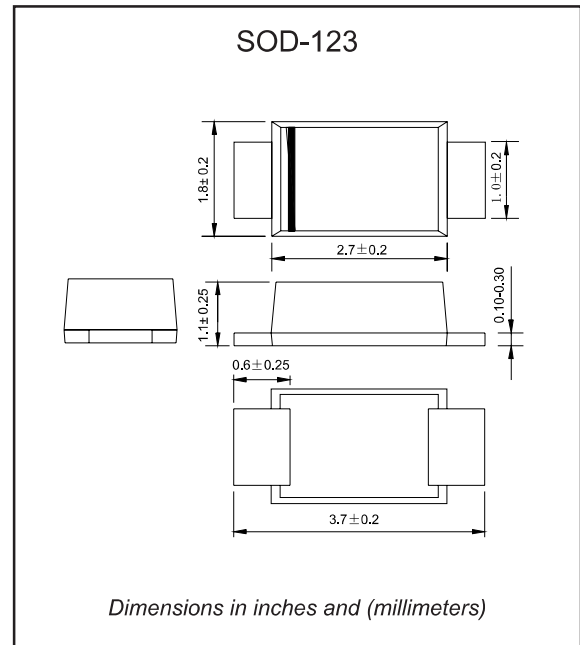
Features

- ▶ 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	DSS12	DSS13	DSS14	DSS15	DSS16	DSS18	DSS110	DSS115	DSS120	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)	$I_{(AV)}$	1.0									A	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	30.0									A	
Maximum instantaneous forward voltage at 1.0A	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		10.0		5.0		2.0		mA
Typical junction capacitance (NOTE 1)	C_J	110									pF	
Typical thermal resistance (NOTE 2)	$R_{\theta JA}$	92									$^\circ\text{C}/\text{W}$	
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

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

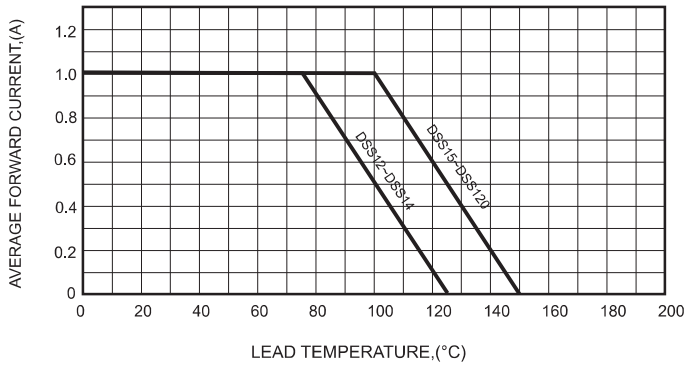


FIG.2-TYPICAL FORWARD CHARACTERISTICS

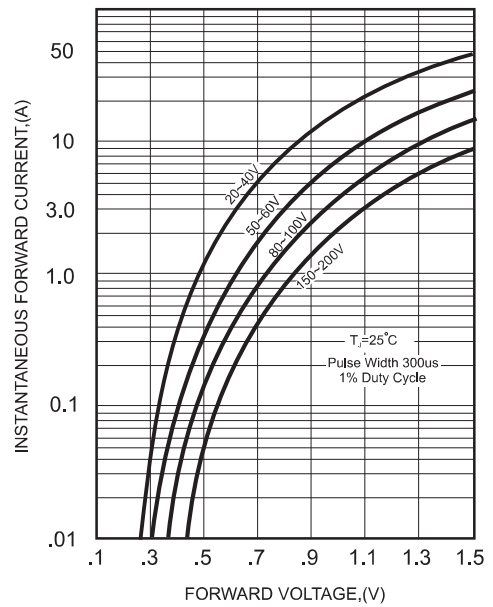


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

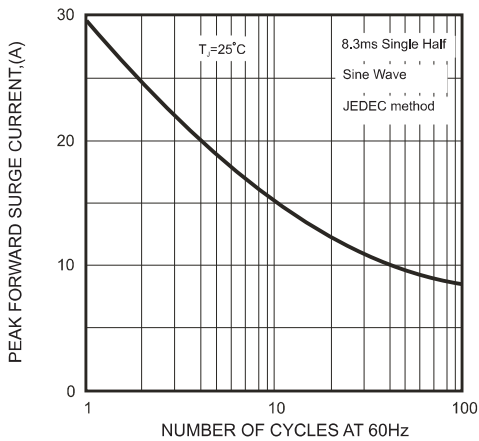


FIG.4-TYPICAL JUNCTION CAPACITANCE

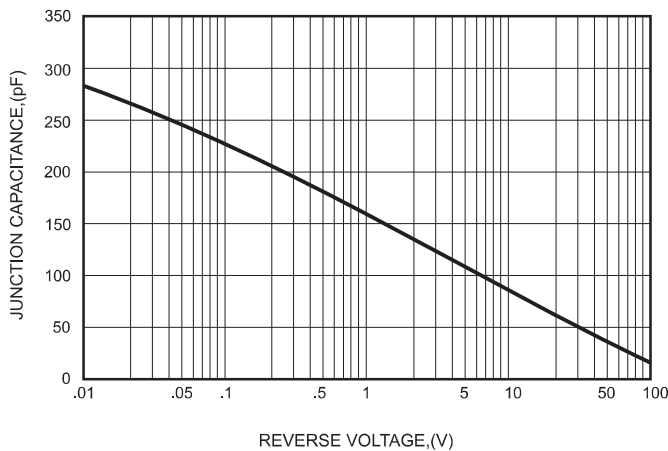
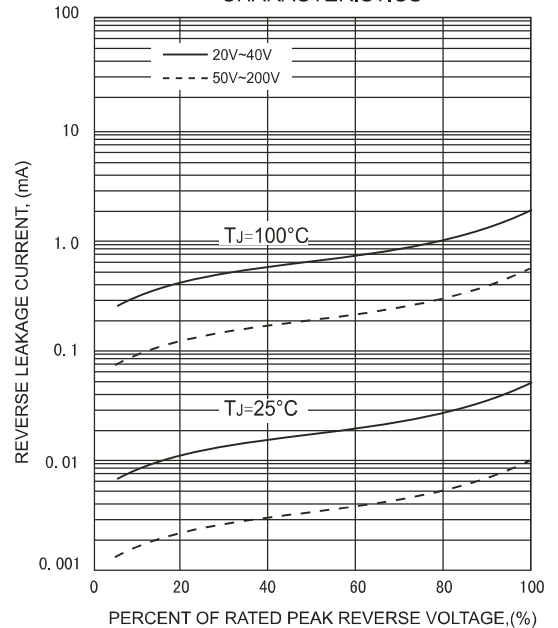




FIG.5 - TYPICAL REVERSE CHARACTERISTICS



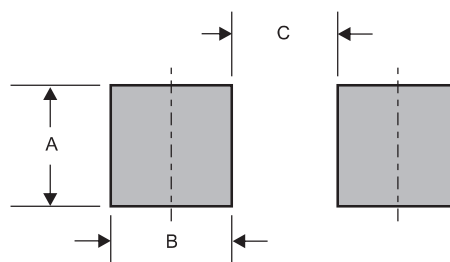
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Marking

Type number	Marking code
DSS12	K12
DSS13	K13
DSS14	K14
DSS15	K15
DSS16	K16
DSS18	K18
DSS110	K110
DSS115	K115
DSS120	K120

Suggested solder pad layout

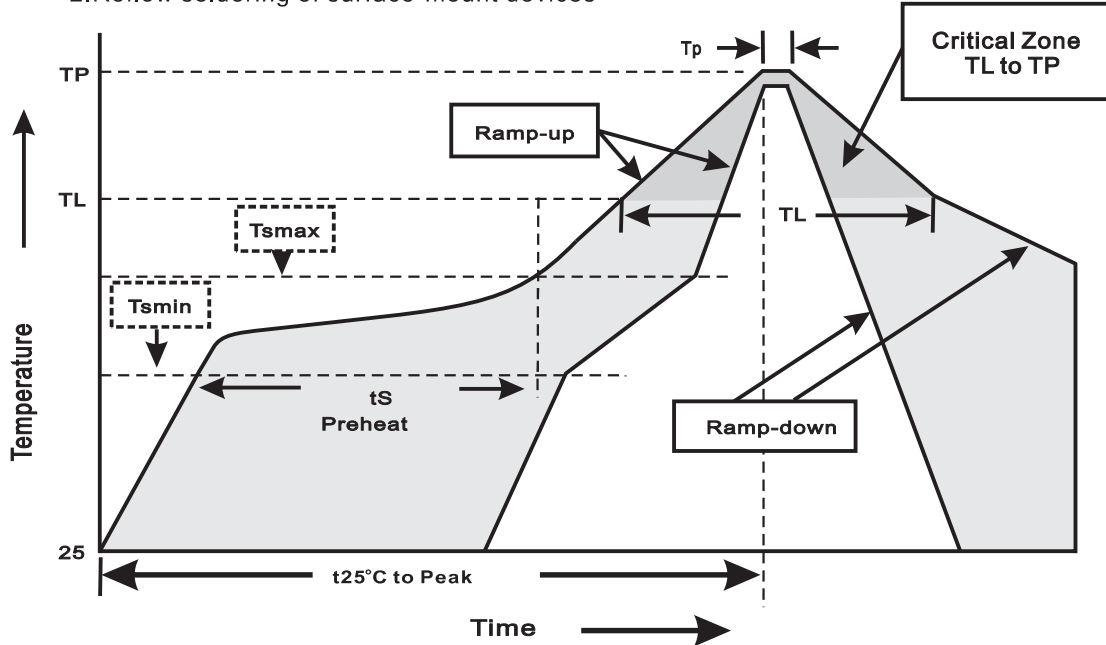


Dimensions in inches and (millimeters)

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(T _L to T _P)	<3°C/sec
Preheat -Temperature Min(T _{smin}) -Temperature Max(T _{smax}) -Time(min to max)(t _s)	150°C 200°C 60~120sec
T _{smax} to T _L -Ramp-upRate	<3°C/sec
Time maintained above: -Temperature(T _L) -Time(t _L)	217°C 60~260sec
Peak Temperature(T _P)	255°C-0/+5°C
Time within 5°C of actual Peak Temperature(t _P)	10~30sec
Ramp-down Rate	<6°C/sec
Time 25°C to Peak Temperature	<6minutes

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