

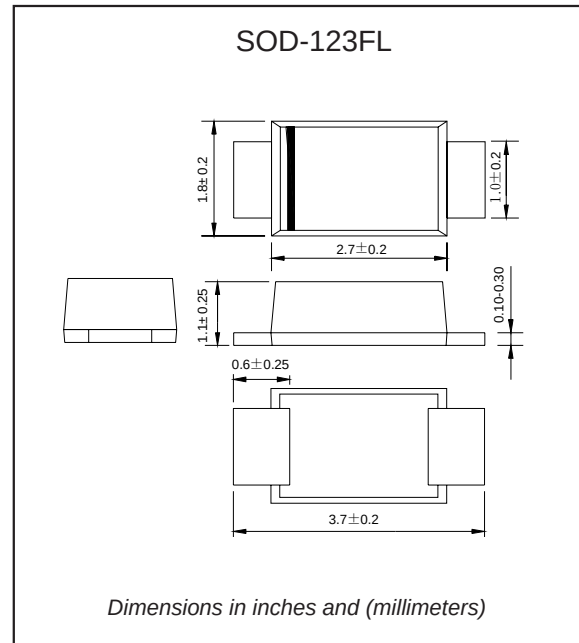
Features

- ◆ 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-123FL 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

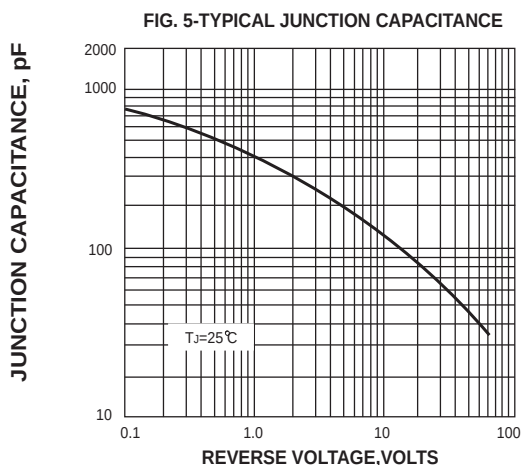
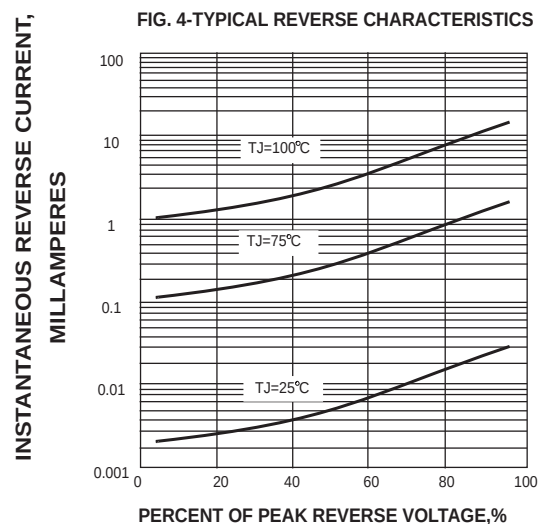
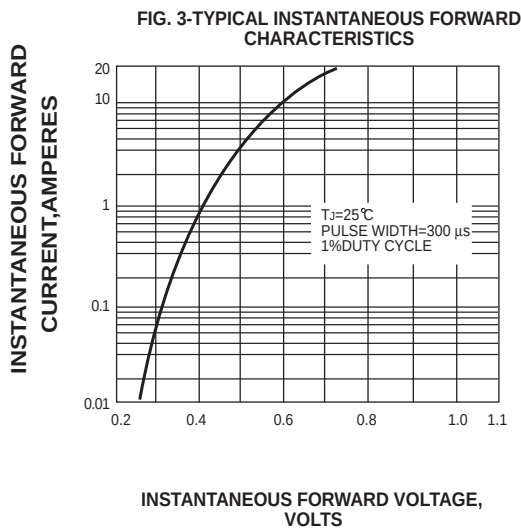
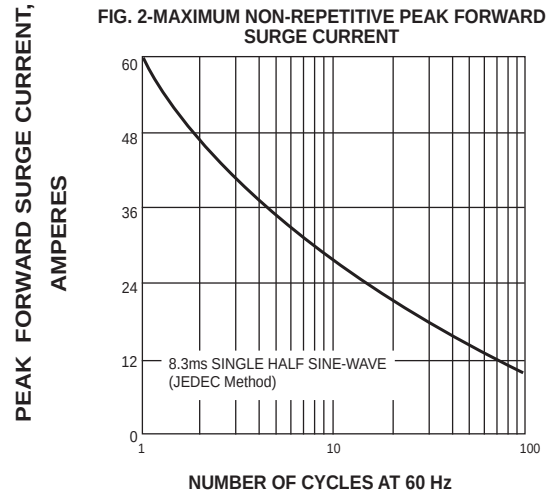
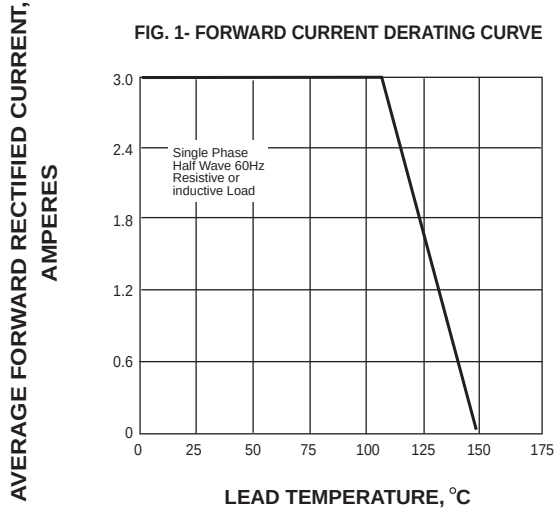


Maximum ratings and Electrical Characteristics (AT T_A=25°C unless otherwise noted)

PARAMETER	SYMBOLS	FSTPS1L40M	UNITS
Maximum repetitive peak reverse voltage	V _{RRM}	40	V
Maximum RMS voltage	V _{RMS}	28	V
Maximum DC blocking voltage	V _{DC}	40	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	V
Maximum DC reverse current T _A =25°C	I _R	0.06	mA
at rated DC blocking voltage T _A =100°C		10.0	
Typical junction capacitance (NOTE 1)	C _J	240	pF
Typical thermal resistance (NOTE 2)	R _{θJA}	80	°C/W
Operating junction temperature range	T _J	-55 to +150	°C
Storage temperature range	T _{STG}	-55 to +150	°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



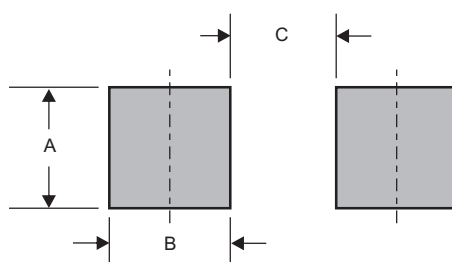
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Marking

Type number	Marking code
FSTPS1L40M	K34

Suggested solder pad layout

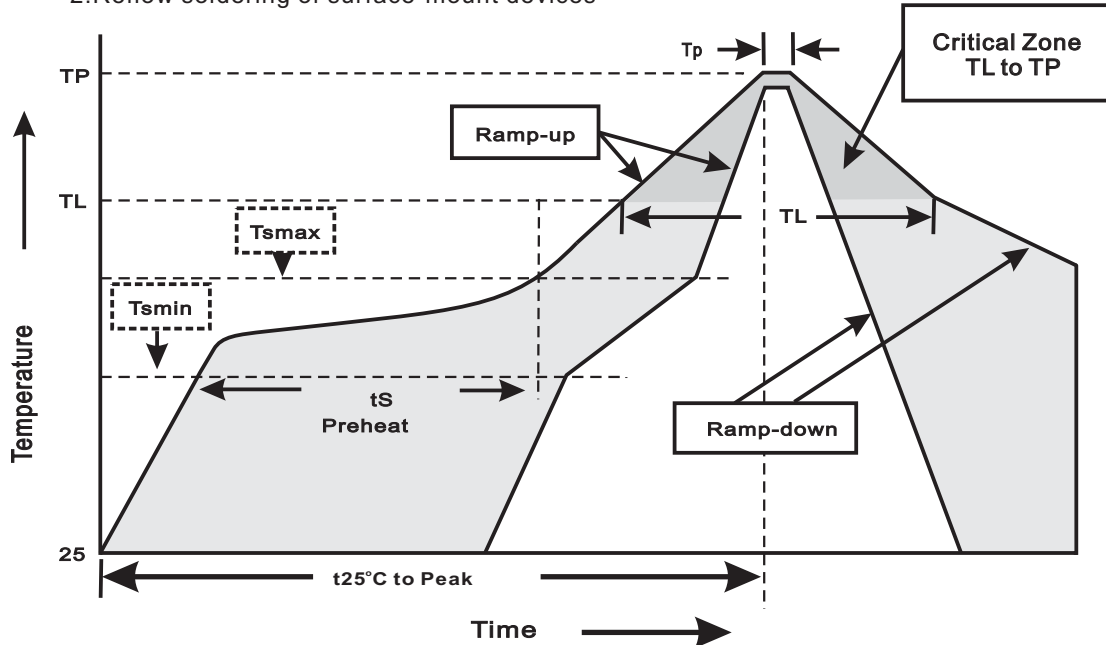


Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SOD-123FL	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)	$<3^{\circ}\text{C}/\text{sec}$
Preheat -Temperature Min(T_{min}) -Temperature Max(T_{max}) -Time(min to max)(t_s)	150°C 200°C $60\sim 120\text{sec}$
T_{max} to T_L -Ramp-upRate	$<3^{\circ}\text{C}/\text{sec}$
Time maintained above: -Temperature(T_L) -Time(t_L)	217°C $60\sim 260\text{sec}$
Peak Temperature(T_P)	$255^{\circ}\text{C}-0/+5^{\circ}\text{C}$
Time within 5°C of actual Peak Temperature(t_P)	$10\sim 30\text{sec}$
Ramp-down Rate	$<6^{\circ}\text{C}/\text{sec}$
Time 25°C to Peak Temperature	$<6\text{minutes}$