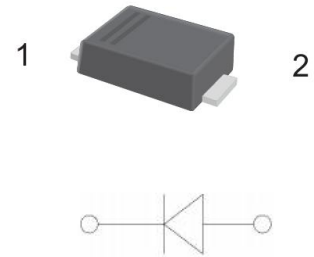


Features

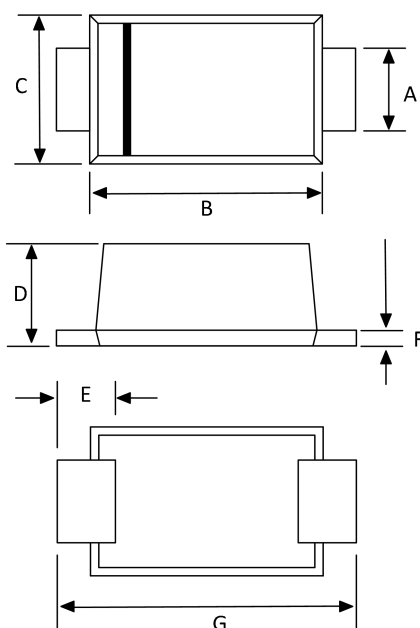
- ◆ Metal silicon junction, majority carrier conduction
- ◆ For surface mounted applications
- ◆ Low power loss,high efficiency
- ◆ High current capability, low forward voltage drop
- ◆ Meets MSL level 1, per J-STD-020
- ◆ Plastic package has underwriters laboratory flammability 94V-0
- ◆ Polarity: color band denotes cathode end



Applications

- ◆ Low voltage high frequency inverters
- ◆ Freewheeling
- ◆ DC/DC converters
- ◆ Polarity protection applications

Dimensions (SOD-123FL)



Ref.	Millimeters		Inches	
	Min	Max	Min.	Max.
A	0.70	1.10	0.028	0.043
B	2.50	2.90	0.098	0.114
C	1.50	1.90	0.059	0.075
D	0.90	1.10	0.035	0.043
E	0.55	0.95	0.022	0.037
F	0.10	0.20	0.004	0.008
G	3.40	3.80	0.134	0.150

Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	SS								Unit
		32S	34S	36S	38S	310S	312S	315S	320S	
Repetitive peak reverse voltage	V _{RRM}	20	40	60	80	100	120	150	200	V
Maximum RMS Voltage	V _{RMS}	14	28	42	56	70	84	105	140	V
Maximum DC Blocking Voltage	V _{DC}	20	40	60	80	100	120	150	200	V
Maximum Average Forward Rectified Current	I _{F(AV)}	3.0								A
Peak Forward Surge Current,8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I _{FSM}	80								A
Maximum instantaneous forward voltage @3A	V _F	0.55		0.70	0.85			0.95		V
Maximum DC reverse current at rated DC blocking voltage per diode@ V _{RM} =V _{RRM}	I _{R@25℃}	0.50		0.3						mA
	I _{R@100℃}	10		5.0						
Typical Junction Capacitance	C _J	250		160						pF
Thermal resistance	Rθ _{J-A}	80								℃/W
Junction temperature	T _j	-55~+125								℃
Storage temperature	T _{stg}	-55 ~+150								℃

Notes: 1. Measured at 1 MHz and applied reverse voltage of 4 V D.C
 2. P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.

Ratings and Characteristic Curves (T_A=25°C unless otherwise noted)

Figure 1. Average Forward Current

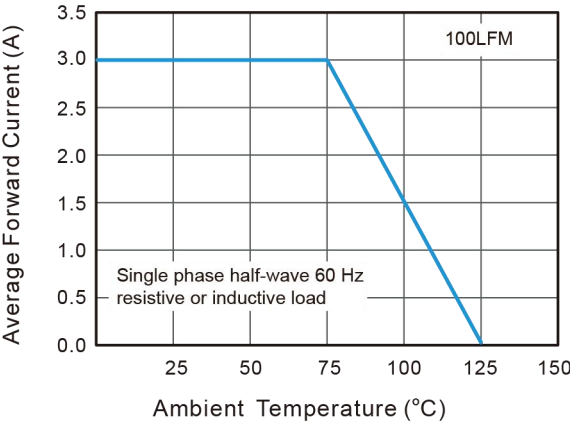


Figure 2. Forward Surge Current Derating Curve

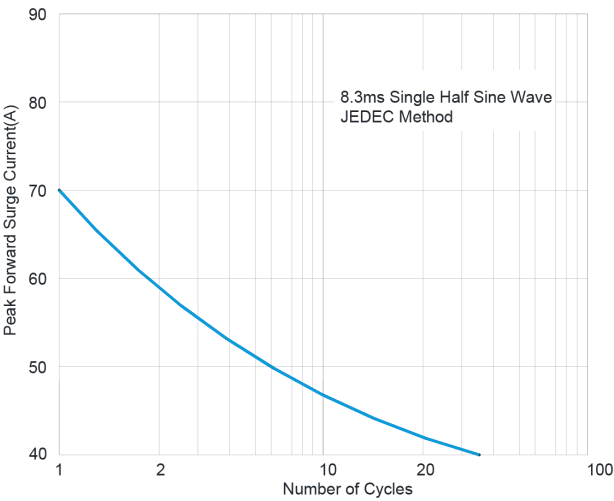


Figure 3. Typical Forward Characteristics

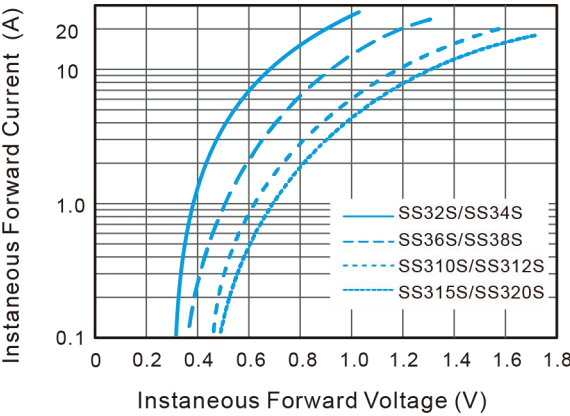
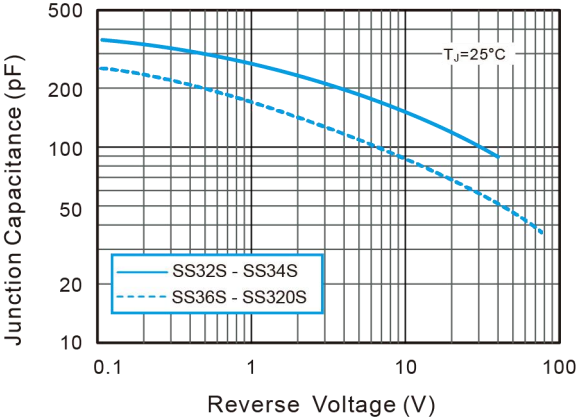
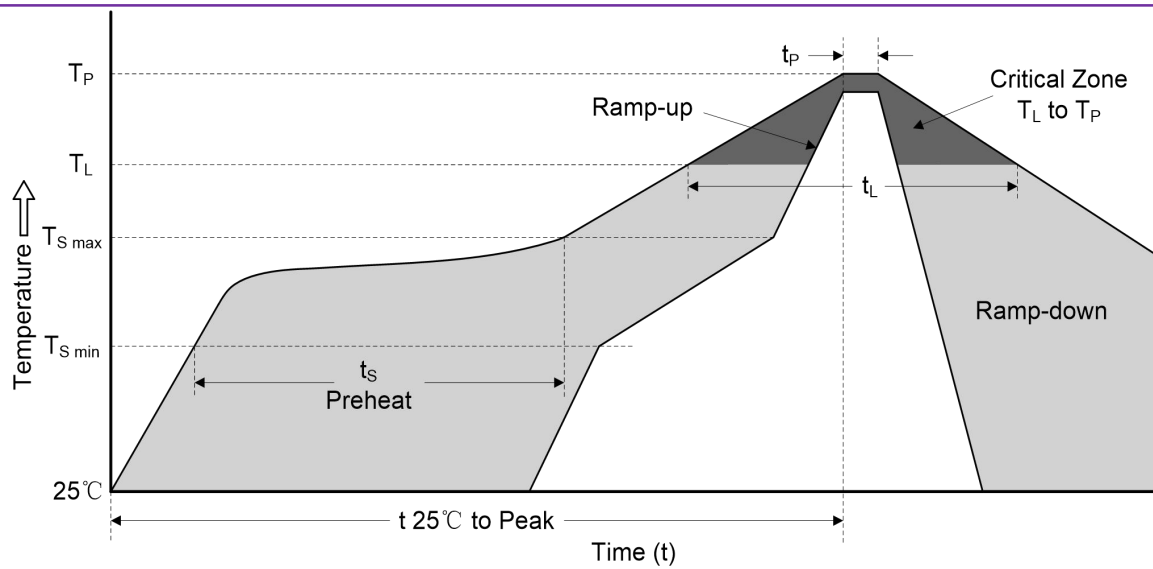


Figure 4. Typical Reverse Characteristics



Reflow Soldering Parameters



Reflow Condition		Lead-free Assembly
Pre heat	-Temperature Min ($T_{S\ min}$)	150°C
	-Temperature Max ($T_{S\ max}$)	200°C
	-Time (min to max) (t_s)	60-180 seconds
Average ramp-up rate (T_L to T_P)		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_s)	60-150 seconds
Peak Temperature (T_P)		260(+0/-5)°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