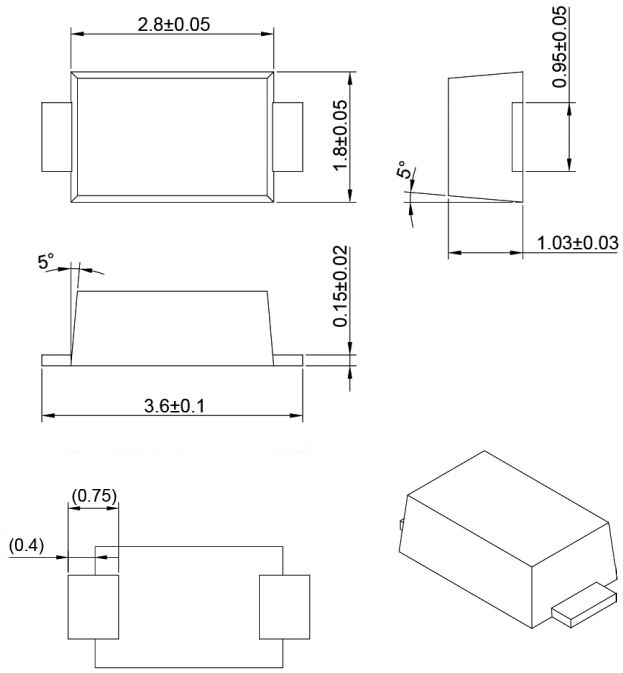
Surface Mount
ESD Capability Rectifiers
1.0 Amp 400V
SUF140L

SOD123-L



FEATURES

- Batch process design, excellent power dissipation offers better reverse leakage current and thermal resistance.
- Low profile surface mounted application in order to optimize board space.
- Small plastic SMD package.
- High surge and high current capability.
- Superfast recovery time for switching mode application.

MECHANICAL DATA

- Case: Molded plastic
- Epoxy: UL94-V0 rate flame retardant
- Weight: 0.0110 g (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Maximum Ratings (Tc=25°C unless otherwise noted)

Parameter	Symbol	SUF140L	Unit
Maximum repetitive peak reverse voltage	VRRM	400	V
RMS Voltage (Max.)	VRMS	280	V
Working peak reverse voltage	VRWM	400	V
Maximum average forward rectified current	IF(AV)	1.0	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	IFSM	25	A
1pulse/4S t=500us exponent wave		150	
Operating junction temperature range	TJ	-55 to +150	°C
Storage temperature range	TSTG	-55 to +150	°C

Electrical characteristics (Tc=25°C unless otherwise noted)				
Parameter	**Symbol**	**Value**		**Unit**
		Typical	**Max**	
Instantaneous forward voltage at IF=1A, Tj=25°C	VF	1.0	1.25	V
at IF=0.7A, Tj=25°C		--	1.1	
Maximum reverse current per leg Tj=25°C	IR	10		u'A
at working peak reverse voltage Tj=100°C		100		u'A
Reverse Recovery Time	TRR	35		ns

Thermal characteristics (Tc=25°C unless otherwise noted)			
Parameter	**Symbol**	**Value**	**Unit**
Typical thermal resistance	RθJA	42	°C/W

Notes:

(1) Pulse test: 300 μs pulse width, 1 % duty cycle

(2) Pulse test: Pulse width ≤ 40 ms

Ordering Information			
Device	**Package**	**Mark**	**Shipping**
SUF140L	SOD123-L	E6	3,000/ Tape& Reel

RATINGS AND CHARACTERISTIC CURVES

FIG 1 Typical Forward Characteristics

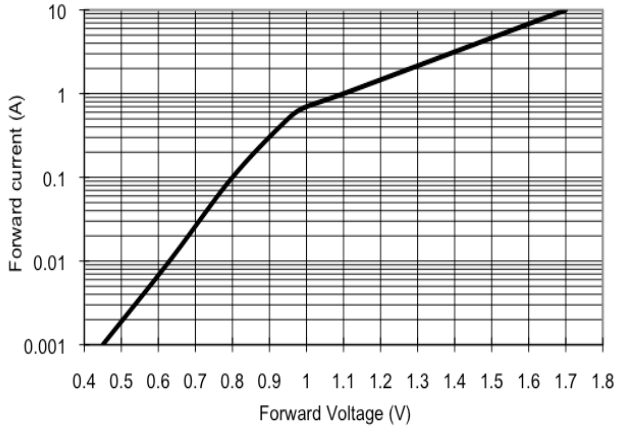


FIG.2 Maximum Forward Current Derating Curve

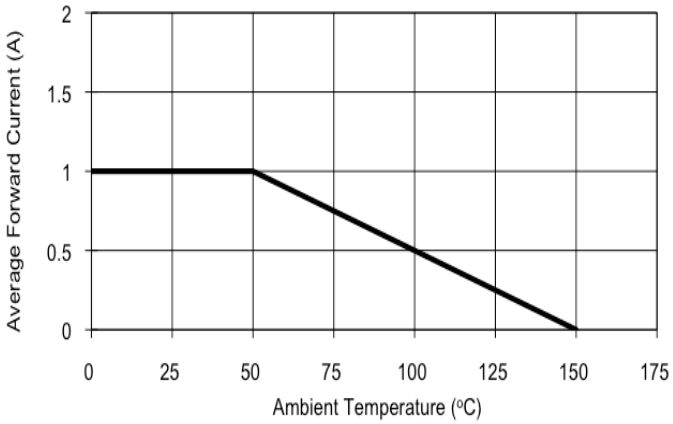
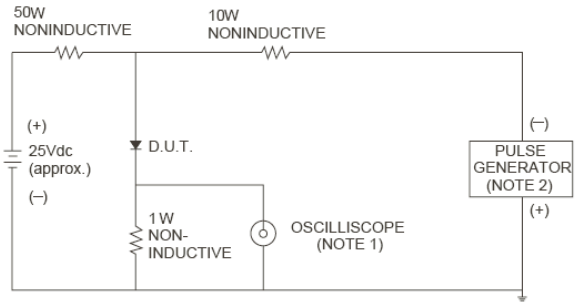


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm.22pF.

2. Rise Time= 10ns max., Source Impedance= 50 ohms.

FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

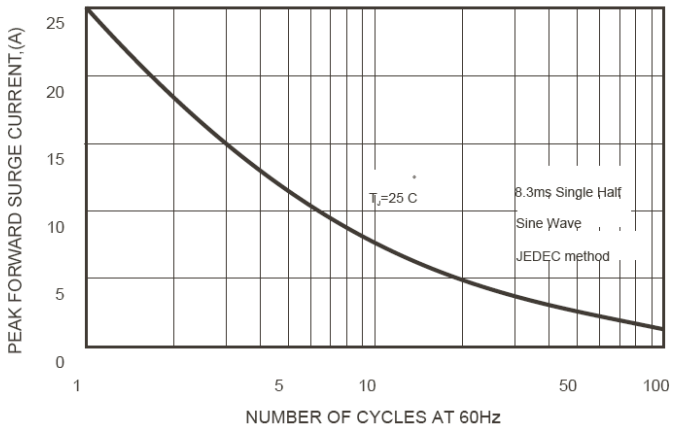


FIG.5-TYPICAL JUNCTION CAPACITANCE