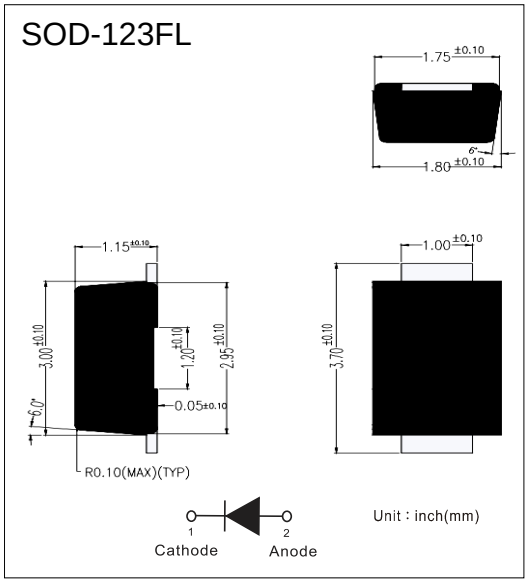
ES1A-ES1J

1A, 50V - 600V Surface Mount Super Fast Rectifiers

Features

- Glass passivated junction chip
- Ideal for automated placement
- Super fast recovery time for high efficiency
- Built-in strain relief
- Comply with RoHS standard, halogen-free



Mechanical Data

- package:SOD-123FL
- Polarity: Indicated by cathode band
- Epoxy: UL 94V-0 rate flame retardant
- Mounting Position : Any

Maximum Ratings And Electrical Characteristics(T_A=25°C unless otherwise noted)

PARAMETER	SYMBOL	ES1A	ES1B	ES1C	ES1D	ES1F	ES1G	ES1H	ES1J	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	150	200	300	400	500	600	V
Maximum RMS voltage	V_{RMS}	35	70	105	140	210	280	350	420	V
Maximum DC blocking voltage	V_{DC}	50	100	150	200	300	400	500	600	V
Maximum average forward rectified current	$I_{F(AV)}$	1								A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	30								A
Maximum instantaneous forward voltage (Note 1) @ 1 A	V_F	0.95				1.3		1.7		V
Maximum reverse current @ rated V_R T_J=25°C T_J=125°C	I_R	5 100								μA
Maximum reverse recovery time (Note 2)	t_{rr}	35								ns
Typical junction capacitance (Note 3)	C_J	16				18				pF
Typical thermal resistance	$R_{\theta JL}$ $R_{\theta JA}$	35 85								°C/W
Operating junction temperature range	T_J	- 55 to +150								°C
Storage temperature range	T_{STG}	- 55 to +150								°C

Note 1: Pulse test with PW=300μs, 1% duty cycle
Note 2: Reverse Recovery Test Conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A
Note 3: Measured at 1 MHz and Applied V_R=4.0 Volts

■ Ratings And Characteristics Curves(T_A=25°C unless otherwise noted)

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

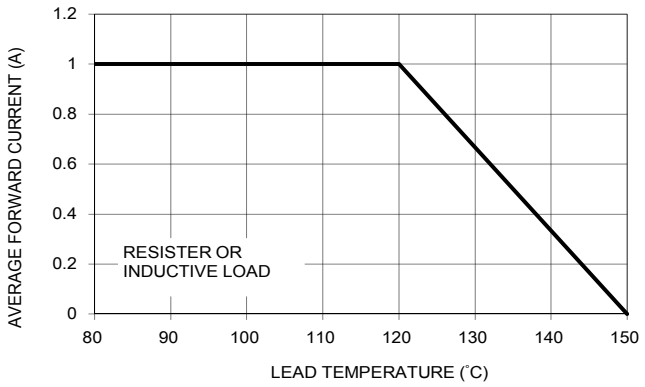


FIG. 2 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

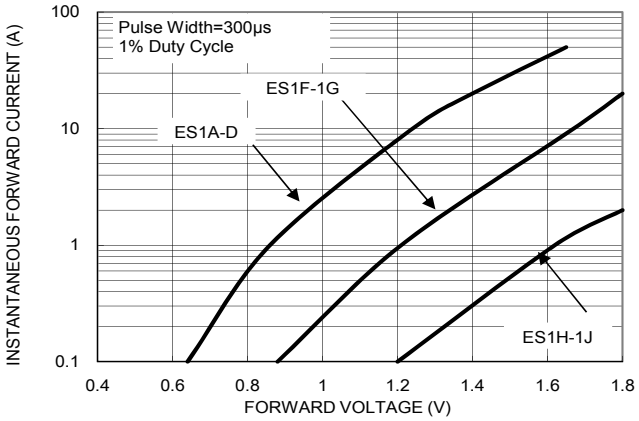


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD PEAK SURGE CURRENT

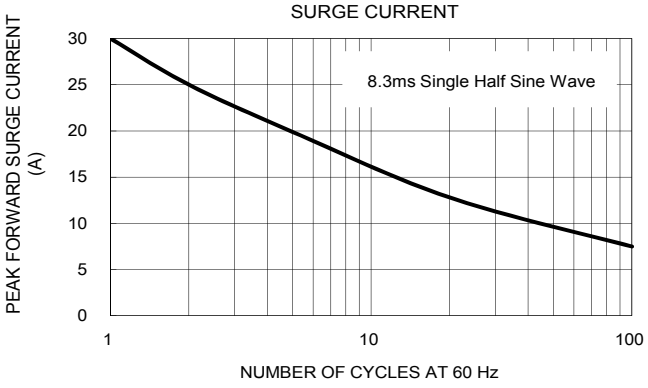


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

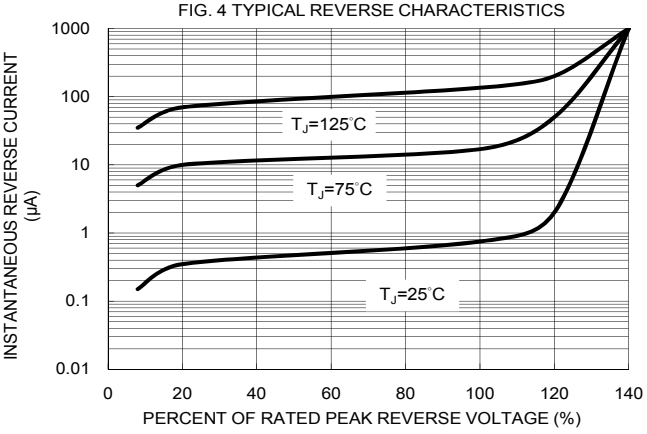


FIG. 5 TYPICAL JUNCTION CAPACITANCE

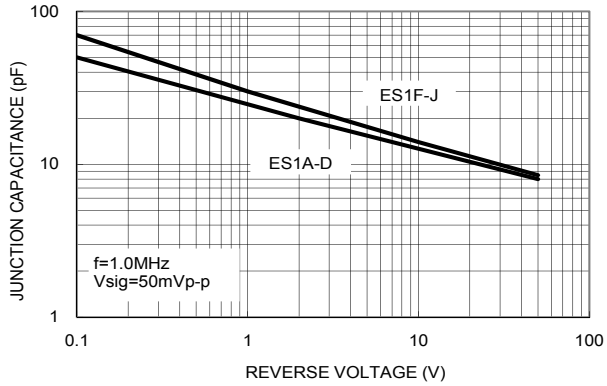


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM