

Surface Mount Super Fast Recovery Rectifier Diode

Features

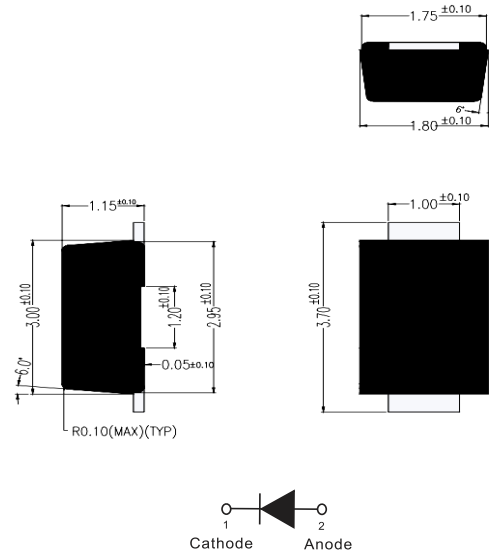
- Glass passivated junction chip
- Ideal for automated placement
- Built-in strain relief
- Super fast recovery time for high efficiency
- High forward surge capability
- AEC-Q101 qualified
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C

Mechanical Data

- **Package:** SOD-123FL
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end

SOD-123FL

Unit : inch(mm)



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

Parameter	Symbol	ES1A FLQ	ES1B FLQ	ES1C FLQ	ES1D FLQ	ES1F FLQ	ES1G FLQ	ES1H FLQ	ES1J FLQ	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								μA
		100								
Maximum reverse recovery time (Note 2)	t _{rr}	35								ns
Typical junction capacitance (Note 3)	C _J	16				18				pF
Typical thermal resistance	R _{θJL}	35								°C/W
	R _{θJA}	85								
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
2. Reverse Recovery Test Conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A
3. Measured at 1 MHz and Applied V_R=4.0 Volts

Ratings and Characteristic Curves ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

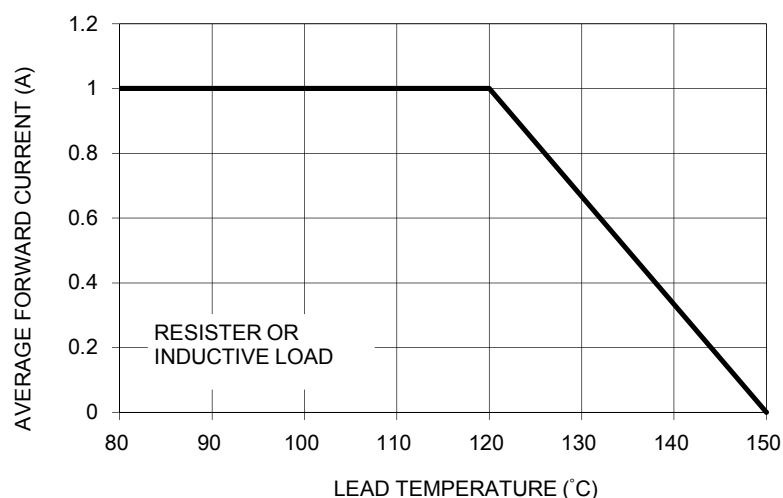


FIG. 2 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

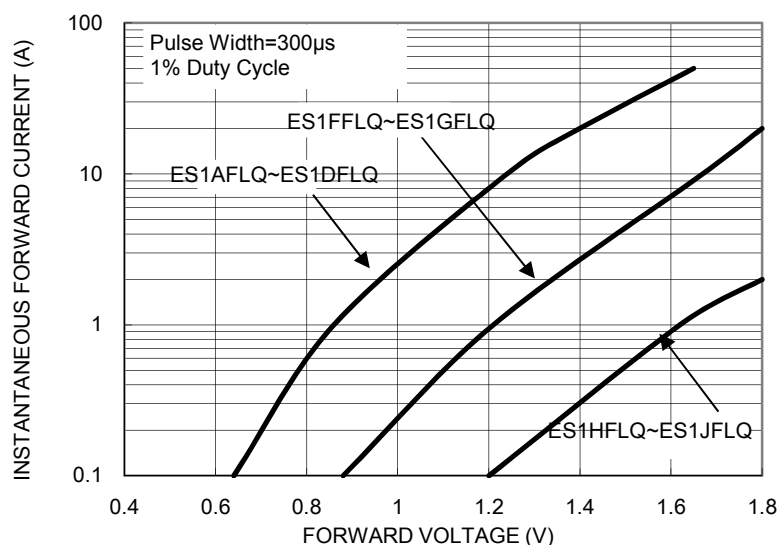


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD PEAK SURGE CURRENT

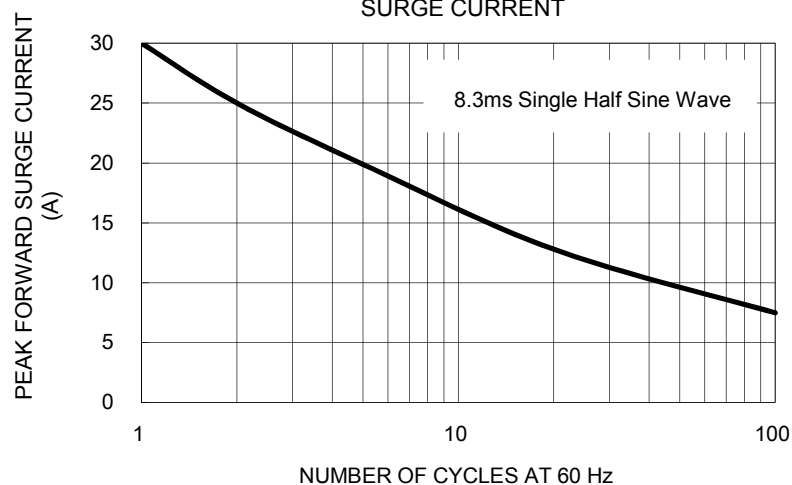


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

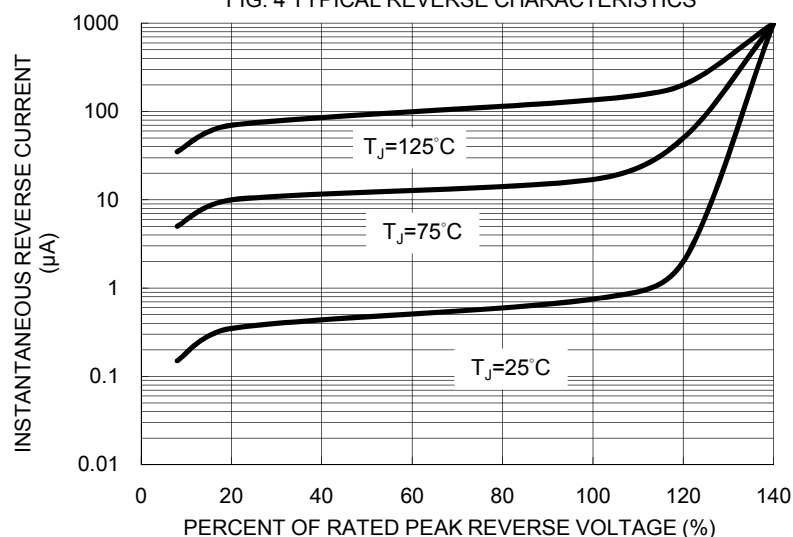


FIG. 5 TYPICAL JUNCTION CAPACITANCE

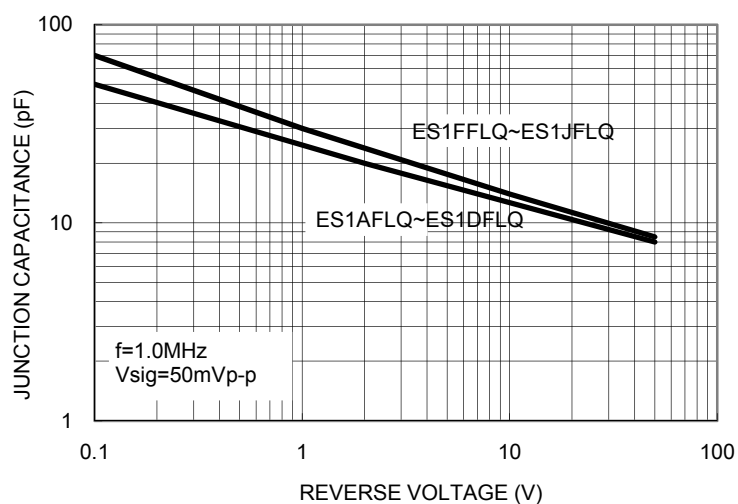


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

