

Surface Mount Fast Recovery Rectifier Diode

Features

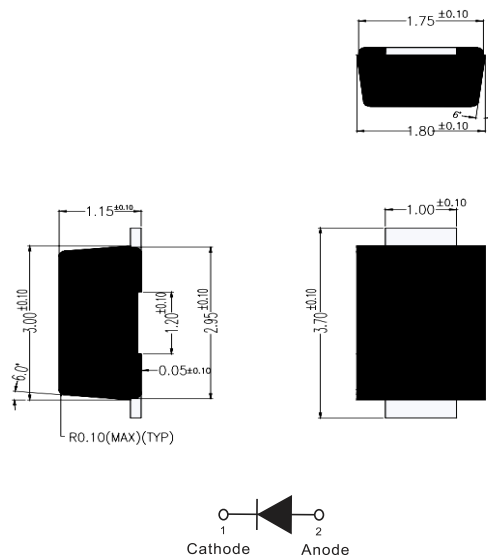
- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- Fast switching for fast recovery
- High forward surge capability
- AEC-Q101 qualified
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C

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 (T_A=25°C unless otherwise noted)

Parameter		Symbol	RS2D FLQ	RS2G FLQ	RS2J FLQ	RS2K FLQ	RS2M FLQ	Unit
Repetitive peak reverse voltage		V_{RRM}	200	400	600	800	1000	V
Reverse voltage, total rms value		$V_{R(RMS)}$	140	280	420	560	700	V
DC blocking voltage		V_{DC}	200	400	600	800	1000	V
Forward current		I_F	2					A
Surge peak forward current single half sine-wave superimposed on rated load	8.3 ms at $T_A = 25^\circ\text{C}$	I_{FSM}	40					A
	1.0 ms at $T_A = 25^\circ\text{C}$		100					A
Junction temperature		T_J	-55 to +150					$^\circ\text{C}$
Storage temperature		T_{STG}	-55 to +150					$^\circ\text{C}$

Thermal Characteristics (T_A=25°C unless otherwise noted)

Parameter	Symbol	Typ	Unit
Junction-to-lead thermal resistance	$R_{\theta JL}$	81	°C/W
Junction-to-ambient thermal resistance	$R_{\theta JA}$	116	°C/W
Junction-to-case thermal resistance	$R_{\theta JC}$	69	°C/W

Note: Units mounted on PCB (5mm x 5mm Cu pad test board)

Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Conditions	Symbol	Typ	Max	Unit
Forward voltage ⁽¹⁾	RS2DFLQ to RS2JFLQ	V_F	0.86	-	V
			0.94	1.3	V
			0.75	-	V
			0.84	0.99	V
	RS2KFLQ to RS2MFLQ	V_F	0.98	-	V
			1.09	1.3	V
			0.89	-	V
			1.02	1.20	V
Reverse current @ rated V_R ⁽²⁾	$T_J = 25^\circ\text{C}$	I_R	-	5	μA
	$T_J = 125^\circ\text{C}$		-	150	μA
Reverse recovery time	RS2DFLQ to RS2JFLQ	t_{rr}	-	250	ns
	RS2KFLQ to RS2MFLQ		-	500	ns
Junction capacitance	RS2DFLQ to RS2JFLQ	C_J	16	-	pF
	RS2KFLQ to RS2MFLQ		9	-	pF

Notes:

(1) Pulse test with $PW=0.3\text{ ms}$

(2) Pulse test with $PW=30\text{ ms}$

Characteristics Curves

Fig.1 Forward Current Derating Curve

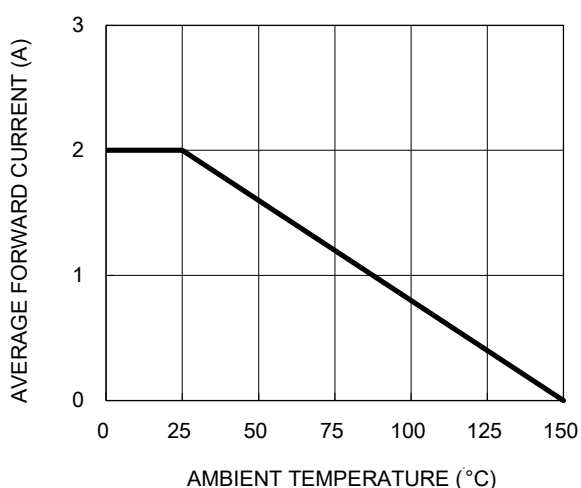


Fig.2 Typical Junction Capacitance

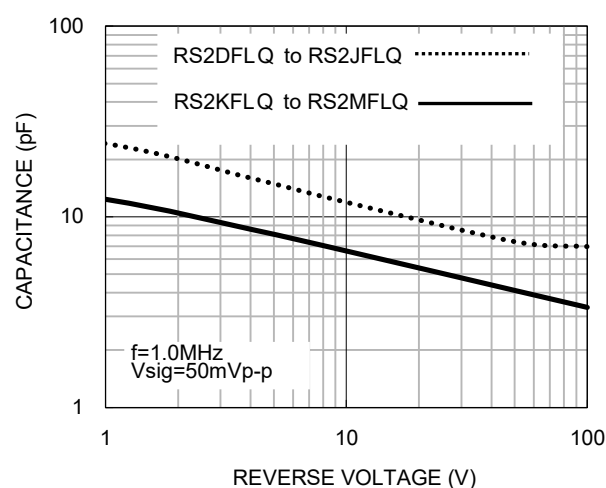


Fig.3 Typical Reverse Characteristics

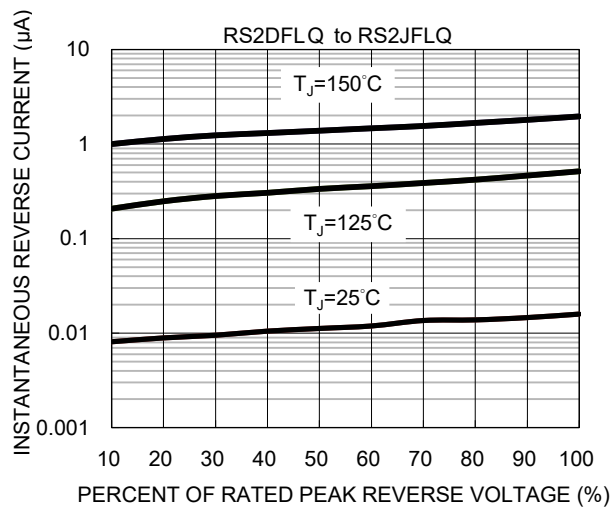


Fig.4 Typical Forward Characteristics

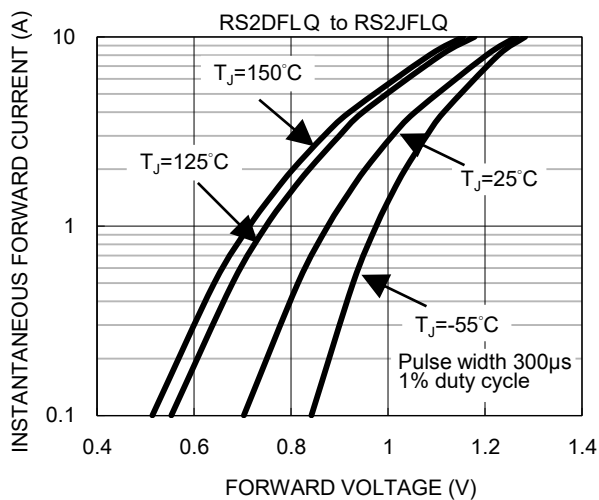


Fig.5 Typical Reverse Characteristics

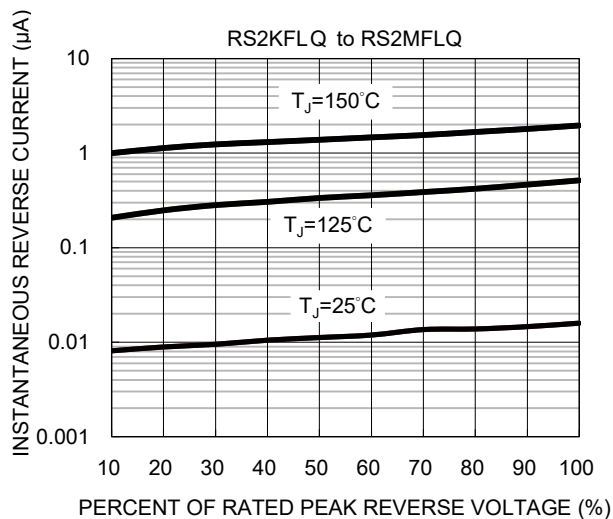


Fig.6 Typical Forward Characteristics

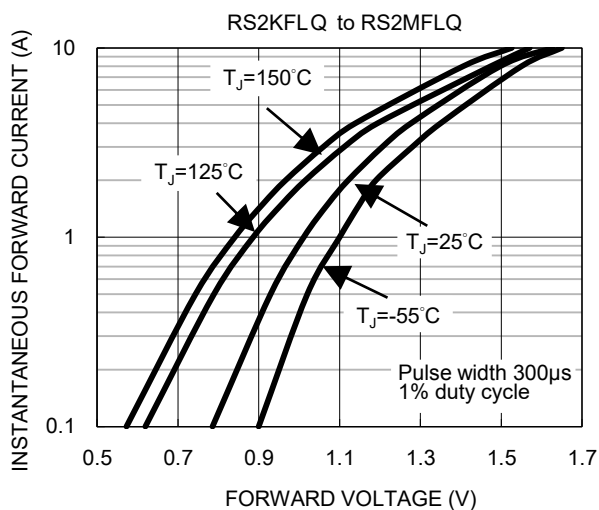


Fig.7 Typical Transient Thermal Impedance

