

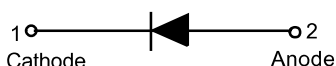
FEATURES

- Metal silicon junction, majority carrier conduction
- For surface mounted applications
- Low power loss, high efficiency
- High forward surge current capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

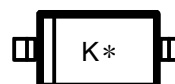
Schematic & PIN Configuration



SOD-123FL



Circuit



Marking

ABSOLUTE MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbols	SD20A2D122F	SD40A2D122F	SD60A2D122F	SD80A2D122F	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	20	40	60	80	V
Maximum RMS voltage	V_{RMS}	14	28	42	56	V
Maximum DC Blocking Voltage	V_{DC}	20	40	60	80	V
Maximum Average Forward Rectified Current	$I_{\text{F(AV)}}$	2.0				A
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	50				A
Max Instantaneous Forward Voltage at 2 A	V_{F}	0.55		0.70		V
Maximum DC Reverse Current $T_{\text{a}} = 25^{\circ}\text{C}$ at Rated DC Reverse Voltage $T_{\text{a}} = 100^{\circ}\text{C}$	I_{R}	0.5 5			0.3 5	mA
Typical Junction Capacitance ¹⁾	C_{j}	220		80		pF
Typical Thermal Resistance ²⁾	$R_{\theta\text{JA}}$	80				$^{\circ}\text{C/W}$
Operating Junction Temperature Range	T_{j}	-55 ~ +150				$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	-55 ~ +150				$^{\circ}\text{C}$

1) Measured at 1MHz and applied reverse voltage of 4 V D.C.

2) P.C.B. mounted with 0.2 X 0.2" (5 X 5 mm) copper pad areas.

ABSOLUTE MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbols	SD100A2D122F	SD120A2D122F	SD150A2D122F	SD200A2D122F	Units
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	100	120	150	200	V
Maximum RMS voltage	V _{RMS}	70	84	105	140	V
Maximum DC Blocking Voltage	V _{DC}	100	120	150	200	V
Maximum Average Forward Rectified Current	I _{F(AV)}	2.0				A
Peak Forward Surge Current,8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I _{FSM}	40				A
Max Instantaneous Forward Voltage at 2 A	V _F	0.85		0.95		V
Maximum DC Reverse Current T _a = 25°C at Rated DC Reverse Voltage T _a =100°C	I _R	0.3 5				mA
Typical Junction Capacitance ¹⁾	C _j	80				pF
Typical Thermal Resistance ²⁾	R _{θJA}	80				°C/W
Operating Junction Temperature Range	T _j	-55 ~ +150				°C
Storage Temperature Range	T _{stg}	-55 ~ +150				°C

1) Measured at 1MHz and applied reverse voltage of 4 V D.C.

2) P.C.B. mounted with 0.2 X 0.2" (5 X 5 mm) copper pad areas.

Fig.1 Forward Current Derating Curve

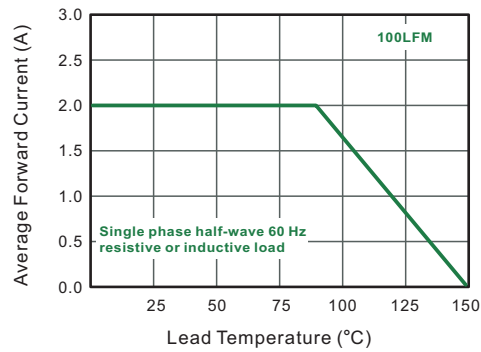


Fig.2 Typical Reverse Characteristics

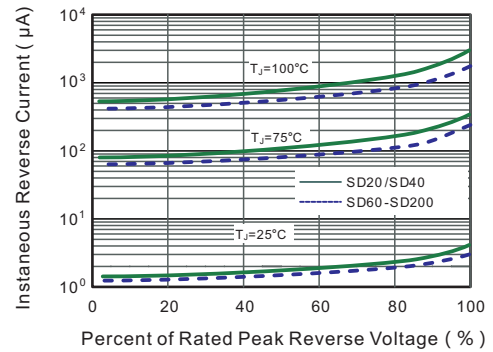


Fig.3 Typical Forward Characteristic

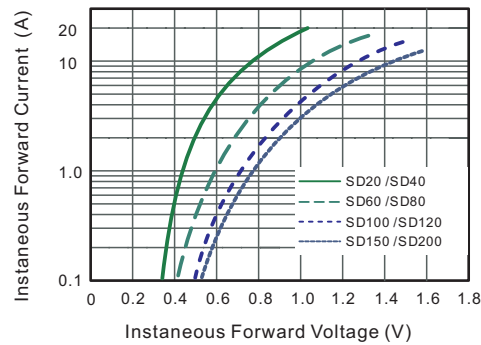


Fig.4 Typical Junction Capacitance

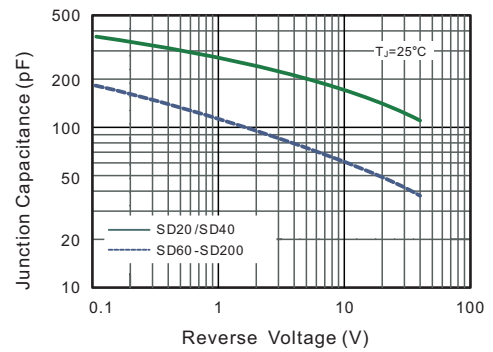


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

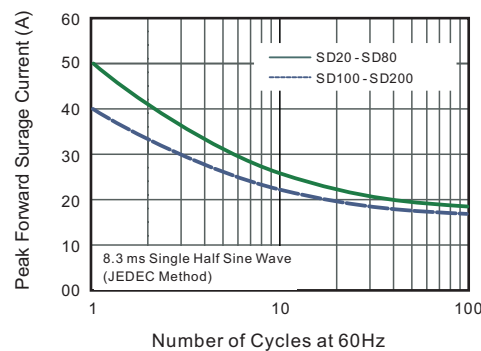
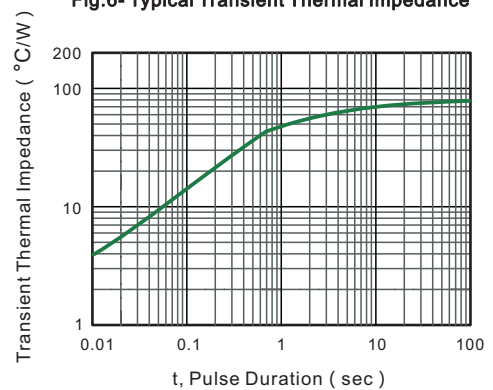


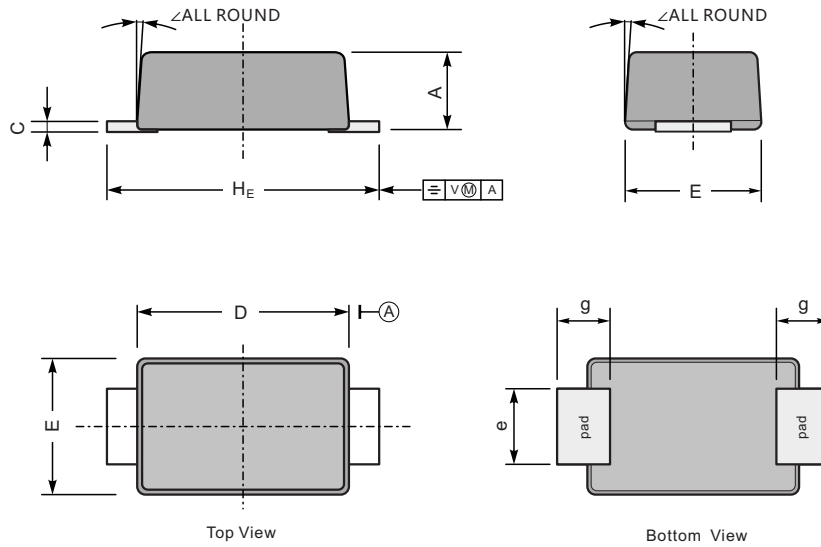
Fig.6- Typical Transient Thermal Impedance



PACKAGE OUTLINE

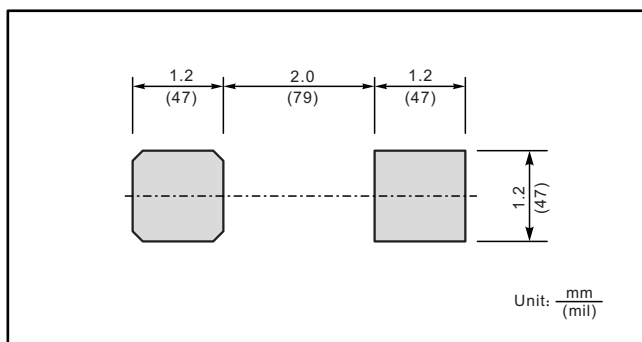
Plastic surface mounted package; 2 leads

SOD-123FL



UNIT		A	C	D	E	e	g	H _E	∠
mm	max	1.1	0.20	2.9	1.9	1.1	0.9	3.8	7°
	min	0.9	0.12	2.6	1.7	0.8	0.7	3.5	
mil	max	43	7.9	114	75	43	35	150	
	min	35	4.7	102	67	31	28	138	

The recommended mounting pad size



Marking

Type number	Marking code
SD20A2D122F	K22
SD40A2D122F	K24
SD60A2D122F	K26
SD80A2D122F	K28
SD100A2D122F	K210
SD120A2D122F	K212
SD150A2D122F	K215
SD200A2D122F	K220

Device	Package	Shipping
SDxxxA2D122F	SOD-123FL (Pb-Free)	3000 / Tape & Reel