

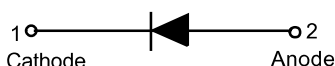
FEATURES

- 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

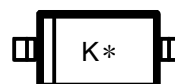
Schematic & PIN Configuration



SOD-123FL



Circuit



Marking

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

Parameter	Symbols	SD20A1D122F	SD40A1D122F	SD60A1D122F	SD80A1D122F	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 _{F(AV)}	1.0				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 1 A	V _F	0.55		0.70		V
Maximum DC Reverse Current T _a = 25°C at Rated DC Reverse Voltage T _a =100°C	I _R	0.3 10				mA
Typical Junction Capacitance ¹⁾	C _j	110		80		pF
Typical Thermal Resistance ²⁾	R _{θJA}	115				°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.

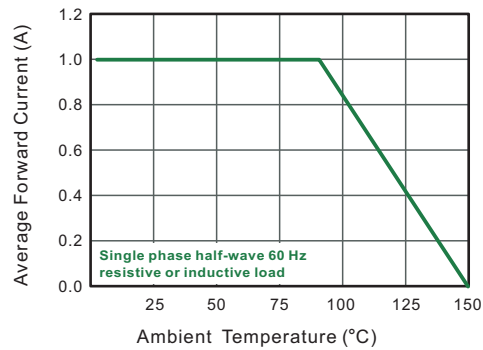
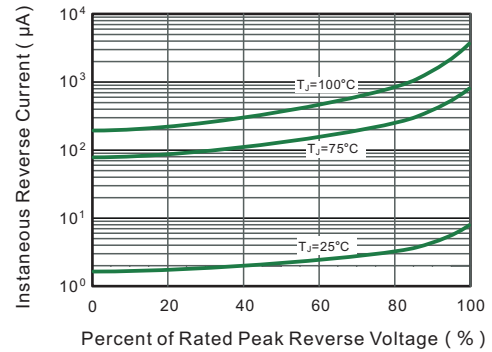
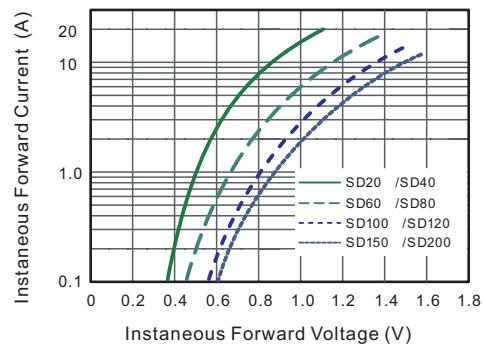
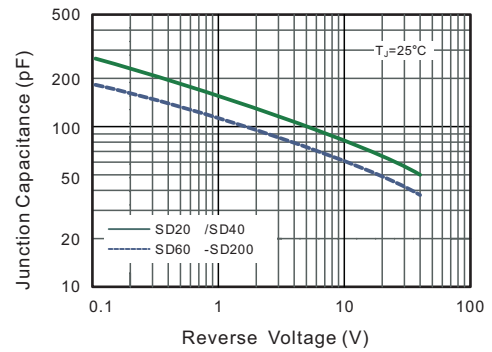
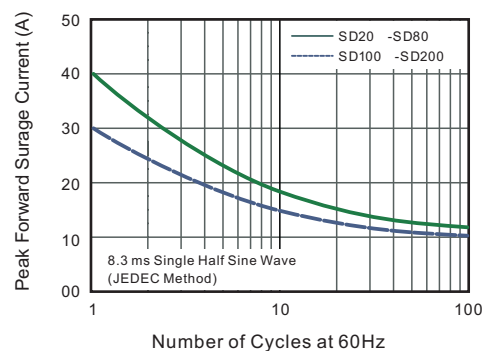
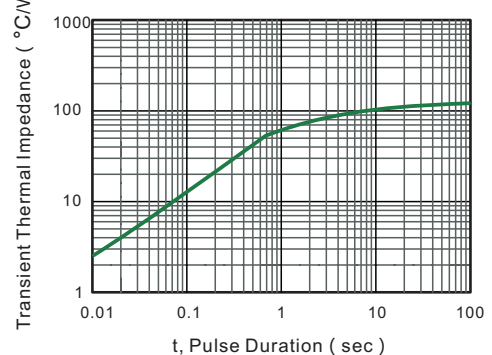
ABSOLUTE MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbols	SD100A1D122F	SD120A1D122F	SD150A1D122F	SD200A1D122F	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)}	1.0				A
Peak Forward Surge Current,8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I _{FSM}	30				A
Max Instantaneous Forward Voltage at 1 A	V _F	0.85		0.90		V
Maximum DC Reverse Current T _a = 25°C at Rated DC Reverse Voltage T _a =100°C	I _R	0.2 5		0.1 2		mA
Typical Junction Capacitance ¹⁾	C _j	80				pF
Typical Thermal Resistance ²⁾	R _{θJA}	115				°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.

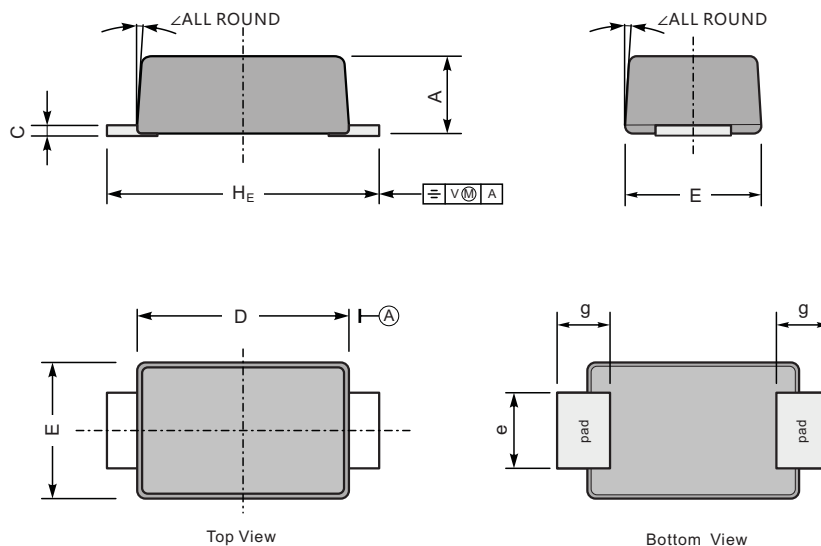
Typical Characteristics

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

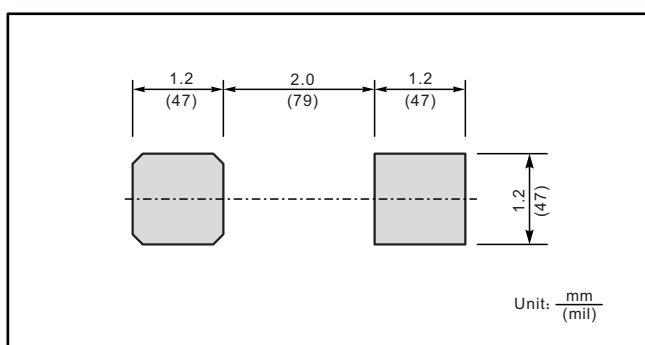
Plastic surface mounted package; 2 leads

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
SD20A1D122F	K12
SD40A1D122F	K14
SD60A1D122F	K16
SD80A1D122F	K18
SD100A1D122F	K110
SD120A1D122F	K112
SD150A1D122F	K115
SD200A1D122F	K120

Device	Package	Shipping
SDxxxA1D122F	SOD-123FL (Pb-Free)	3000 / Tape & Reel