

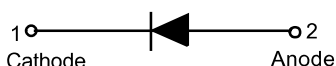
FEATURES

- 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

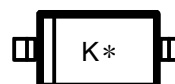
Schematic & PIN Configuration



SOD-123FL



Circuit



Marking

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

Parameter	Symbols	SD20A3D122F	SD40A3D122F	SD60A3D122F	SD80A3D122F	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	$I_{F(AV)}$	3.0				A
Peak Forward Surge Current,8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	80				A
Max Instantaneous Forward Voltage at 3 A	V_F	0.55		0.70		V
Maximum DC Reverse Current $T_a = 25^{\circ}\text{C}$ at Rated DC Reverse Voltage $T_a = 100^{\circ}\text{C}$	I_R	0.5 10		0.3 5		mA
Typical Junction Capacitance ¹⁾	C_j	250		160		pF
Typical Thermal Resistance ²⁾	$R_{\theta JA}$	65				$^{\circ}\text{C/W}$
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.

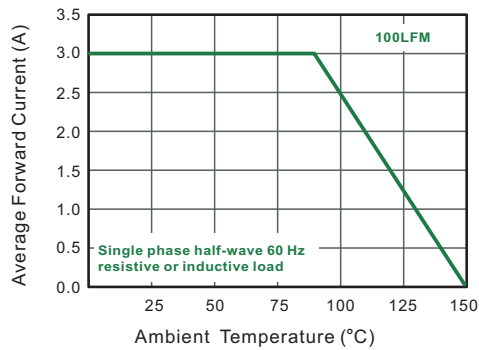
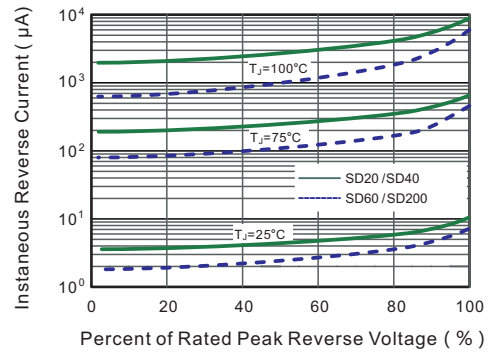
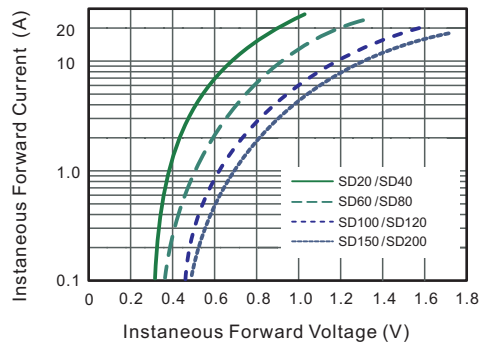
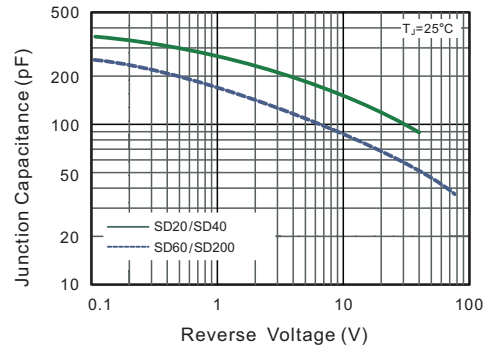
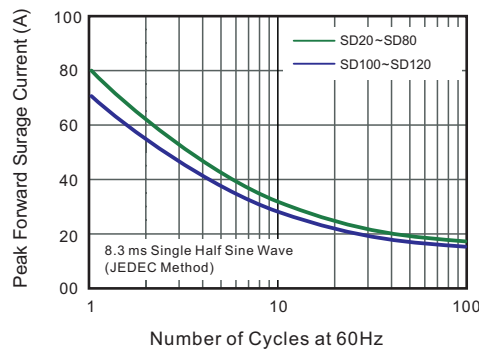
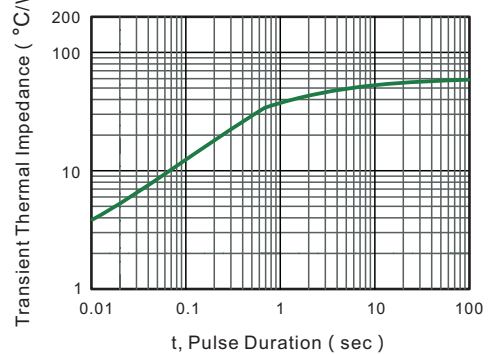
ABSOLUTE MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbols	SD100A3D122F	SD120A3D122F	SD150A3D122F	SD200A3D122F	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)}	3.0				A
Peak Forward Surge Current,8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I _{FSM}	70				A
Max Instantaneous Forward Voltage at 3 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	160				pF
Typical Thermal Resistance ²⁾	R _{θJA}	65				°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.

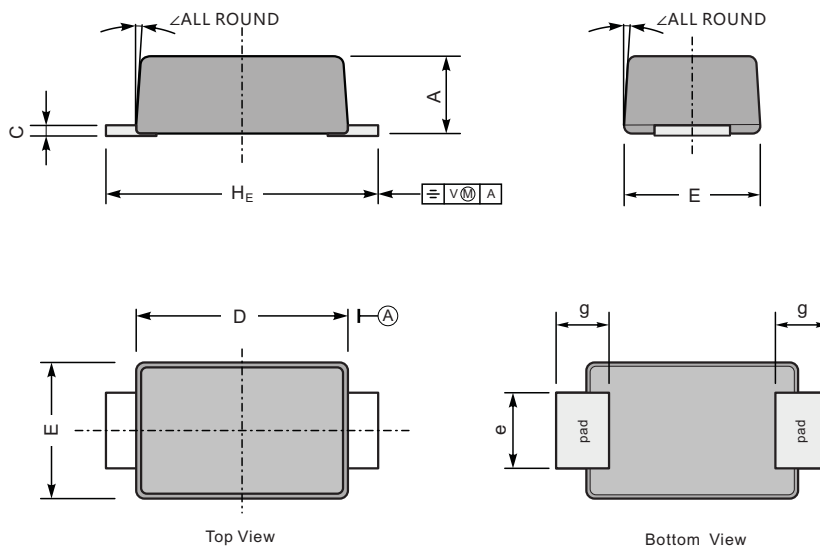
Typical Characteristics

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

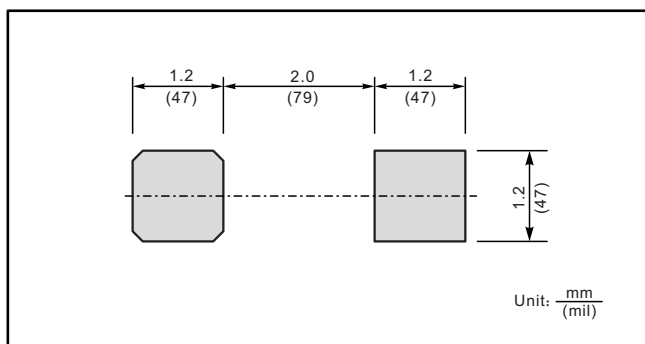
Plastic surface mounted package; 2 leads

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
SD20A3D122F	K32
SD40A3D122F	K34
SD60A3D122F	K36
SD80A3D122F	K38
SD100A3D122F	K310
SD120A3D122F	K312
SD150A3D122F	K315
SD200A3D122F	K320

Device	Package	Shipping
SDxxxA3D122F	SOD-123FL (Pb-Free)	3000 / Tape & Reel