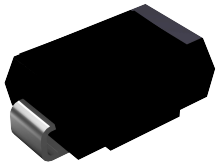
STEIFPOWER TECHNOLOGY

SL12

Surface Mount Schottky Rectifier
Reverse Voltage 20V Forward Current 1A

Features

- Schottky barrier rectifier
- Low forward voltage drop
- High junction temperature
- Moisture sensitivity: level 1, per J-STD-020
- Plastic package has underwriters laboratory flammability classification 94V-0



Package: DO-214AC(SMA)

Applications

For use of low voltage,high freqency inverters,free wheeling, and polarity protection application

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

Parameter	Symbol	SL12	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	20	V
Maximum RMS Voltage	V_{RMS}	14	V
Maximum DC Blocking Voltage	V_{DC}	20	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	1.0	A
Peak Forward Surge Current (8.3 ms single half sine-wave superimposed on rated load)	I_{FSM}	30	A
Operating Junction Temperature Range	T_J	- 55 to + 125	°C
Storage Temperature Range	T_{STG}	- 55 to + 150	°C

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

Parameter	Test Conditions	Symbol	SL12	Unit
Maximum Instantaneous Forward Voltage	I_F=1A, T_A=25°C	V_F	0.38	V
Maximum DC Reverse Current at Rated DC Blocking Voltage	T_A=25°C	I_R	5	mA
	T_A=100°C		100	
Typical Junction Capacitance	4.0 V, 1 MHz	C_J	300	pF
Typical Thermal Resistance(1)	Juntion to Lead	$R_{\theta JL}$	30	°C/W

Note1:Thermal resistance from junction to lead,mounted on PCB with 5.0×5.0mm copper pads

Ratings and Characteristics Curves

(T_A = 25°C unless otherwise noted)

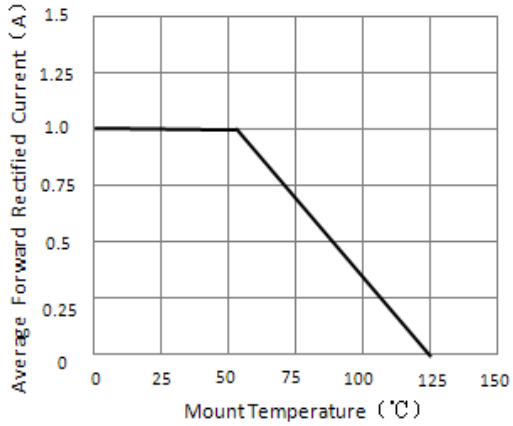


Figure 1.Forward Current Derating Curve

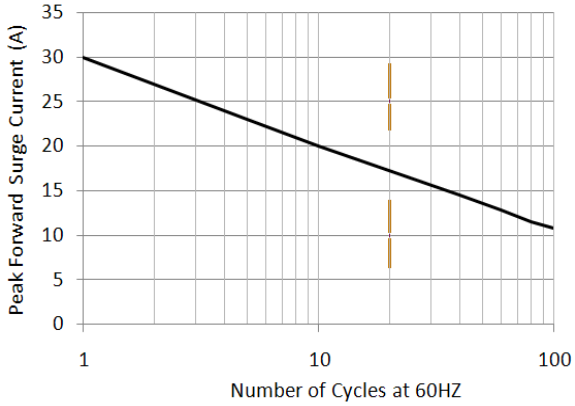


Figure 2.Maximum Non-Repetitive Peak Forward Surge Current

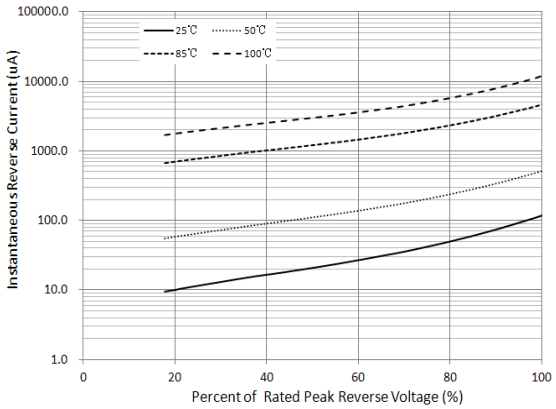


Figure 3. Typical Reverse Characteristics

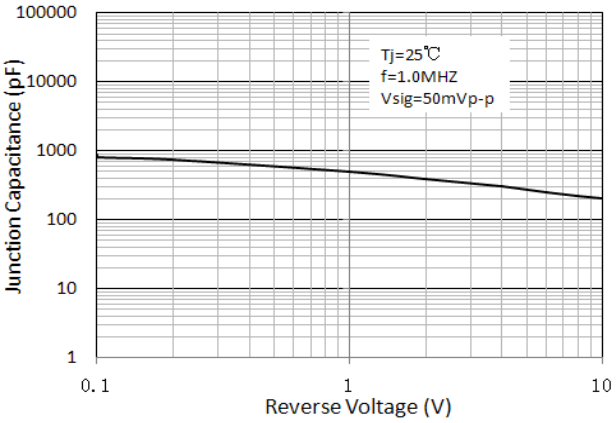


Figure 4. Typical Junction Capacitance

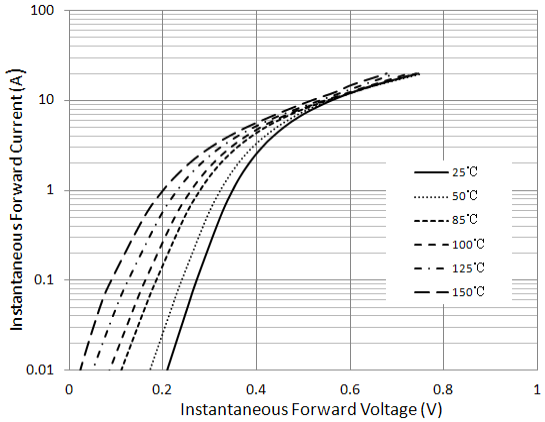
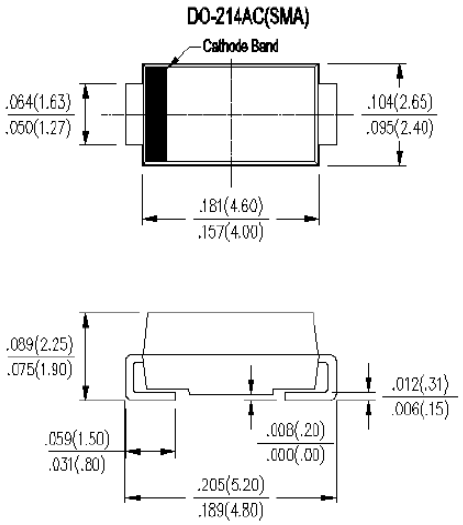
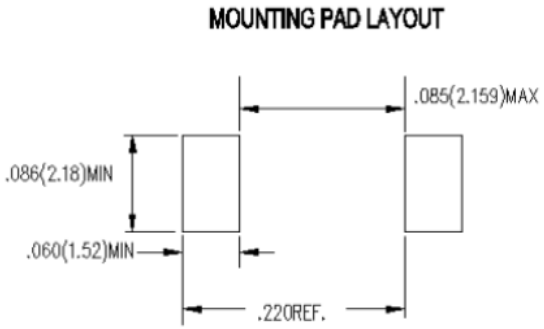


Figure 5. Typical Instantaneous Forward Characteristics

Package Outline Dimensions

in inches (millimeters)

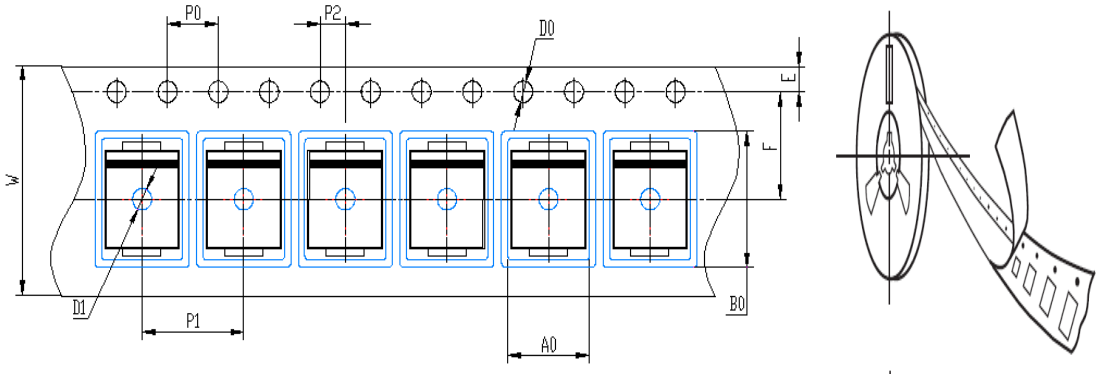




Packing Information

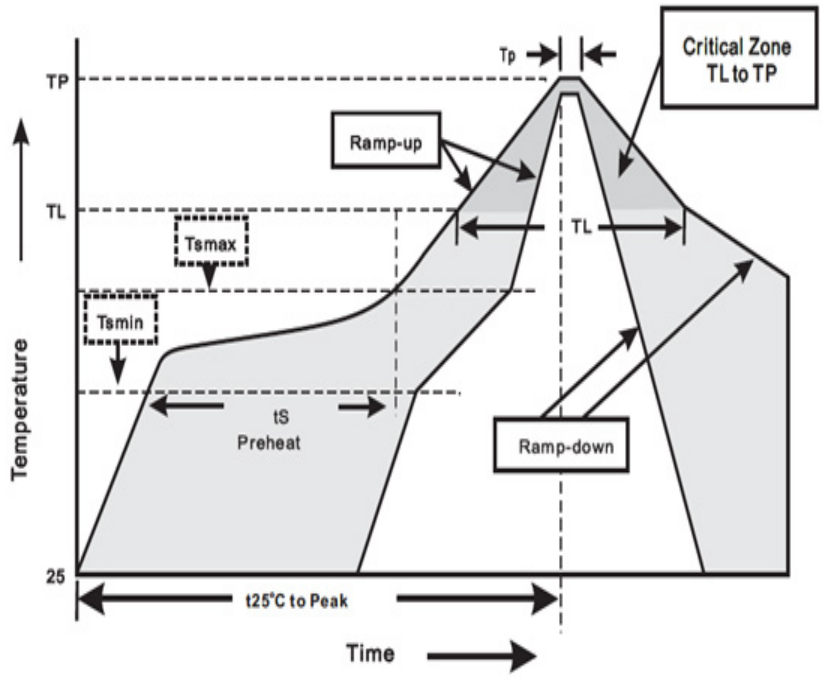
7500 pcs/Reel, 18 Reels/Box; 12mm Tape, 13" Reel

Tape & Reel Specification



Symbol	SMA(mm)
W	12±0.2
E	1.75±0.1
F	5.5±0.05
D0	1.5±0.1
D1	1.50 +0.1/-0
P0	4.0±0.1
P1	4.0±0.1
P2	2.0±0.05
A0	2.65±0.1
B0	5.25±0.1

Soldering Parameters



Reflow Soldering		Sn-Pb Eutectic assembly	Pb-Free assembly
Pre Heat	- Temperature Min(Ts min)	100°C	150°C
	- Temperature Max (Ts max)	150°C	200°C
	- Time (min to max) (ts)	60 – 120 secs	60 – 180 secs
Average ramp up rate (Liquidus Temp (TL) to peak		3°C/second max	3°C/second max
T_S(max) to T_L - Ramp-up Rate		3°C/second max	3°C/second max
Reflow	- Temperature (T_L) (Liquidus)	183°C	217°C
	- Time (min to max) (ts)	60 – 150 seconds	60 – 150 seconds
Peak Temperature (T_P)		240+0/-5 °C	240+0/-5°C
Time within 5°C of actual peak Temperature (tp)		10 –30 seconds	20 – 40 seconds
Ramp-down Rate		6°C/second max	6°C/second max
Time 25°C to peak Temperature (T_P)		6 minutes Max.	8 minutes Max.
Do not exceed		260°C	260°C

Wave Soldering	
Peak Temperature	260+0/-5°C
Dipping Time	10 seconds
Soldering	1 time