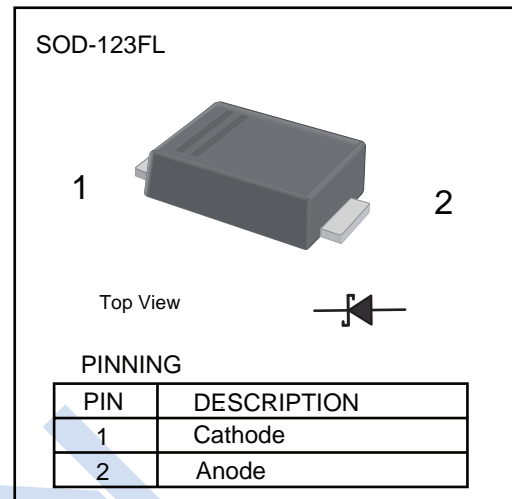


## Schottky Diodes

### 1KK2102D-1KK2104D

#### ■ 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



#### ■ Absolute Maximum Ratings and Electrical characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20 %.

Parameter	Symbols	1KK2102D	1KK2104D	Unit
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	20	40	V
Maximum RMS voltage	$V_{RMS}$	14	28	
Maximum DC Blocking Voltage	$V_{DC}$	20	40	
Maximum Instantaneous Forward Voltage at 1A	$V_F$	0.55		A
Maximum Averaged Forward Rectified Current	$I_{F(AV)}$	1.0		
Peak Forward Surge Current, 8.3 ms Single Half Sine Wave Superimposed on Rated Load	$I_{FSM}$	30		mA
Maximum DC Reverse Current $T_a=25^\circ\text{C}$ at rated DC blocking voltage $T_a=100^\circ\text{C}$	$I_R$	0.3	10	
Typical Junction Capacitance *1	$C_j$	110		pF
Typical Thermal Resistance *2	$R_{\theta JA}$	100		°C/W
Operating Junction Temperature Range	$T_j$	-55 ~ +125		°C
Storage Temperature Range	$T_{stg}$	-55 ~ +150		

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

\* 2 P.C.B. mounted with 2.0" x2.0" (5x5 cm) copper pad areas.

#### ■ Marking

NO.	1KK2102D	1KK2104D
Marking	DA	DB

# Schottky Diodes

## 1KK2102D-1KK2104D

■ Typical Characteristics

Fig.1 Forward Current Derating Curve

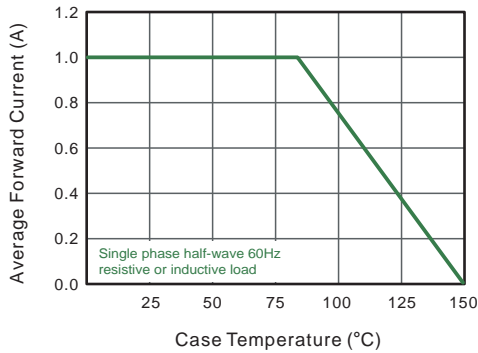


Fig.2 Typical Reverse Characteristics

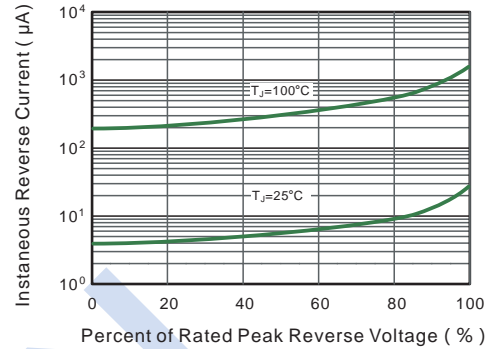


Fig.3 Typical Forward Characteristic

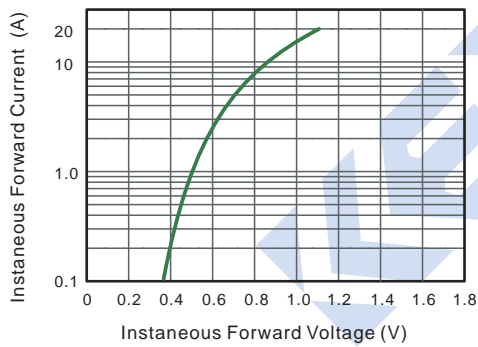


Fig.4 Typical Junction Capacitance

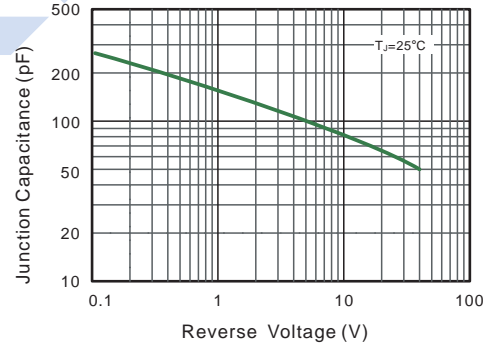


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

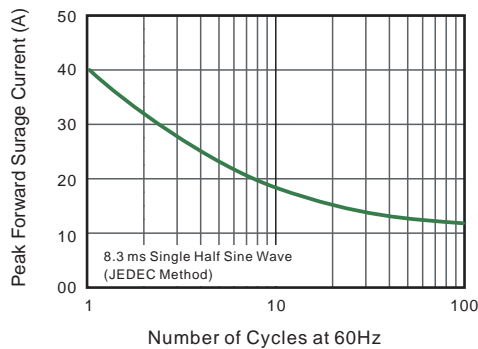
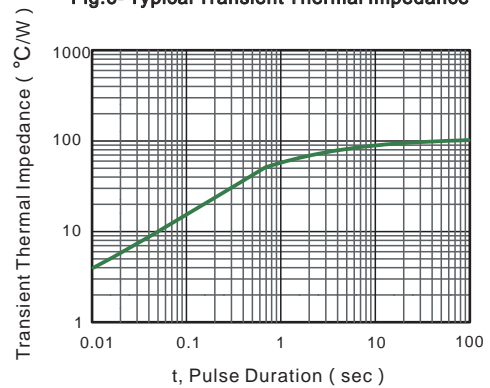


Fig.6- Typical Transient Thermal Impedance



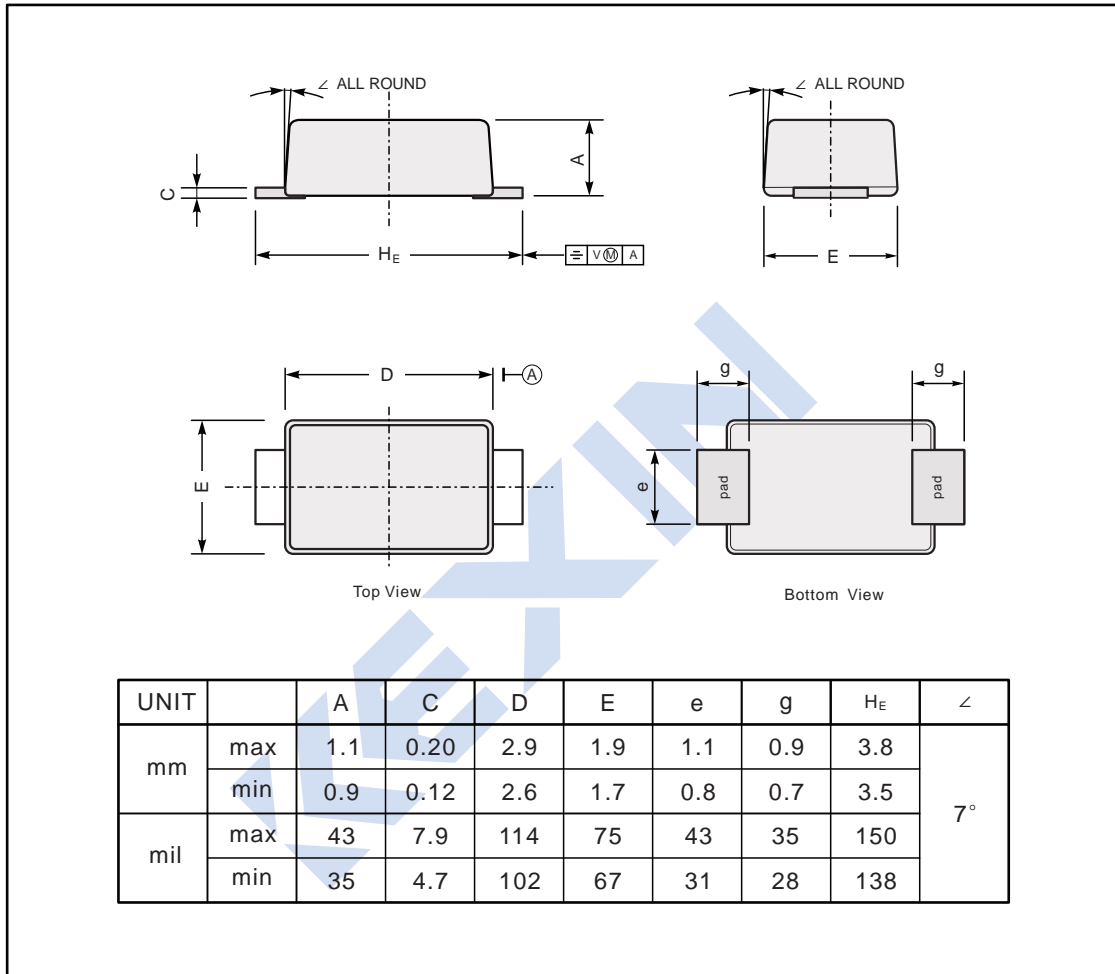
## Schottky Diodes

### 1KK2102D-1KK2104D

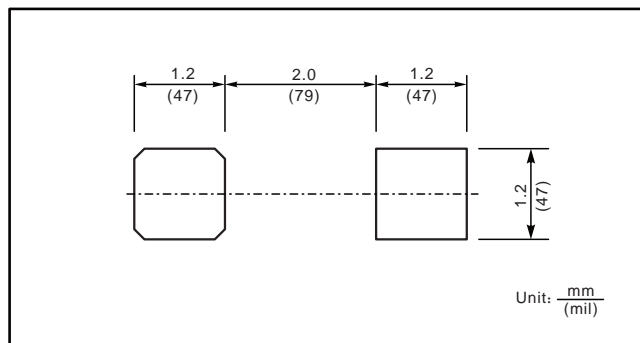
■ Package Outline Dimensions

Plastic surface mounted package; 2 leads

SOD-123FL



■ The Recommended Mounting Pad Size



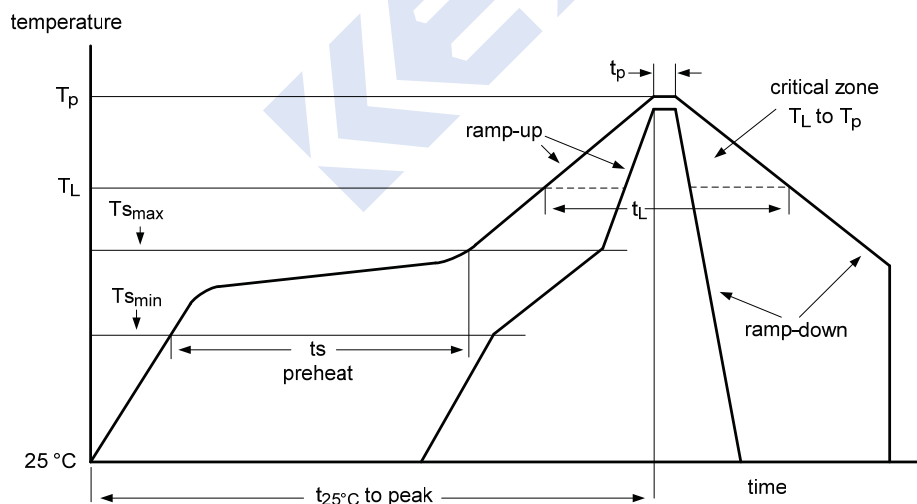
# SMD Recommended Reflow Soldering Profile

## Recommended Reflow Soldering Profile

The below temperature profile for moisture sensitivity characterization is based on the IPC/JEDEC joint industry standard: J-STD-020D-01.

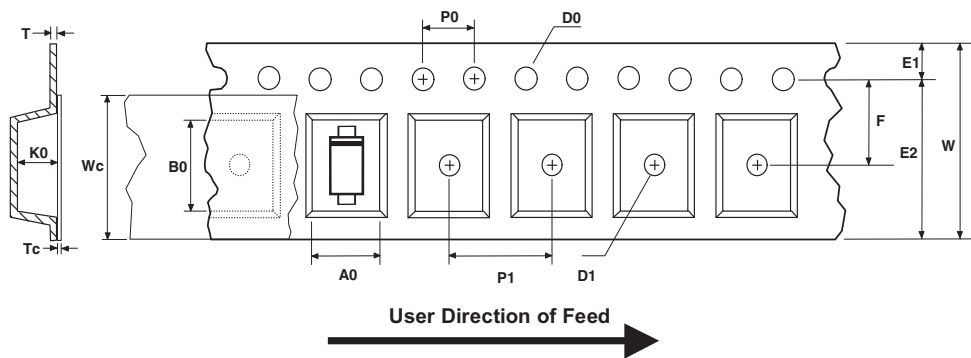
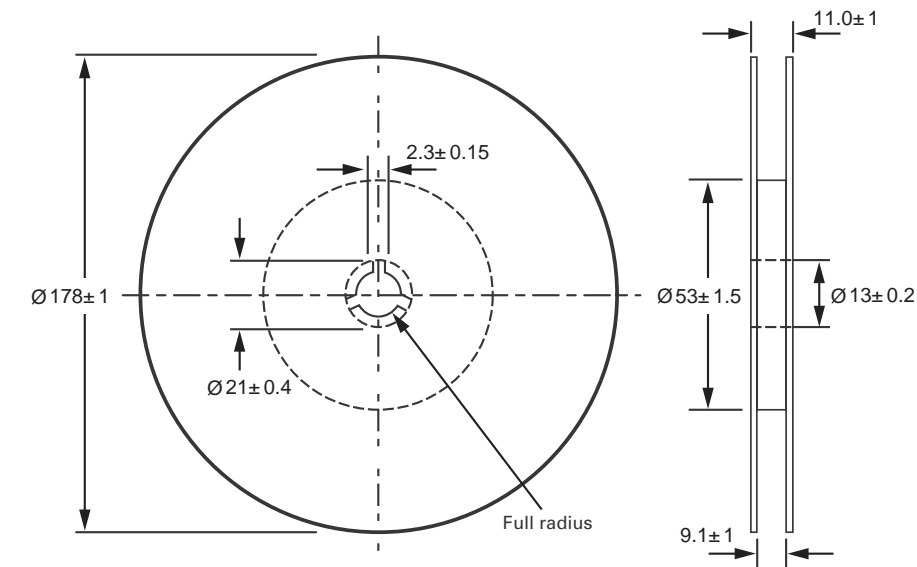
Profile Feature	SnPb eutectic assembly	Pb-free assembly
Average ramp-up rate ( $T_{smax}$ to $T_p$ )	3 °C/s maximum	3 °C/s maximum
Preheat		
Temperature minimum ( $T_{smin}$ )	100 °C	150 °C
Temperature maximum ( $T_{smax}$ )	150 °C	200 °C
Time ( $t_{smin}$ to $t_{smax}$ )	60 s to 120 s	60 s to 180 s
Time maintained above		
Temperature ( $T_L$ )	183 °C	217 °C
Time ( $t_L$ )	60 s to 150 s	60 s to 150 s
Peak/classification temperature ( $T_p$ )	235 °C	260 °C
Number of allowed reflow cycles	3	3
Time within 5 °C of actual peak temperature ( $t_p$ )	10 s to 30 s	20 s to 40 s
Ramp-down rate	6 °C/s maximum	6 °C/s maximum
Time 25 °C to peak temperature	6 minutes maximum	8 minutes maximum

## Reflow Soldering Profile



## SOD-123FL封装料盘与带材尺寸图

Tape and reel data (Units: mm)



Dimensions are in millimeter														
Pkg type	A0	B0	W	D0	D1	E1	E2	F	P1	P0	K0	T	Wc	Tc
SOD-123FL (8mm)	1.95 ±0.10	3.94 ±0.10	8.00 ±0.2	1.55 ±0.05	1.00 ±0.12	1.75 ±0.10	6.25 min	3.50 ±0.05	4.00 ±0.1	4.00 ±0.1	1.47 ±0.10	0.20 ±0.05	5.40 ±0.02	0.02 ±0.02

Shipping box



Inner Box: 182 mm × 182mm × 135mm  
30,000 Pieces/Inner Box



Outer Box: 386mm × 386mm × 298mm  
240,000 Pieces/Outer Box