# SAMYANG ELECTRONICS

**L14**

## SCHOTTKY BARRIER RECTIFIER

**VOLTAGE RANGE: 40 V**
**CURRENT: 1.0 A**

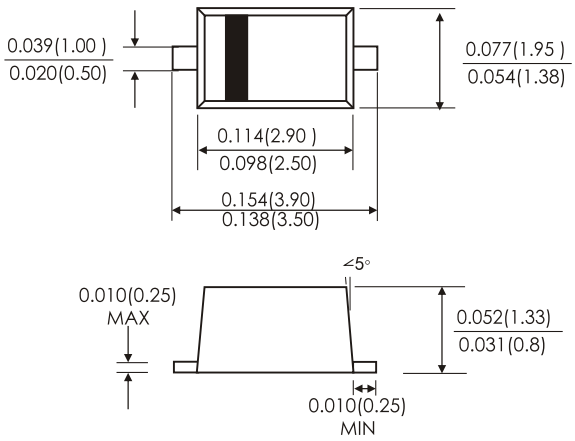
### FEATURES

- Very low profile package
- Ideal for automated placement
- Metal silicon junction ,majority carrier conduction
- Guard ring for overvoltage protection
- Low power loss ,high efficiency
- High current capability ,low forward voltage drop
- High surge capability
- Meets MSL Level 1,per J-STD-020,LF maximum peak of 260℃ Component in accordance to RoHS 2011/65/EU and WEEE 2012/19/EU

### MECHANICAL DATA

- Case: Flat lead SOD-123FL small outline plastic package
- Molding compound meets UL 94 V-0 flammability rating
- Terminals: solderable per J-STD-002 and JESD22-B102
- Polarity: color band denotes cathode end
- Mounting Position: Any
  Weight: 8.85 mg(approximately)

SOD-123FL




### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

For use in low voltage ,high frequency inverters ,DC/DC converters, free wheeling ,and polarity protection applications

(Ratings at 25℃ ambient temperature unless otherwise specified )

| Parameter | Symbol | L14 | Unit |
|---|---|---|---|
| Maximum repetitive peak reverse voltage | $V_{RRM}$ | 40 | 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 at rated TL) | $I_{FSM}$ | 40 | A |
| Operating junction temperature range | $T_j$ | -55 to+150 | ℃ |
| Storage temperature range | $T_{stg}$ | -55 to+150 | ℃ |

## ELECTRICAL CHARACTERISTCS（$T_A$=25℃ Unless otherwise noted）

| Parameter | Test Conditions | | Symbol | TYP. | MAX. | Unit |
|---|---|---|---|---|---|---|
| Instaneous forward voltage | $I_F$=1.0A | $T_A$=25℃ | $V_F$ 1) | 0.43 | 0.45 | V |
| | | $T_A$=100℃ | | 0.37 | 0.39 | |
| | | $T_A$=125℃ | | 0.35 | 0.37 | |
| Reverse current | $V_R$=40V | $T_A$=25℃ | $I_R$ 2) | 50 | 200 | μA |
| | | $T_A$=100℃ | | 5 | 10 | mA |
| | | $T_A$=125℃ | | 15 | 30 | |
| Typical junction capacitance | 4V, 1MHz | | $C_j$ | 110 | | pF |

Notes: 1.Pulse test: 300 μs pulse width,1% duty cycle
2.Pulse test: pulse width≤40ms

## THERMAL CHARACTERISTCS（$T_A$=25℃ Unless otherwise noted）

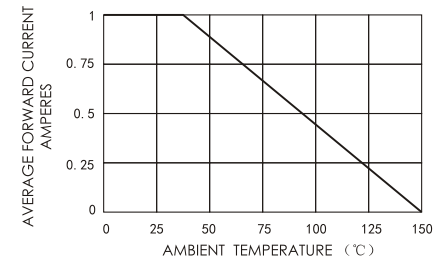
| Parameter | Symbol | L14 | Unit |
|---|---|---|---|
| Typical thermal resistance 3) | $R_{\theta JA}$ | 206.0 | ℃/W |
| | $R_{\theta JL}$ | 118.0 | |

3.PCB Mounted with The Suggested PAD Size

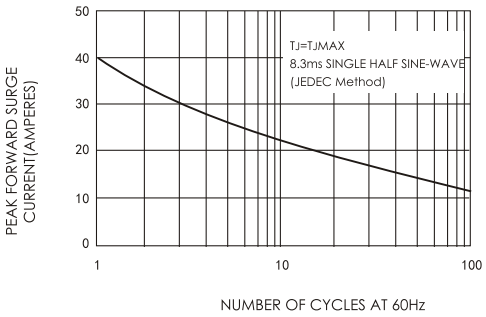
## AVAILABALE PACK INFORMATION

| Product code | Pack | Reel Size (mm) | Quantity (pcs/reel) | Box Size L×W×H (mm) | Quantity (reel/box) | Carton Size L×W×H (mm) | Quantity (box/carton) |
|---|---|---|---|---|---|---|---|
| L14-SOD-123FL | T/R | Φ330 | 7500 | 330×35×333 | 2 | 364×364×360 | 8 |

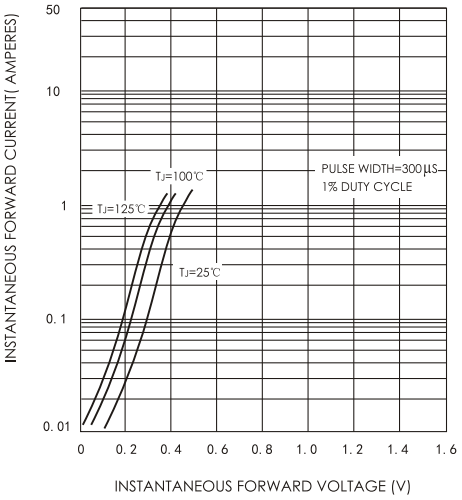
## FIG.1-FORWARD CURRENT DERATING CURVE



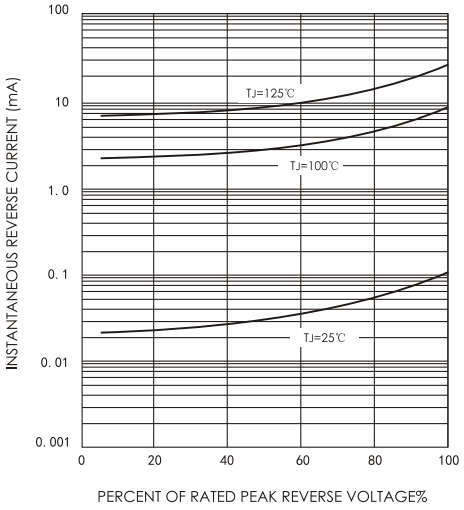

## FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT




## FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS




## FIG.4-TYPICAL REVERSE CHARACTERISTICS




## FIG.5-TYPICAL JUNCTION CAPACITANCE

