# SL12-A THRU SL120-A

## 1.0A Low VF Surface Mount Schottky Barrier Rectifiers -20V-200V

## Features

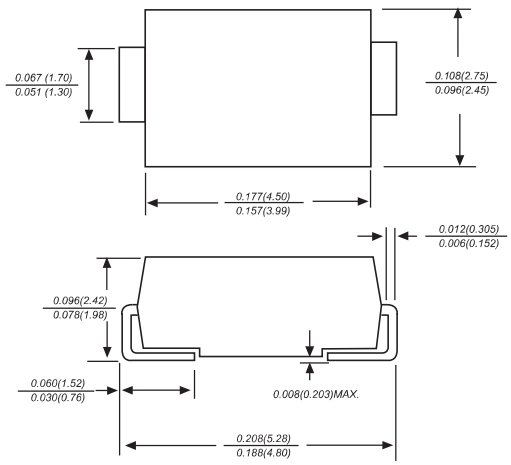
- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications
- Metal silicon junction,majority carrier conduction
- Low power loss,high efficiency
- Built-in strain relief,ideal for automated placement
- High forward surge current capability
- High temperature soldering guaranteed: 250°C/10 seconds at terminals
- Compliant to RoHS Directive 2011/65/EU
- Compliant to Halogen-free

## Mechanical data

- **Case**: JEDEC DO-214AC molded plastic body
- **Terminals**: Solder plated, solderable per MIL-STD-750, Method 2026
- **Polarity**: Color band denotes cathode end
- **Mounting Position**: Any

## Package outline

**SMA/DO-214AC**




*Dimensions in inches and (millimeters)*

## Maximum ratings and Electrical Characteristics (AT $T_A$=25°C unless otherwise noted)

| PARAMETER | CONDITIONS | Symbol | MIN. | TYP. | MAX. | UNIT |
|---|---|---|---|---|---|---|
| Forward rectified current | See Fig.2 | $I_O$ | | | 1.0 | A |
| Forward surge current | 8.3ms single half sine-wave (JEDEC methode) | $I_{FSM}$ | | | 30 | A |
| Reverse current | $V_R$ = $V_{RRM}$ $T_A$ = 25°C | $I_R$ | | | 1.0 | mA |
| | $V_R$ = $V_{RRM}$ $T_A$ = 100°C | | | | 20 | |
| Thermal resistance | Junction to ambient NOTE 1 | $R_{\theta JA}$ | | 88 | | °C/W |
| Diode junction capacitance | f=1MHz and applied 4V DC reverse voltage | $C_J$ | | 120 | | pF |
| Storage temperature | | $T_{STG}$ | -65 | | +150 | °C |

**Note:** 1.P.C.B. mounted with 0.2x0.2″(5.0x5.0mm) copper pad areas

| SYMBOLS | $V_{RRM}$ *1 (V) | $V_{RMS}$ *2 (V) | $V_R$ *3 (V) | $V_F$ *4 (V) | Operating temperature $T_J$, (°C) |
|---|---|---|---|---|---|
| SL12-A | 20 | 14 | 20 | 0.45 | -55 to +125 |
| SL13-A | 30 | 21 | 30 | | |
| SL14-A | 40 | 28 | 40 | | |
| SL15-A | 50 | 35 | 50 | 0.55 | -55 to +150 |
| SL16-A | 60 | 42 | 60 | | |
| SL18-A | 80 | 56 | 80 | 0.75 | |
| SL110-A | 100 | 70 | 100 | | |
| SL115-A | 150 | 105 | 150 | 0.85 | |
| SL120-A | 200 | 140 | 200 | | |

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage@$I_F$=1.0A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## Rating and characteristic curves

FIG. 1- FORWARD CURRENT DERATING CURVE

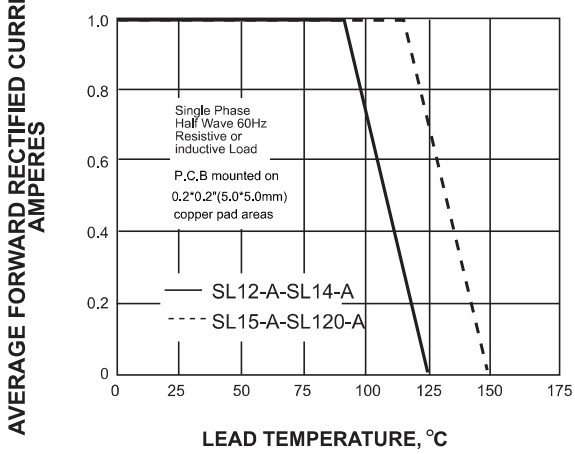



FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

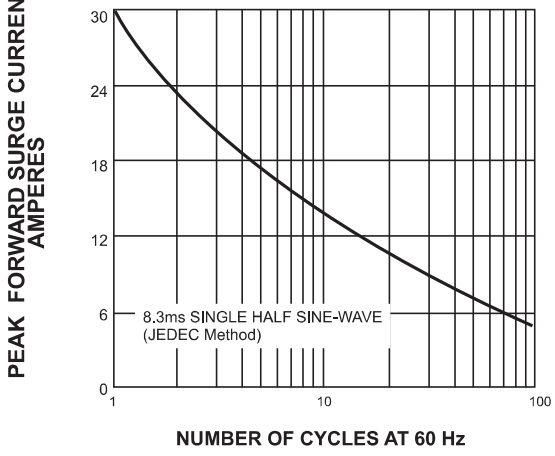



FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

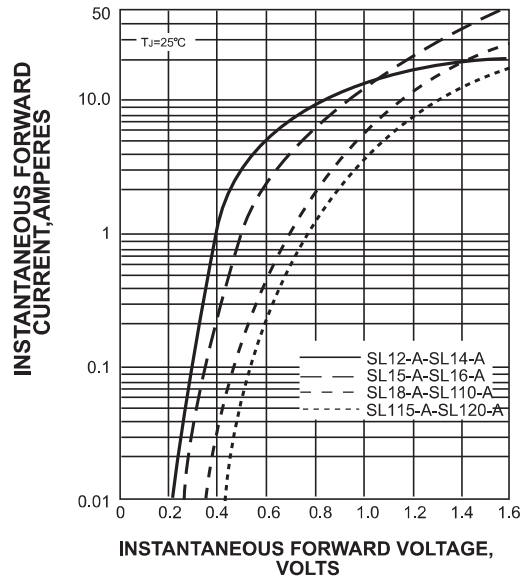



FIG. 4-TYPICAL REVERSE CHARACTERISTICS

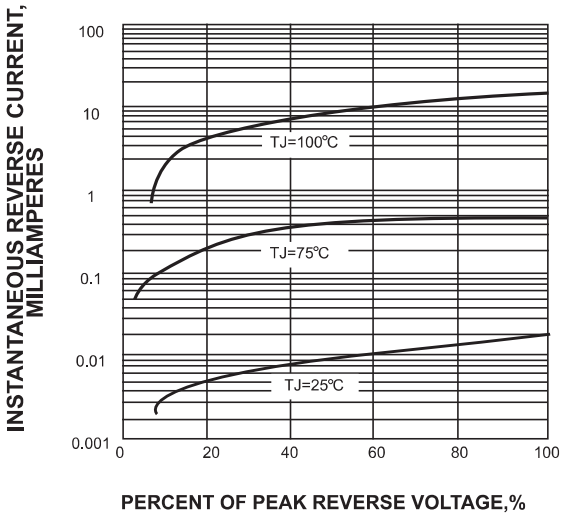



FIG. 5-TYPICAL JUNCTION CAPACITANCE

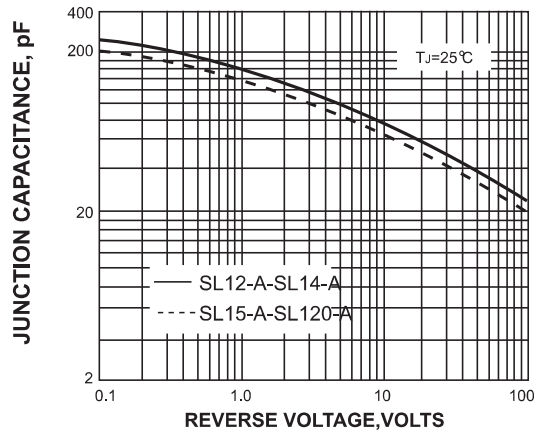
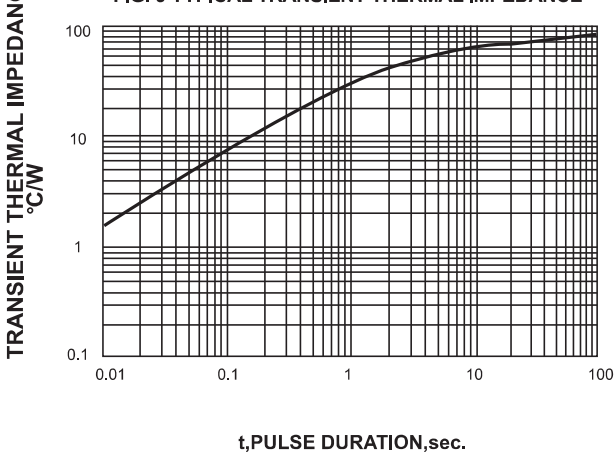



FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



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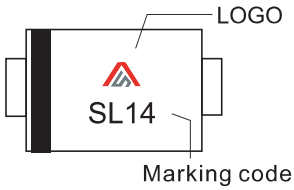
## 1.0A Low VF Surface Mount Schottky Barrier Rectifiers -20V-200V

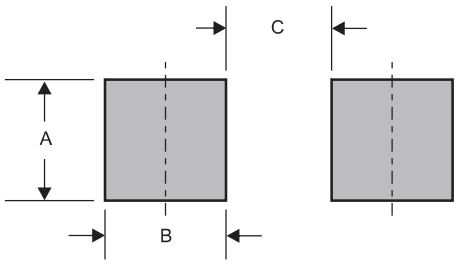
### Pinning information

| Pin | Simplified outline | Symbol |
|---|---|---|
| Pin1 cathode<br>Pin2 anode |  |  |

### Marking

| Type number | Marking code | Example |
|---|---|---|
| SL12-A | SL12 |  |
| SL13-A | SL13 | |
| SL14-A | SL14 | |
| SL15-A | SL15 | |
| SL16-A | SL16 | |
| SL18-A | SL18 | |
| SL110-A | SL110 | |
| SL115-A | SL115 | |
| SL120-A | SL120 | |

### Suggested solder pad layout




Dimensions in inches and (millimeters)

| PACKAGE | A | B | C |
|---|---|---|---|
| SMA | 0.110 (2.80) | 0.063 (1.60) | 0.087 (2.20) |