

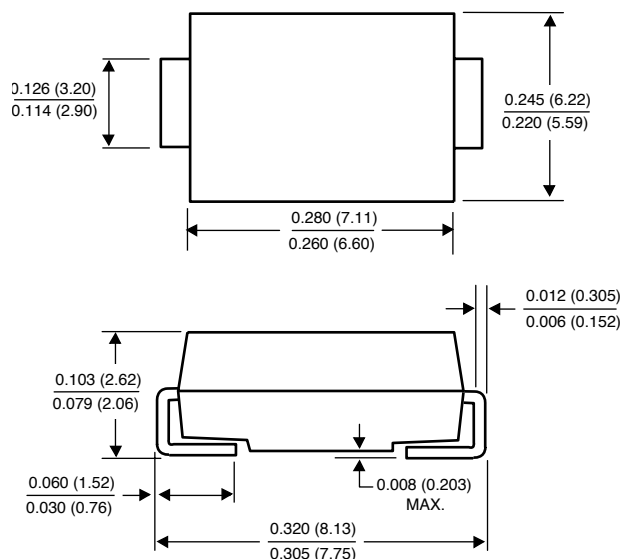
# SL42 THRU SL44

## LOW $V_F$ SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

Reverse Voltage - 20 to 40 Volts

Forward Current - 4.0 Amperes

### DO-214AB



Dimensions in inches and (millimeters)

### FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ For surface mount applications
- ◆ Low profile package
- ◆ Built-in strain relief, ideal for automated placement
- ◆ Easy pick and place
- ◆ Metal silicon junction, majority carrier conduction
- ◆ Low power loss, high efficiency
- ◆ High current capability, low forward voltage drop
- ◆ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- ◆ High temperature soldering: 250°C/10 seconds at terminals



### MECHANICAL DATA

**Case:** JEDEC DO-214AB molded plastic body**Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026**Polarity:** Color band denotes cathode end**Weight:** 0.007 ounce 0.25 gram

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

|                                                                                                                                                                                 | SYMBOLS                            | SL42                         | SL43 | SL44                         | UNITS        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|------------------------------|------|------------------------------|--------------|
| Device marking code                                                                                                                                                             |                                    | SL2                          | SL3  | SL4                          |              |
| Maximum repetitive peak reverse voltage                                                                                                                                         | $V_{RRM}$                          | 20                           | 30   | 40                           | Volts        |
| Maximum RMS voltage                                                                                                                                                             | $V_{RMS}$                          | 14                           | 21   | 28                           | Volts        |
| Maximum DC blocking voltage                                                                                                                                                     | $V_{DC}$                           | 20                           | 30   | 40                           | Volts        |
| Maximum average forward rectified current (NOTE 2) at $T_L$ (SEE FIG. 1)                                                                                                        | $I_{(AV)}$                         | 4.0<br>8.0                   |      |                              | Amps         |
| Peak forward surge current<br>8.3ms single half sine-wave superimposed on rated load (JEDEC Method)                                                                             | $I_{FSM}$                          | 150                          |      |                              | Amps         |
| Maximum instantaneous forward voltage at:<br>(NOTE 1)<br>$I_F=4.0A, T_A=125^\circ C$<br>$I_F=4.0A, T_A=25^\circ C$<br>$I_F=8.0A, T_A=125^\circ C$<br>$I_F=8.0A, T_A=25^\circ C$ | $V_F$                              | 0.31<br>0.42<br>0.37<br>0.47 |      | 0.35<br>0.44<br>0.41<br>0.50 | Volts        |
| Maximum DC reverse current (NOTE 1) $T_A=25^\circ C$<br>at rated DC blocking voltage $T_A=100^\circ C$                                                                          | $I_R$                              | 0.5<br>35.0                  |      |                              | mA           |
| Typical thermal resistance (NOTE 2)                                                                                                                                             | $R_{\theta JA}$<br>$R_{\theta JL}$ | 50<br>14                     |      |                              | $^\circ C/W$ |
| Operating junction temperature range                                                                                                                                            | $T_J$                              | -55 to +125                  |      |                              | $^\circ C$   |
| Storage temperature range                                                                                                                                                       | $T_{STG}$                          | -55 to +150                  |      |                              | $^\circ C$   |

#### NOTES:

(1) Pulse test: 300 $\mu s$  pulse width, 1% duty cycle,(2) P.C.B. mounted 0.55 x 0.55" (14 x 14mm) copper pad areas,  $T_L=90^\circ C$ (3) Mounted on Al plate,  $T_L=60^\circ C$ ,  $R_{\theta JL}=6^\circ C/W$

## RATINGS AND CHARACTERISTIC CURVES SL42 THRU SL44

FIG. 1 - FORWARD CURRENT DERATING CURVE

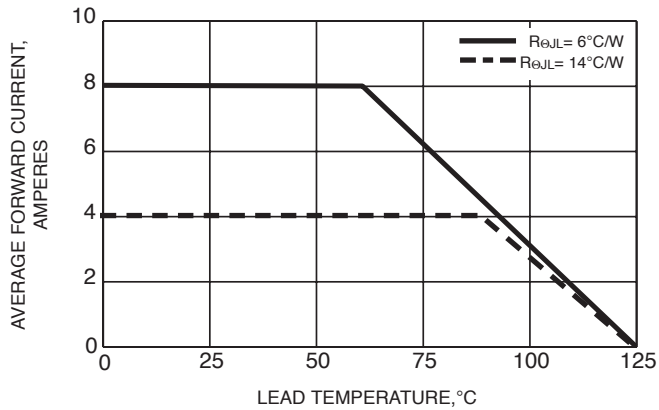


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

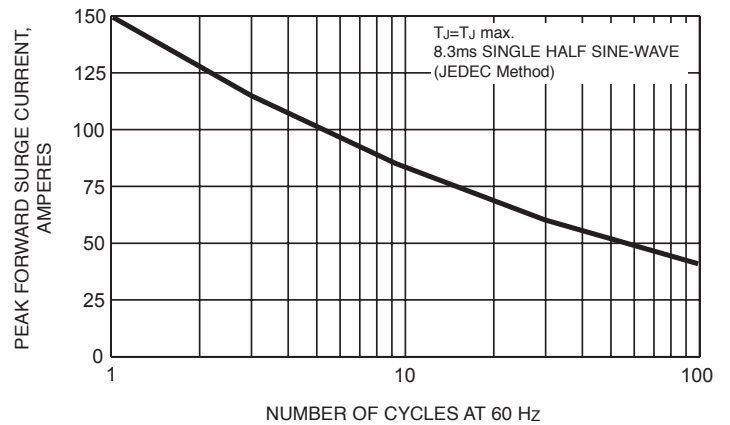


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

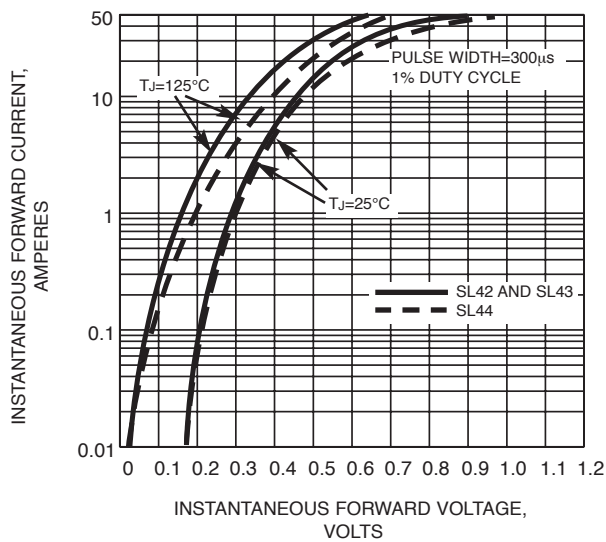


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

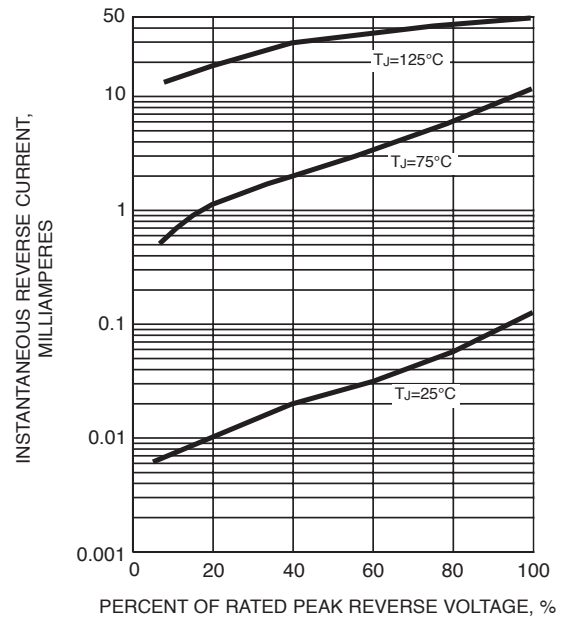


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

