SL22 thru SL24

Surface Mount Low V_F Schottky Barrier Rectifiers
Reverse Voltage 20 to 40 Volts   Forward Current 2.0 Amperes

Features
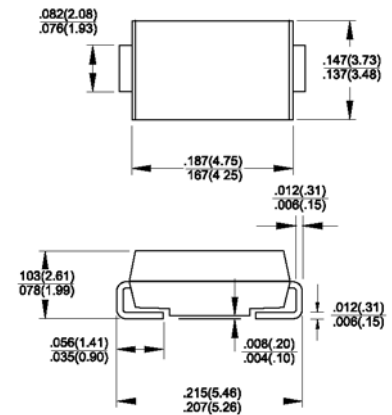
◆ For surface mounted application
◆ Metal silicon junction, majority carrier conduction
◆ Low forward voltage drop
◆ Easy pick and place
◆ High surge current capability
◆ Plastic material used carries Underwriters Laboratory Classification 94V-O
◆ Epitaxial construction
◆ High temperature soldering: 250°C / 10 seconds at terminals

Mechanical Data

◆ Cases: Molded plastic
◆ Terminals: Solder plated
◆ Polarity: Indicated by cathode band
◆ Weight: 0.003 ounce, 0.093 gram

DO-214AA (SMB)

.082(2.08)
.076(1.93)

.147(3.73)
.137(3.48)

.187(4.75)
167(4.25)

.012(.31)
.006(.15)

103(2.61)
078(1.99)

.056(1.41)
.035(0.90)

.008(.20)
.004(.10)

.012(.31)
.006(.15)

.215(5.46)
.207(5.26)

Dimensions in inches and (millimeters)

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, derate current by 20%

Parameter	Symbols	SL22	SL23	SL24	Units
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 See Fig. 1	$I_{(AV)}$		2.0		Amps
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}		50.0		Amps
Maximum instantaneous forward voltage @ 2.0A (Note 1)	V_F	0.385	0.385	0.400	Volts
Maximum DC reverse current @ T_A=25°C at rated DC blocking voltage @ T_A=100°C	I_R		3.0 150		mA
Maximum thermal resistance (Note 2)	$R_{\theta JL}$ $R_{\theta JA}$		25 75		°C/W
Operating junction temperature range	T_J		-55 to +125		°C
Storage temperature range	T_{STG}		-55 to +150		°C

Notes: 1. Pulse Test with PW=300 usec, 1% Duty Cycle.

2. Measured on P.C. Board with 0.2 x 0.2" (5.0 x 5.0 mm) Copper Pad Areas.

RATINGS AND CHARACTERISTIC CURVES

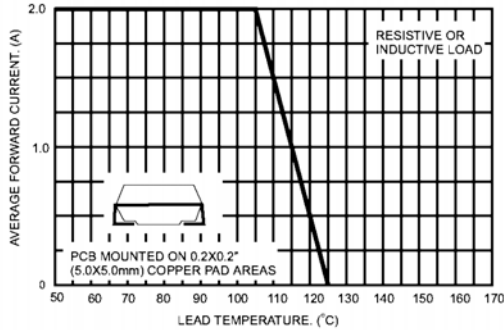### FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

RESISTIVE OR INDUCTIVE LOAD

PCB MOUNTED ON 0.2X0.2" (5.0X5.0mm) COPPER PAD AREAS

AVERAGE FORWARD CURRENT. (A)

LEAD TEMPERATURE. (°C)

FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

AT RATED TL
8.3ms Single Half Sine Wave
JEDEC Method

PEAK FORWARD SURGE CURRENT. (A)

NUMBER OF CYCLES AT 60Hz
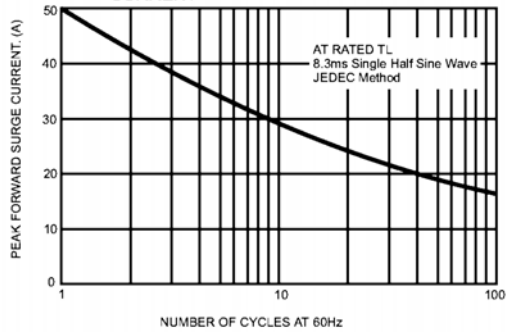
FIG.3- TYPICAL FORWARD CHARACTERISTICS

SL22-24
Tj=125°C

PULSE WIDTH=300μS
1% DUTY CYCLE

SL22-23
Tj=25°C

SL24
Tj=25°C

INSTANTANEOUS FORWARD CURRENT. (A)

FORWARD VOLTAGE. (V)
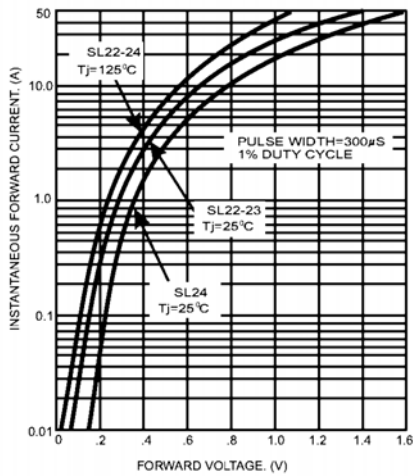
FIG.4- TYPICAL REVERSE CHARACTERISTICS

Tj=100°C
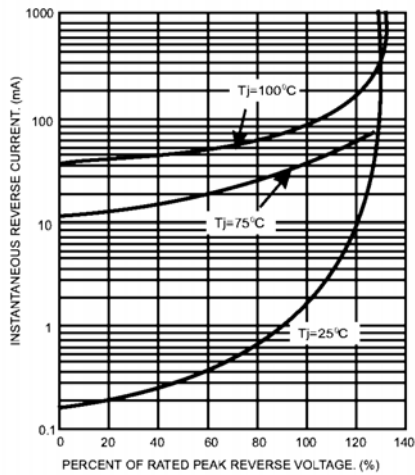
Tj=75°C

Tj=25°C

INSTANTANEOUS REVERSE CURRENT. (mA)

PERCENT OF RATED PEAK REVERSE VOLTAGE. (%)

FIG.5- TYPICAL JUNCTION CAPACITANCE

Tj=25°C
f=1.0MHz
Vsig=50mVp-p

JUNCTION CAPACITANCE.(pF)

REVERSE VOLTAGE. (V)