

## Surface Mount Schottky Barrier Rectifier

### FEATURES

- Ideal for automated placement
- Low forward voltage drop
- Low leakage current
- Meets environmental standard MIL-S-19500D
- Moisture sensitivity: level 1, per J-STD-020
- Solder dip 275 °C, 10 s
- Compliant to RoHS Directive 2002/95/EC and in accordance to WEEE 2002/96/EC



DO-214AA ( SMB )

### TYPICAL APPLICATIONS

For use in general purpose rectification of lighting, power supplies, inverters, converters and freewheeling diodes for consumer, automotive and telecommunication.

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	5 A
$V_{RRM}$	20 V to 100 V
$I_{FSM}$	120A , 250A
$V_F$	0.43V , 0.5V , 0.7V
$T_J \text{ max.}$	125 °C , 150 °C

### MECHANICAL DATA

**Case:** DO-214AA, molded epoxy body , Epoxy meets UL 94V-0 flammability rating

**Terminals:** Matte tin plated leads, solderable per J-STD-002 and JESD22B-106

**Polarity:** Laser Band Denotes Cathode Band

MAXIMUM RATINGS (TA = 25 °C unless otherwise noted)												
PARAMETER	SYMBOL	SL52B	SL53B	SL54B	SL55B	SL56B	SL57B	SL58B	SL59B	SL510B	UNIT	
Maximum repetitive peak reverse voltage	$V_{RRM}$	20	30	40	50	60	70	80	90	100	V	
Maximum RMS voltage	$V_{RMS}$	14	21	28	35	42	49	56	63	70	V	
Maximum DC blocking voltage	$V_{DC}$	20	30	40	50	60	70	80	90	100	V	
Maximum average forward rectified current at TL(See Fig.1)	$I_{F(AV)}$	5									A	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	$I_{FSM}$	120					250					A
Operating junction temperature range	$T_J$	- 55 to + 125				- 55 to + 150						°C
Storage temperature range	$T_{STG}$	- 55 to + 150										°C



# SL52B thru SL510B

ELECTRICAL CHARACTERISTICS (TA = 25 °C unless otherwise noted)												
PARAMETER	TEST CONDITIONS	SYMBOL	SL52B	SL53B	SL54B	SL55B	SL56B	SL57B	SL58B	SL59B	SL510B	UNIT
Maximum instantaneous forward voltage	IF=5A	VF	0.43			0.5		0.7				V
Maximum DC reverse current at rated DC blocking voltage	TA=25	IR	0.5				0.05				mA	
	TA=100		50				50					
Typical junction capacitance	4.0 V, 1 MHz	CJ	350									pF

THERMAL CHARACTERISTICS (TA = 25 °C unless otherwise noted)											
PARAMETER	SYMBOL	SL52B	SL53B	SL54B	SL55B	SL56B	SL57B	SL58B	SL59B	SL510B	UNIT
Maximum thermal resistance	RθJA (1)	72									°C/W
	RθJT (2)	22									

Notes: (1) Thermal resistance from junction to ambient, 0.276 × 0.276" (7.0 × 7.0mm) copper pads to each terminal  
 (2) Thermal resistance from junction to terminal, 0.276 × 0.276" (7.0 × 7.0mm) copper pads to each terminal

## RATINGS AND CHARACTERISTICS CURVES (TA = 25 °C unless otherwise noted)

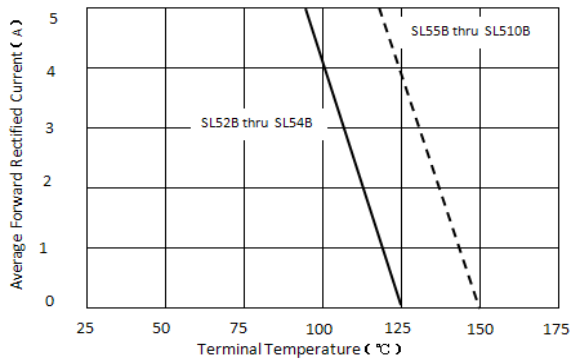


Figure 1. Forward Current Derating Curve

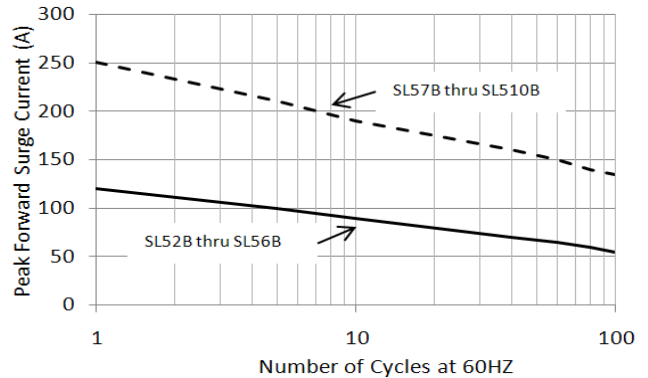


Figure 2. Maximum Non-repetitive Peak Forward Surge Current

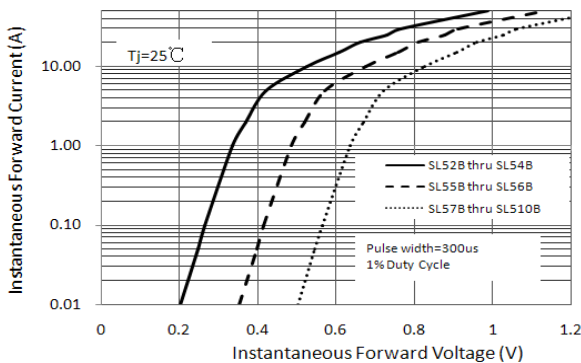


Figure 3. Typical Instantaneous Forward Characteristics

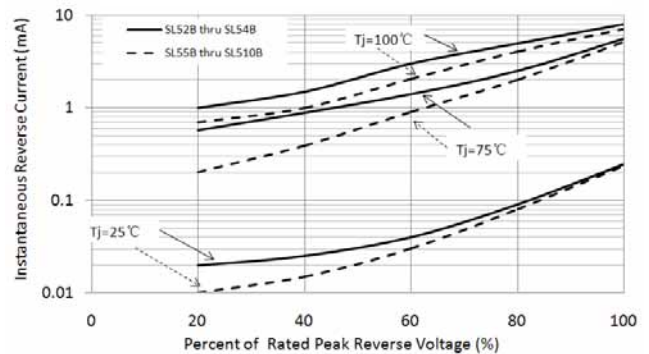


Figure 4. Typical Reverse Characteristics  
 rev.1

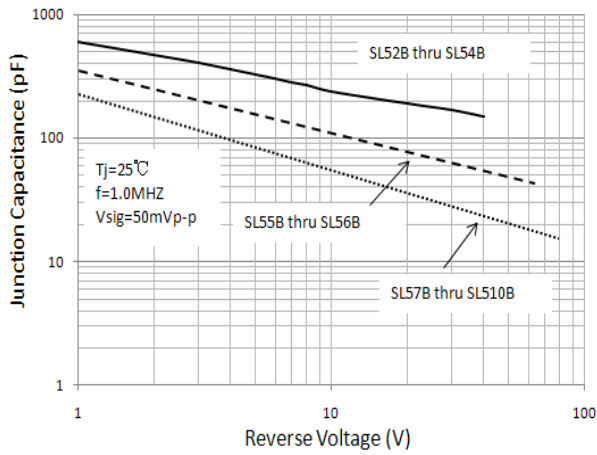


Figure 5. Typical Junction Capacitance

## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

