

## SB510UL

### Product profile

Surface Mount High Current Density Schottky

### General description

Rectifiers 5.0 Amp 100V

### Features

Low forward voltage drop

High current capability

High reliability

High surge current capability

Epitaxial construction

### Mechanical data

Case: DO-201AD,

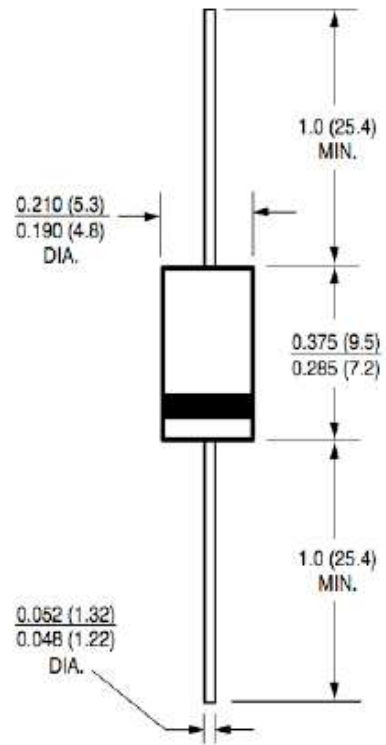
Case: Molded plastic

Epoxy: UL 94V-0 rate flame retardant

Lead: Lead solderable per MIL-STD-202, method 208  
guaranteed

Mounting position: Any

Weight: 1.10 grams(Approximately)



**DO-201AD**

### Maximum Ratings (Tc=25°C unless otherwise noted)

Parameter	Symbol	SB510UL	Unit
Maximum repetitive peak reverse voltage	VRRM	100	V
RMS Voltage (Max.)	VRMS	70	V
Working peak reverse voltage	VRWM	100	V
Maximum average forward rectified current	IF(AV)	5.0	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	IFSM	210	A
Operating junction temperature range	TJ	-55 to +150	°C
Storage temperature range	TSTG	-55 to +150	°C

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## THERMAL CHARACTERISTICS

Parameter	Symbol	Value	Unit
Typical thermal resistance	R $\theta$ JA	28	°C/W

Notes:

(1) Pulse test: 300  $\mu$ s pulse width, 1 % duty cycle

(2) Pulse test: Pulse width  $\leq$  40 ms

## Electrical characteristics (Tc=25°C unless otherwise noted)

### OFF CHARACTERISTICS

Parameter	Symbol	Value		Unit
		Typical	Max	
Instantaneous forward voltage	VF			V
at IF=1A, Tj=25°C		0.40	0.43	
at IF=2A, Tj=25°C		0.43	0.46	
at IF=5A, Tj=25°C		0.48	0.53	
at IF=10A, Tj=25°C		0.61	0.66	
at IF=1A, Tj=125°C		<b>0.28</b>	0.31	
at IF=2A, Tj=125°C		0.32	0.35	
at IF=5A, Tj=125°C		0.46	0.50	
at IF=10A, Tj=125°C	0.57	0.62		
Maximum reverse current	IR			
Tj=25°C		20		$\mu$ A
at working peak reverse voltage Tj=125°C		5		m'A

## DEVICE MARK

SB510UL

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### ■ Characteristic Curves

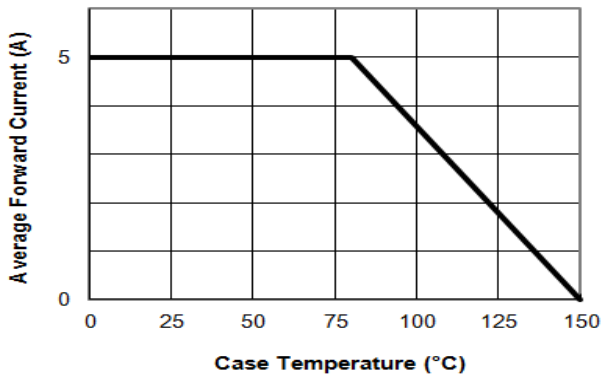


Figure 1. Forward Current Derating Curve

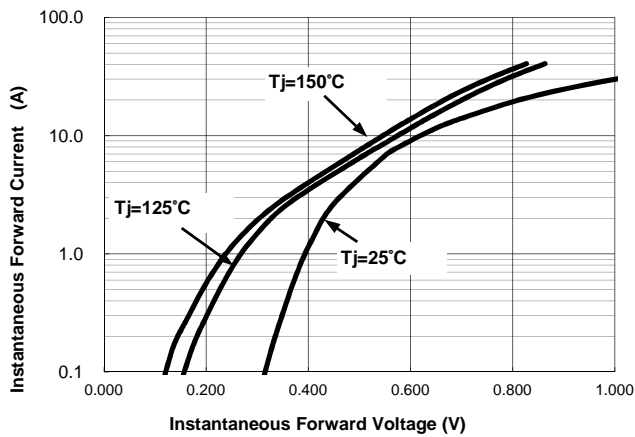
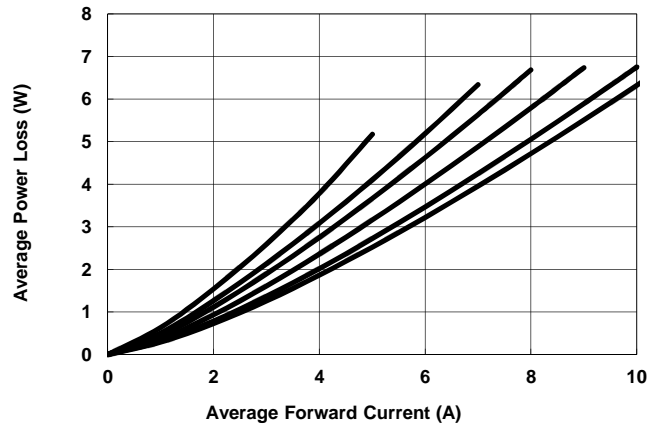


Figure 3. Typical Instantaneous Forward Characteristics Per Leg

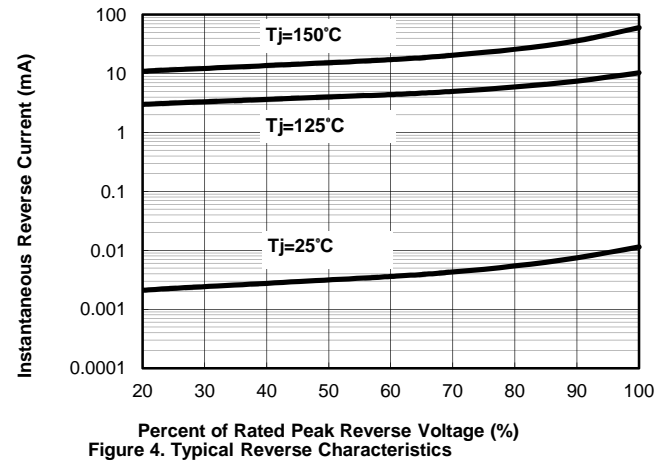


Figure 4. Typical Reverse Characteristics

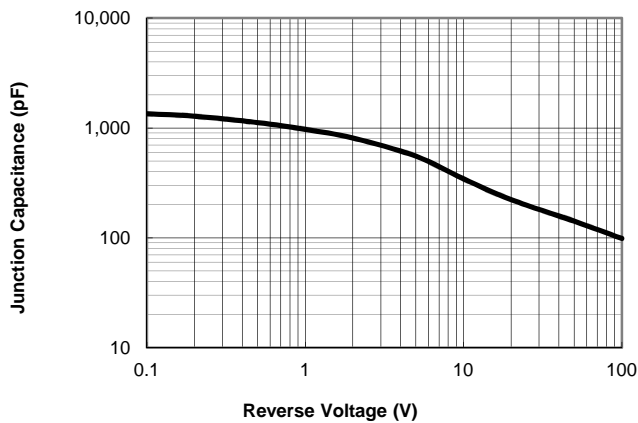


Figure 5. Typical Junction Capacitance

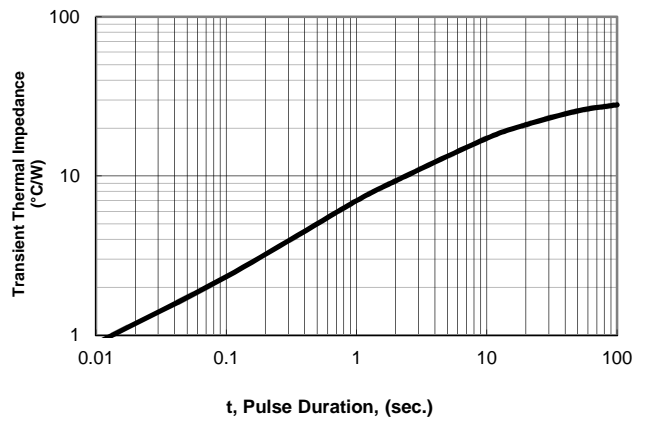


Figure 6. Typical Transient Thermal Impedance

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