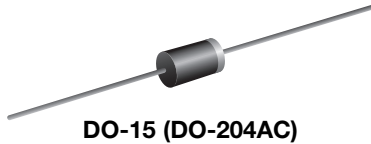


## High Voltage Schottky Plastic Rectifier

High Barrier Technology for Improved High Temperature Performance



DO-15 (DO-204AC)

### FEATURES

- Guardring for overvoltage protection
- Low power losses and high efficiency
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- High frequency operation
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	2.0 A
$V_{RRM}$	90 V, 100 V
$I_{FSM}$	75 A
$V_F$	0.65 V
$I_R$	10 $\mu$ A
$T_J$ max.	175 °C
Package	DO-15 (DO-204AC)
Circuit configuration	Single

### TYPICAL APPLICATIONS

For use in middle voltage high frequency inverters, freewheeling, DC/DC converters, and polarity protection applications.

### MECHANICAL DATA

**Case:** DO-15 (DO-204AC)

Molding compound meets UL 94 V-0 flammability rating  
Base P/N-E3 - RoHS-compliant, commercial grade

#### Note

- SB2H100 for commercial grade only

**Terminals:** matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 suffix meets JESD 201 class 1A whisker test

**Polarity:** color band denotes the cathode end

MAXIMUM RATINGS ( $T_A = 25$ °C unless otherwise noted)				
PARAMETER	SYMBOL	SB2H90	SB2H100	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	90	100	V
Working peak reverse voltage	$V_{RWM}$	90	100	V
Maximum DC blocking voltage	$V_{DC}$	90	100	V
Maximum average forward rectified current at $T_A = 25$ °C	$I_{F(AV)}$	2.0		A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	$I_{FSM}$	75		A
Peak repetitive reverse surge current at $t_p = 2.0$ $\mu$ s, 1 kHz	$I_{RRM}$	1.0		A
Critical rate of rise of reverse voltage	dV/dt	10 000		V/ $\mu$ s
Storage temperature range	$T_{STG}$	-55 to +175		°C
Maximum operating junction temperature	$T_J$	175		°C

**ELECTRICAL CHARACTERISTICS** ( $T_A = 25\text{ }^\circ\text{C}$  unless otherwise noted)

PARAMETER	TEST CONDITIONS	SYMBOL	SB2H90	SB2H100	UNIT
Maximum instantaneous forward voltage	$I_F = 2.0\text{ A}$	$T_J = 25\text{ }^\circ\text{C}$	0.79		V
		$T_J = 125\text{ }^\circ\text{C}$	0.65		
Maximum reverse current at rated $V_R$		$T_J = 25\text{ }^\circ\text{C}$	10		$\mu\text{A}$
		$T_J = 125\text{ }^\circ\text{C}$	4.0		mA

**Notes**

- (1) Pulse test: 300 ms pulse width, 1 % duty cycle  
(2) Pulse test: Pulse width  $\leq 40\text{ ms}$

**THERMAL CHARACTERISTICS** ( $T_A = 25\text{ }^\circ\text{C}$  unless otherwise noted)

PARAMETER	SYMBOL	SB2H90	SB2H100	UNIT
Typical thermal resistance	$R_{\theta JA}^{(1)}$	45		$^\circ\text{C/W}$
	$R_{\theta JL}^{(1)}$	14		

**Note**

- (1) PCB mounted with 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pad areas

**ORDERING INFORMATION** (Example)

PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
SB2H90-E3/54	0.398	54	4000	13" diameter paper tape and reel
SB2H90-E3/73	0.398	73	2000	Ammo pack packaging



RATINGS AND CHARACTERISTICS CURVES (T<sub>A</sub> = 25 °C unless otherwise noted)

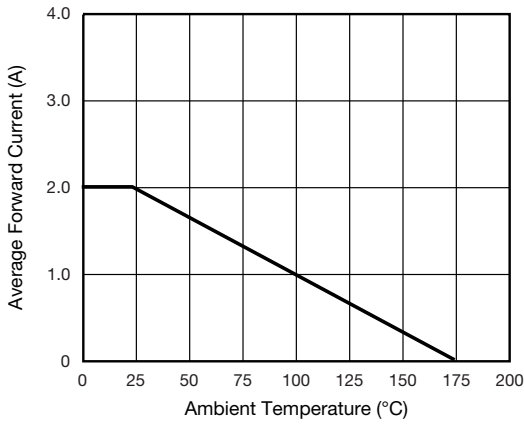


Fig. 1 - Forward Current Derating Curve

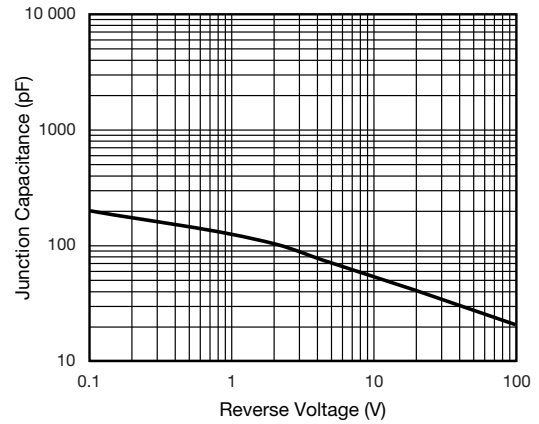


Fig. 4 - Typical Junction Capacitance

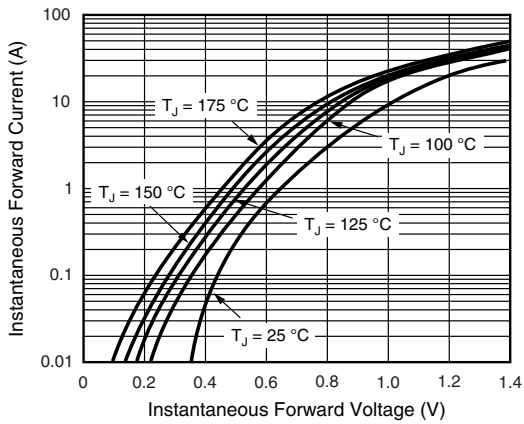


Fig. 2 - Typical Instantaneous Forward Characteristics

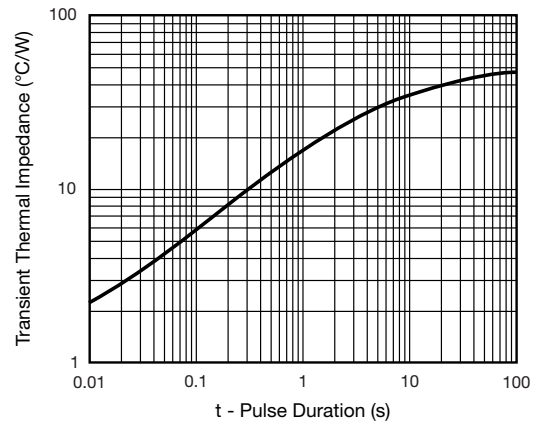


Fig. 5 - Typical Transient Thermal Impedance

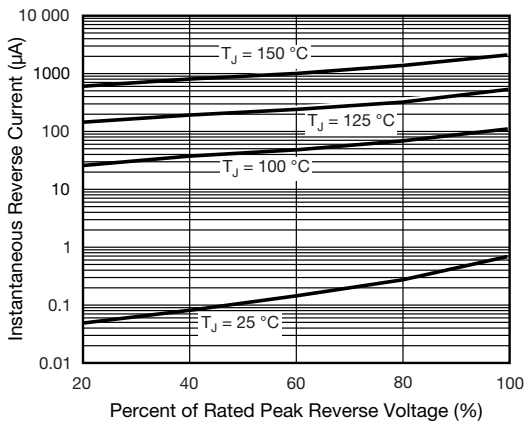
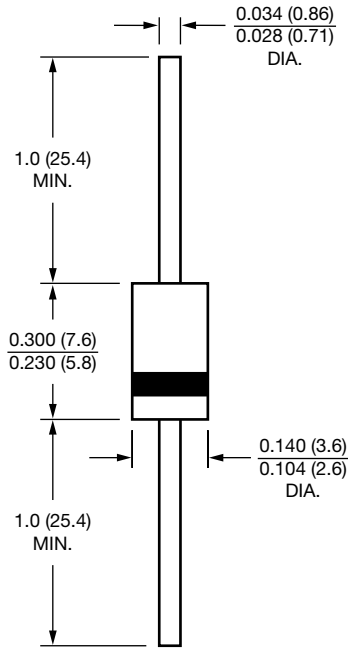


Fig. 3 - Typical Reverse Characteristics



PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-15 (DO-204AC)





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