

## 200mA,120-250V Switching Diode

### FEATURES

- Low power loss, high efficiency
- Ideal for automated placement
- High surge current capability
- Compliant to RoHS directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

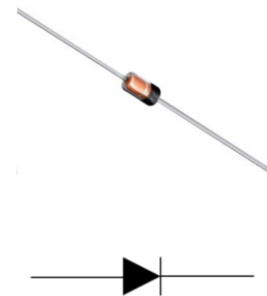
### APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- Lighting application
- On-board DC/DC converter

### MECHANICAL DATA

- Case: DO-35
- Packing code with suffix "G" means green compound (halogen-free)
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Polarity: Indicated by cathode band
- Weight: 109 ± 4 mg (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_{F(AV)}$	100-200	mA
$V_{RRM}$	120-250	V
$I_{FSM}$ at $PW = 1\mu s$	4	A
$V_F$ at $I_F=100mA$	1.00	V
$T_{JMAX}$	175	°C
Package	DO-35	
Configuration	Single Die	



ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ C$ unless otherwise noted)						
PARAMETER		SYMBOL	PART NUMBER			UNIT
Marking code on the device			BAV19	BAV20	BAV21	
Reverse Breakdown Voltage		$V_{(BR)}$	120	200	250	V
Peak Forward Surge Current	Pulse Width = 1 s , Square Wave	$I_{FSM}$	1			A
	Pulse Width = 1 $\mu s$ , Square Wave		4			
Junction temperature range		$T_J$	-55 ~ 175			°C
Storage temperature range		$T_{STG}$	-55 ~ 175			°C

THERMAL PERFORMANCE			
PARAMETER	SYMBOL	LIMIT	UNIT
Junction-to-ambient thermal resistance	$R_{\theta JA}$	300	°C/W

<b>ELECTRICAL SPECIFICATIONS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise noted)					
<b>PARAMETER</b>	<b>CONDITIONS</b>	<b>SYMBOL</b>	<b>TYP</b>	<b>MAX</b>	<b>UNIT</b>
Forward voltage per diode <sup>(1)</sup>	$I_F = 100\text{mA}$ , $T_J = 25^\circ\text{C}$	$V_F$	--	1.00	V
	$I_F = 200\text{mA}$ , $T_J = 25^\circ\text{C}$		--	1.25	V
Reverse current @ rated $V_R$ per diode <sup>(2)</sup>	BAV19 $V_R = 100\text{V}$	$I_R$	--	100	nA
	BAV20 $V_R = 150\text{V}$				
	BAV21 $V_R = 200\text{V}$				
Junction capacitance	1 MHz, $V_R = 0\text{V}$	$C_J$	--	5	$\mu\text{F}$

**Notes:**

1. Pulse test with  $PW = 0.3\text{ ms}$
2. Pulse test with  $PW = 30\text{ ms}$

<b>ORDERING INFORMATION</b>				
<b>PART NO.</b>	<b>PACKING CODE</b>	<b>PACKING CODE SUFFIX</b>	<b>PACKAGE</b>	<b>PACKING</b>
BAVXX (Note 1&2)	R0	G	DO-35	10K / 14" Reel
	A0			5K / Box (Ammo)

**Notes:**

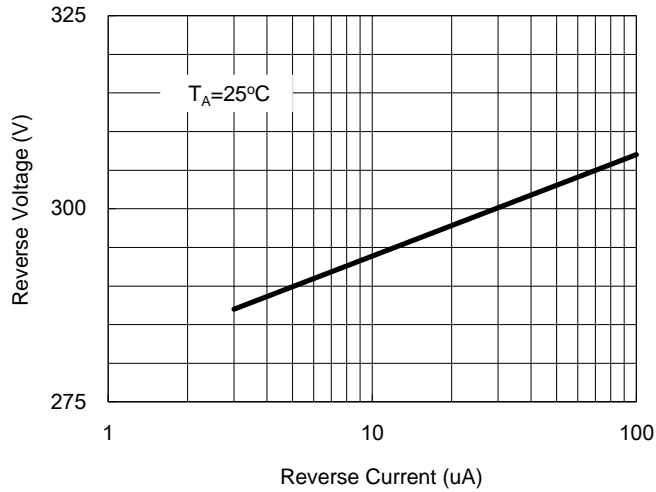
1. "xx" is Device Code from "19" to "21"
2. Whole series with green compound

<b>EXAMPLE</b>				
<b>EXAMPLE P/N</b>	<b>PART NO.</b>	<b>PACKING CODE</b>	<b>PACKING CODE SUFFIX</b>	<b>DESCRIPTION</b>
BAV19 R0G	BAV19	R0	G	Green compound

**CHARACTERISTICS CURVES**

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

**Reverse Voltage VS. Reverse Current**



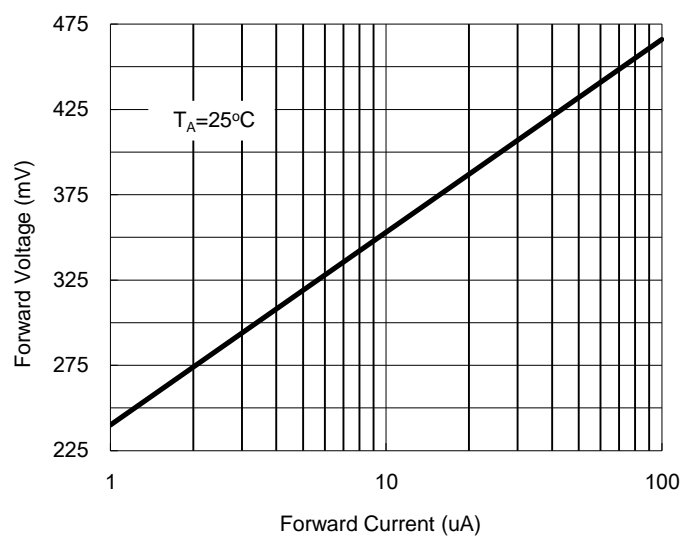
**Reverse Current VS. Reverse Voltage**



**Reverse Current VS. Reverse Voltage**



**Forward Voltage VS. Forward Current**



**CHARACTERISTICS CURVES**

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

**Forward Volatage VS. Forward Current**



**Forward Volatage VS. Forward Current**

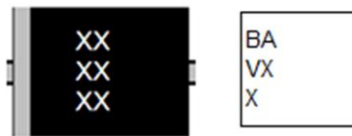


**PACKAGE OUTLINE DIMENSION**



DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	0.34	0.60	0.013	0.024
B	2.90	5.08	0.114	0.200
C	25.40	38.10	1.000	1.500
D	1.30	2.28	0.051	0.090

**MARKING DIAGRAM**



## Notice

Specifications of the products displayed herein are subject to change without notice. TSC or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in TSC's terms and conditions of sale for such products, TSC assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of TSC products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify TSC for any damages resulting from such improper use or sale.