

## 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

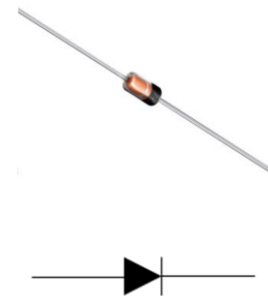
### APPLICATIONS

- 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:  $109 \pm 4$  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:**

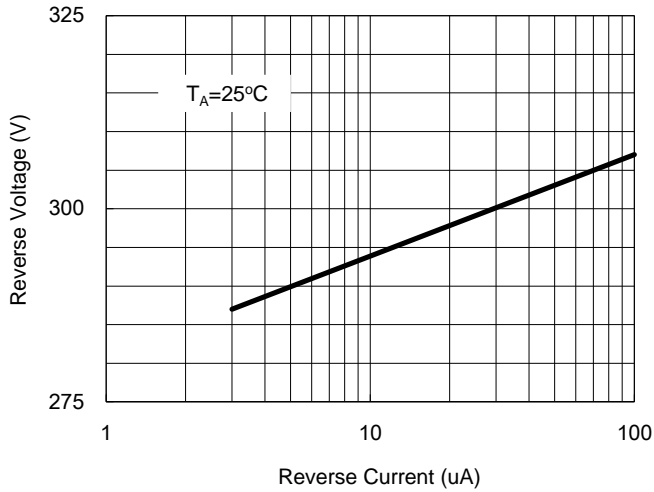
1. "xx" is Device Code from "19" to "21"
2. Whole series with green compound

<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)

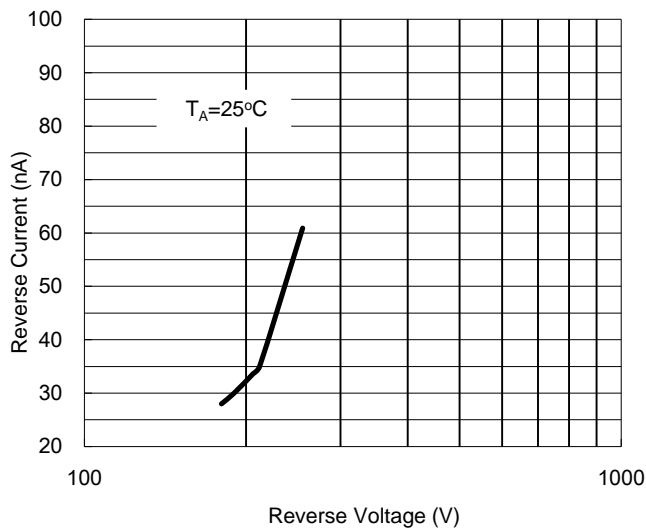
**Reverse Voltage VS. Reverse Current**



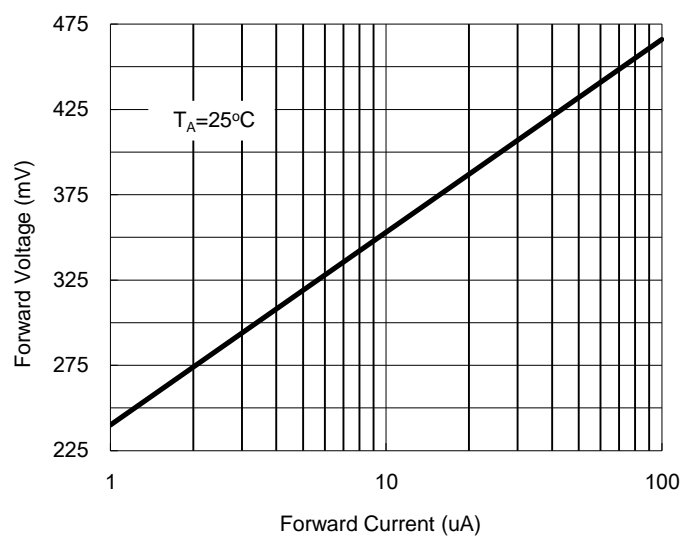
**Reverse Current VS. Reverse Voltage**



**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**

