

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

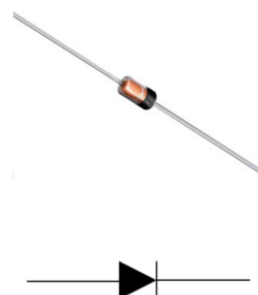
APPLICATIONS

- 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
$T_{J\ MAX}$	175	°C
Package	DO-35	
Configuration	Single Die	



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

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

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

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage per diode ⁽¹⁾	$I_F = 100\text{mA}$, $T_J = 25^\circ\text{C}$	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 ⁽²⁾	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	μF

Notes:

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

ORDERING INFORMATION

PART NO.	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
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

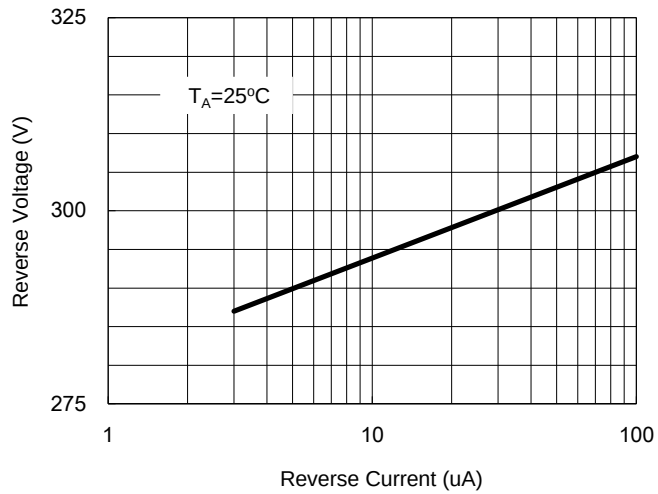
EXAMPLE

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

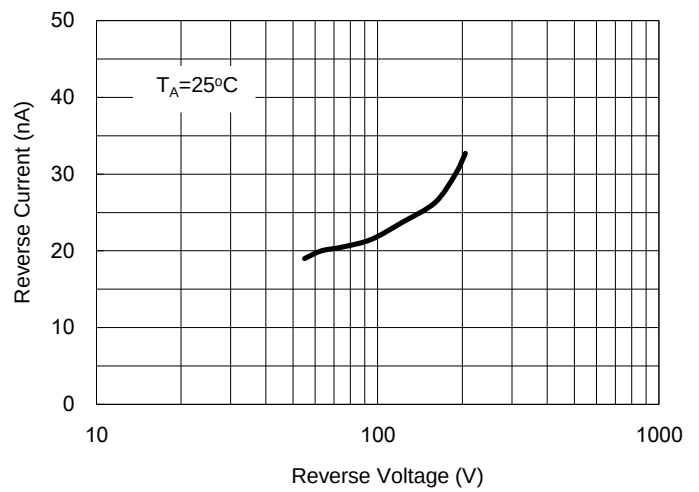
CHARACTERISTICS CURVES

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

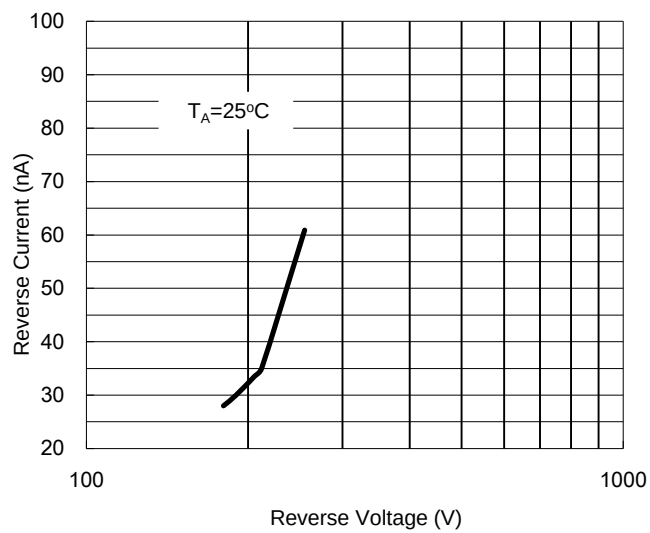
Reverse Voltage VS. Reverse Current



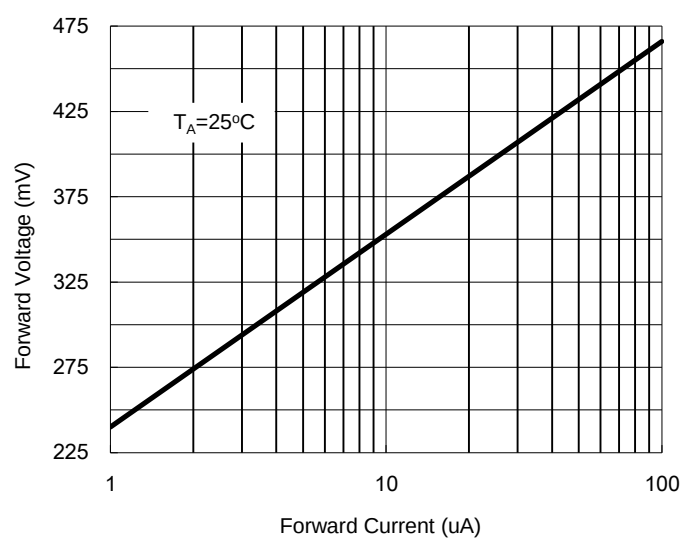
Reverse Current VS. Reverse Voltage



Reverse Current VS. Reverse Voltage



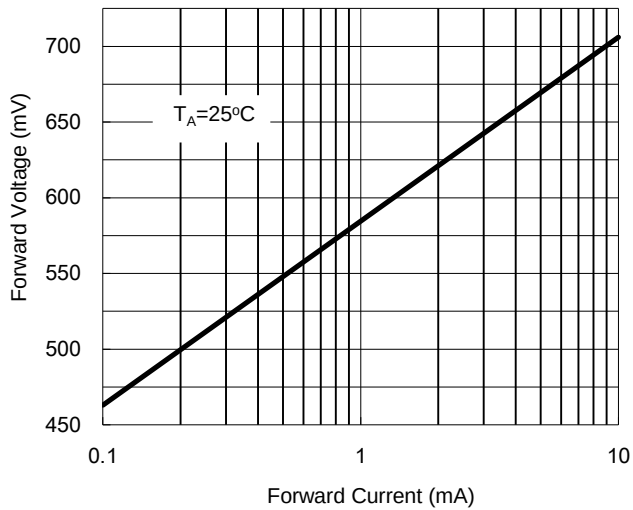
Forward Voltage VS. Forward Current



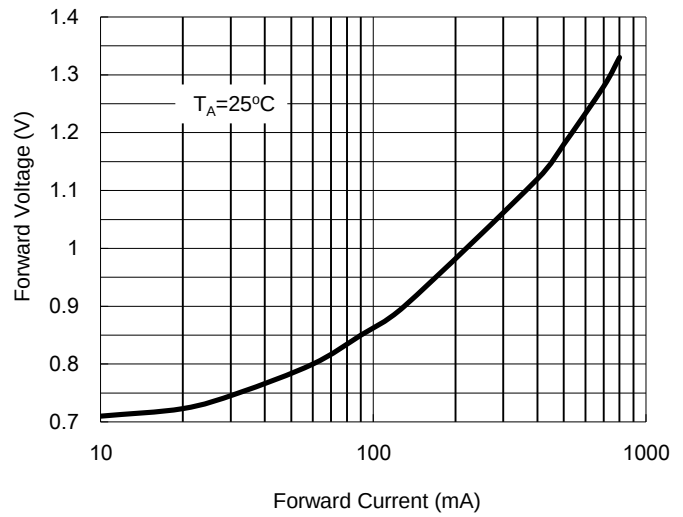
CHARACTERISTICS CURVES

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

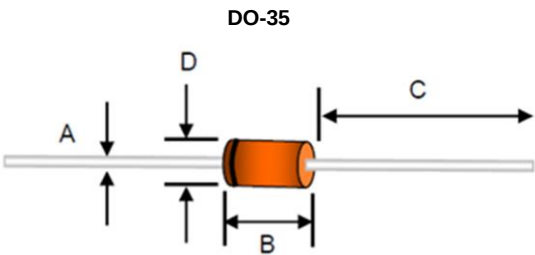
Forward Volatage VS. Forward Current



Forward Volatage VS. Forward Current

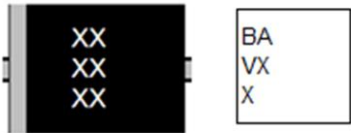


PACKAGE OUTLINE DIMENSION



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



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