

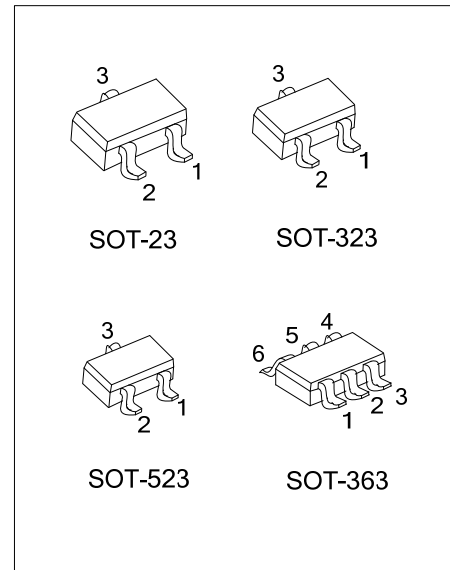
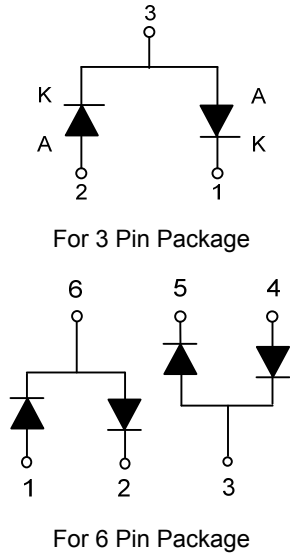


# BAV99

DIODE

## HIGH CONDUCTANCE ULTRA FAST DIODE

### ■ EQUIVALENT



### ■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment						Packing
Lead Free	Halogen Free		1	2	3	4	5	6	
BAV99L-AE3-R	BAV99G-AE3-R	SOT-23	K1	A2	K2A1	-	-	-	Tape Reel
BAV99L-AL3-R	BAV99G-AL3-R	SOT-323	K1	A2	K2A1	-	-	-	Tape Reel
BAV99L-AN3-R	BAV99G-AN3-R	SOT-523	K1	A2	K2A1	-	-	-	Tape Reel
BAV99L-AL6-R	BAV99G-AL6-R	SOT-363	A1	K1	A2K2	A2	K2	A1K1	Tape Reel

Note: Pin Assignment: A: Anode K: Cathode

<p>BAV99L-AE3-R</p> <p>(1)Packing Type (2)Package Type (3)Lead Plating</p>	<p>(1) R: Tape Reel (2) AE3: SOT-23, AL3: SOT-523, AN3: SOT-523, AL6: SOT-363 (3) G: Halogen Free, L: Lead Free</p>
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### ■ MARKING

SOT-23/SOT-323/SOT-523	SOT-363
<p>V99 □</p> <p>L: Lead Free G: Halogen Free</p>	<p>V99 □</p> <p>L: Lead Free G: Halogen Free</p>

■ **ABSOLUTE MAXIMUM RATINGS\*** (Ta = 25°C, unless otherwise specified.)

PARAMETER		SYMBOL	RATINGS	UNIT
Working Inverse Voltage		$V_{IV}$	70	V
Average Rectified Current		$I_{F(AV)}$	200	mA
DC Forward Current		$I_{FM}$	600	mA
Recurrent Peak Forward Current		$I_{FRM}$	700	mA
Non-repetitive Peak Forward Surge Current	Pulse width = 1.0 second	$I_{FSM}$	1.0	A
	Pulse width = 1.0 microsecond		2.0	A
Power Dissipation	SOT-23	$P_D$	350	mW
	SOT-523		150	mW
	SOT-323/SOT-363		200	mW
Junction Temperature		$T_J$	+150	°C
Storage Temperature		$T_{STG}$	-65 ~ +150	°C

Note: 1. Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.

2. These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

■ **THERMAL DATA**

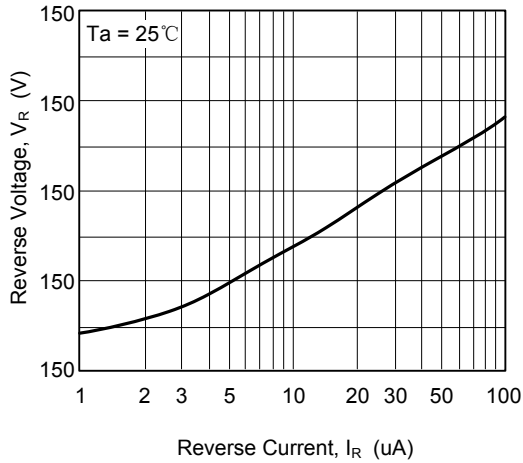
PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient	SOT-23	$\theta_{JA}$	357	°C /W
	SOT-523		833	°C /W
	SOT-323/SOT-363		625	°C /W

■ **ELECTRICAL CHARACTERISTICS** (Ta = 25°C, unless otherwise specified.)

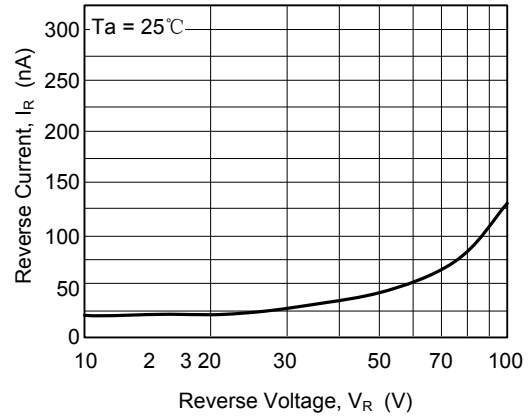
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Breakdown Voltage	$V_R$	$I_R = 100\mu A$	70			V
Maximum Instantaneous Forward Voltage	$V_{FM}$	$I_F = 1.0mA$			775	mV
		$I_F = 10mA$			855	mV
		$I_F = 50mA$			1.0	V
		$I_F = 150mA$			1.25	V
Peak Forward Voltage	$V_{SM}$	$I_F = 10mA, t_R = 20nS$			1.75	V
Maximum Instantaneous Reverse Current	$I_{RM}$	$V_R = 70V$			2.5	$\mu A$
		$V_R = 25V, T_a = 150^\circ C$			30	
		$V_R = 70V, T_a = 150^\circ C$			50	
Diode Capacitance	$C_O$	$V_R = 0, f = 1.0MHz$			1.5	pF
Reverse Recovery Time	$t_{RR}$	$I_F = I_R = 10mA, I_{RR} = 1.0mA$ $R_L = 100\Omega$			6.0	ns

## TYPICAL CHARACTERISTICS

Reverse Voltage vs. Reverse Current  
BV - 1.0 ~ 100  $\mu$ A

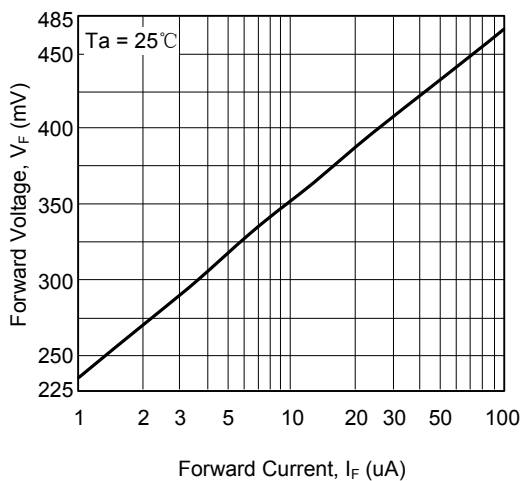


Reverse Current vs. Reverse Voltage  
 $I_R$  - 10 ~ 100 V

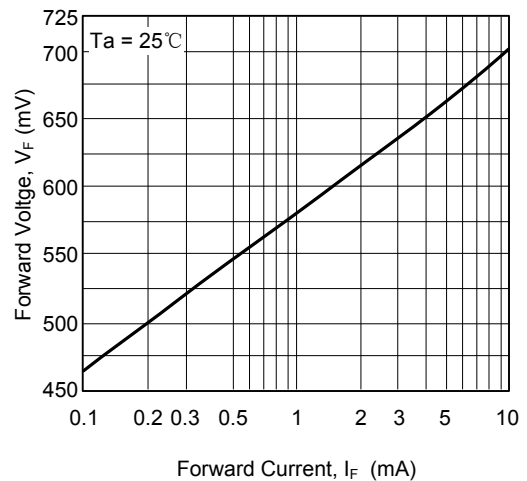


GENERAL RULE: The Reverse Current of a diode will approximately double for every ten (10) Degree C increase in Temperature

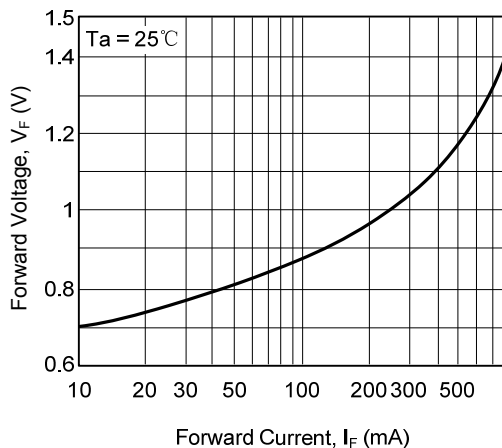
Forward Voltage vs. Forward Current  
 $V_F$  - 1.0 ~ 100  $\mu$ A



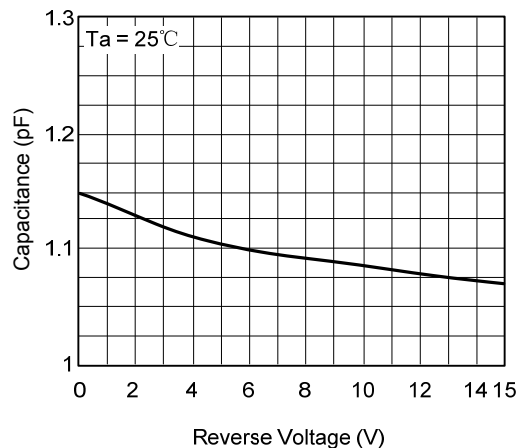
Forward Voltage vs. Forward Current  
 $V_F$  - 0.1 ~ 10 mA



Forward Voltage vs. Forward Current  
 $V_F$  - 1.0 ~ 800 mA

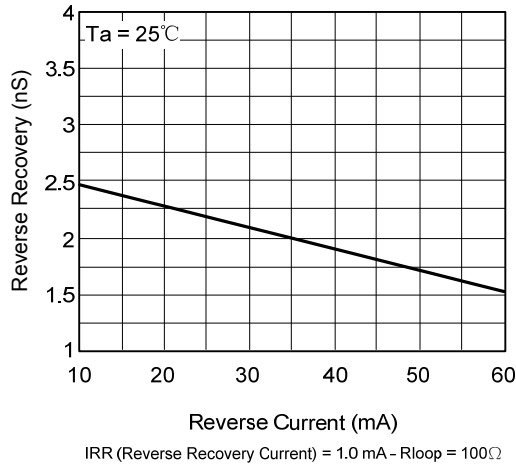


Capacitance vs. Reverse Voltage  
 $V_R$  - 0.0 ~ 15 V

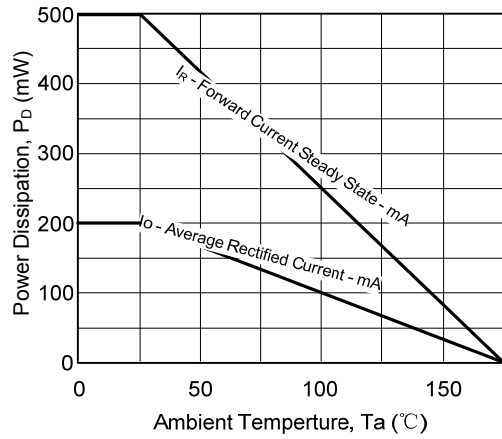


## ■ TYPICAL CHARACTERISTICS(Cont.)

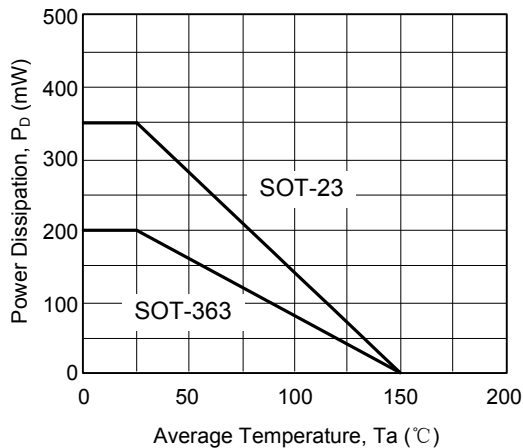
Reverse Recovery Time vs. Reverse Current TRR - I<sub>R</sub> 10 mA vs. 60 mA



Average Rectified Current (I<sub>o</sub>) & Forward Current (I<sub>F</sub>) versus Ambient Temperature (T<sub>a</sub>)



Power Derating Curve



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