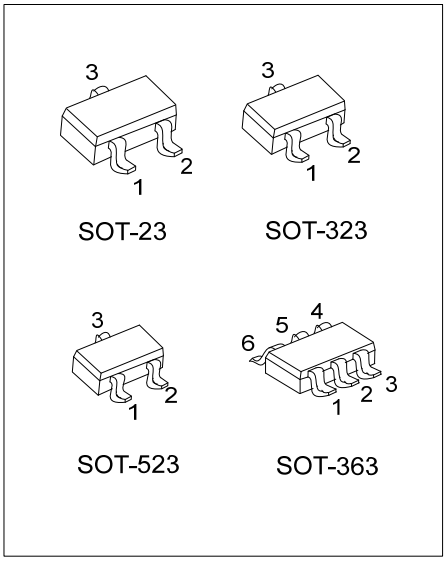
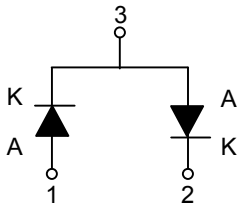
BAV99

DIODE

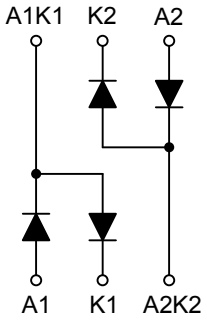
HIGH CONDUCTANCE ULTRA FAST DIODE



■ EQUIVALENT



SOT-23
SOT-323/SOT-523

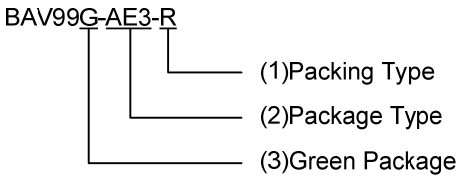


SOT-363

■ ORDERING INFORMATION

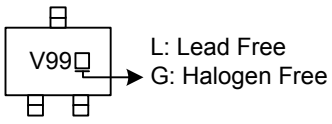
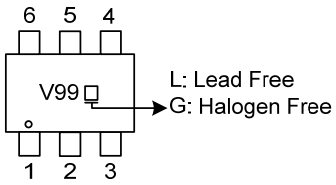
Ordering Number		Package	Pin Assignment						Packing
Lead Free	Halogen Free		1	2	3	4	5	6	
BAV99L-AE3-R	BAV99G-AE3-R	SOT-23	A1	K2	K1A2	-	-	-	Tape Reel
BAV99L-AL3-R	BAV99G-AL3-R	SOT-323	A1	K2	K1A2	-	-	-	Tape Reel
BAV99L-AN3-R	BAV99G-AN3-R	SOT-523	A1	K2	K1A2	-	-	-	Tape Reel
BAV99L-AL6-R	BAV99G-AL6-R	SOT-363	A1	K1	A2K2	A2	K2	A1K1	Tape Reel

Note: Pin Assignment: A: Anode K: Cathode



(1) R: Tape Reel
(2) AE3: SOT-23, AL3: SOT-523, AN3: SOT-523, AL6: SOT-363
(3) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING

SOT-23 / SOT-323 / SOT-523	SOT-363
	

■ ABSOLUTE MAXIMUM RATINGS (T_A = 25°C, unless otherwise specified.)

PARAMETER		SYMBOL	RATINGS	UNIT
Working Inverse Voltage		W_{IV}	85	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

Notes: 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

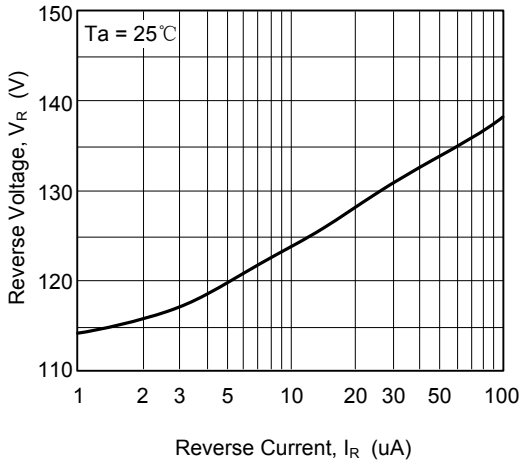
PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient	SOT-23	θ_{JA}	357	°C /W
	SOT-523		833	°C /W
	SOT-323/SOT-363		625	°C /W

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

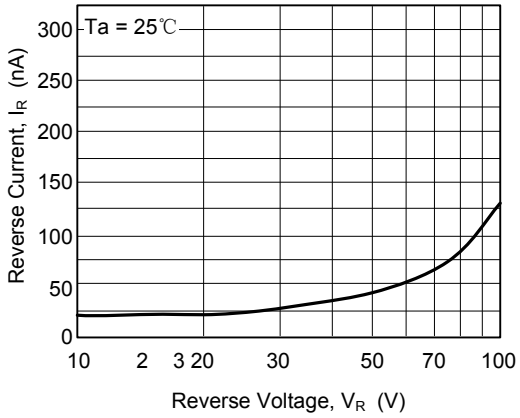
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Breakdown Voltage	V_R	I_R=100μA	85			V
Maximum Instantaneous Forward Voltage	V_{FM}	I_F=1.0mA			775	mV
		I_F=10mA			855	mV
		I_F=50mA			1.0	V
		I_F=150mA			1.25	V
Peak Forward Voltage	V_{SM}	I_F=10mA, t_R=20nS			1.75	V
Maximum Instantaneous Reverse Current	I_{RM}	V_R=85V V_R=25V, T_A=150°C V_R=85V, T_A=150°C			2.5 30 50	μA
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=100Ω			6.0	ns

■ TYPICAL CHARACTERISTICS

Reverse Voltage vs. Reverse Current
BV - 1.0 ~ 100 uA

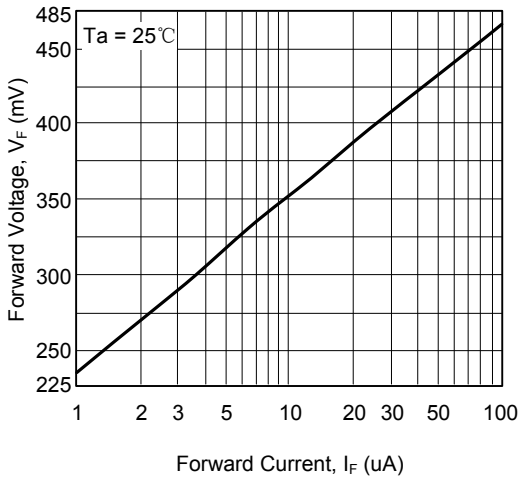


Reverse Current vs. Reverse Voltage
I_R - 10 ~ 100 V

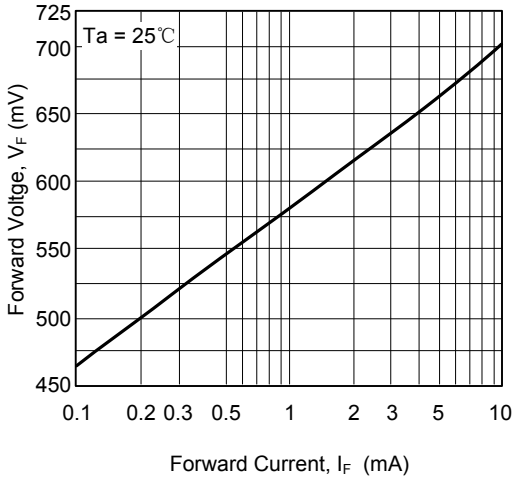


GENERAL RULE: The Reverse Current of a diode will approximately double for every ten (10) Degree C increase in Temperature

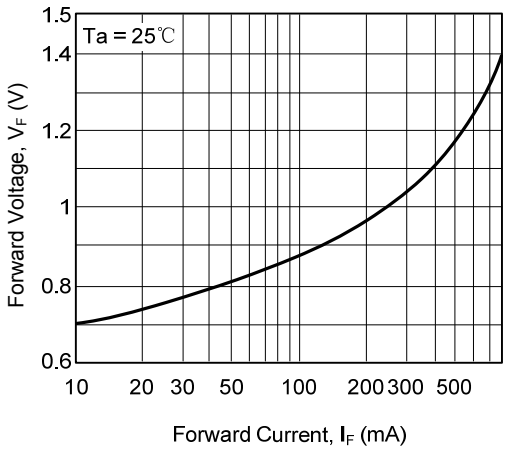
Forward Voltage vs. Forward Current
V_F - 1.0 ~ 100 uA



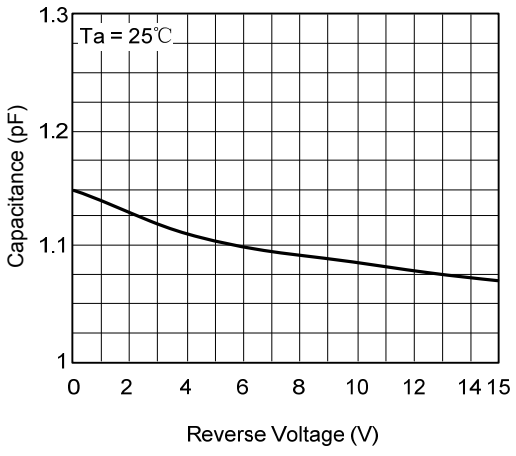
Forward Voltage vs. Forward Current
V_F - 0.1 ~ 10 mA



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

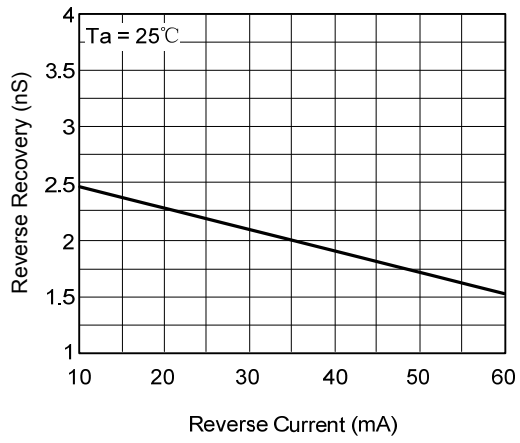


Capacitance vs. Reverse Voltage
V_R - 0.0 ~ 15 V



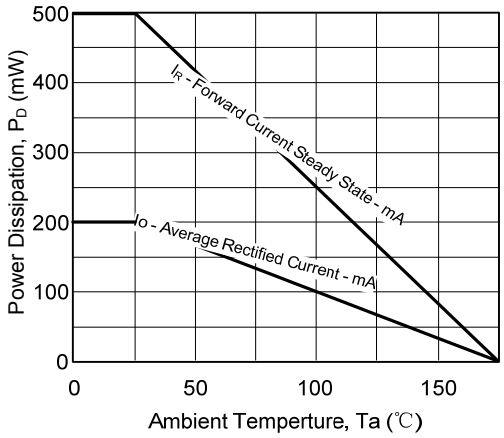
■ TYPICAL CHARACTERISTICS (Cont.)

Reverse Recovery Time vs. Reverse Current T_{RR} - I_R 10 mA vs. 60 mA



IRR (Reverse Recovery Current) = 1.0 mA - Rloop = 100Ω

Average Rectified Current (Io) & Forward Current (I_F) versus Ambient Temperature (T_a)



Power Derating Curve