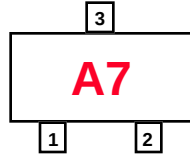
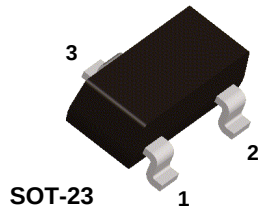
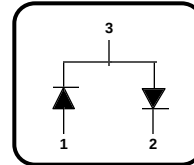


BAV99



CONNECTION DIAGRAM



High Conductance Ultra Fast Diode

Sourced from Process 1P.

Absolute Maximum Ratings*

TA = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
W_{IV}	Working Inverse Voltage	70	V
I_O	Average Rectified Current	200	mA
I_F	DC Forward Current	600	mA
i_f	Recurrent Peak Forward Current	700	mA
$i_{f(surge)}$	Peak Forward Surge Current Pulse width = 1.0 second Pulse width = 1.0 microsecond	1.0 2.0	A A
T_{stg}	Storage Temperature Range	-55 to +150	°C
T_J	Operating Junction Temperature	150	°C

*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

NOTES:

- 1) These ratings are based on a maximum junction temperature of 150 degrees C.
- 2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Thermal Characteristics

TA = 25°C unless otherwise noted

Symbol	Characteristic	Max	Units
		BAV99	
P_D	Total Device Dissipation Derate above 25°C	350 2.8	mW mW/°C
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	357	°C/W

High Conductance Ultra Fast Diode

(continued)

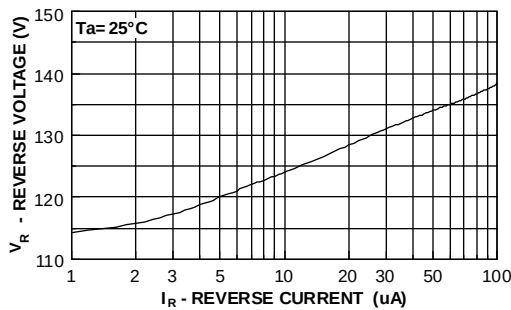
Electrical Characteristics

TA = 25°C unless otherwise noted

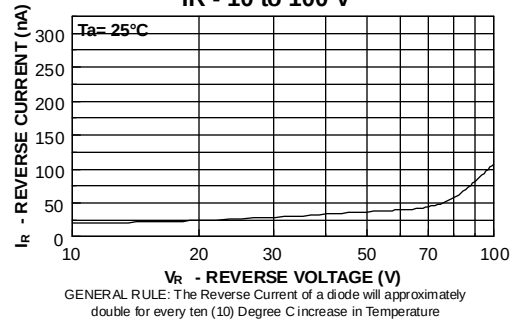
Symbol	Parameter	Test Conditions	Min	Max	Units
B_V	Breakdown Voltage	$I_R = 100 \mu A$	70		V
I_R	Reverse Current	$V_R = 70 V$ $V_R = 25 V, T_A = 150^\circ C$ $V_R = 70 V, T_A = 150^\circ C$		2.5 30 50	μA μA μA
V_F	Forward Voltage	$I_F = 1.0 mA$ $I_F = 10 mA$ $I_F = 50 mA$ $I_F = 150 mA$		715 855 1.0 1.25	mV mV V V
C_O	Diode Capacitance	$V_R = 0, f = 1.0 MHz$		1.5	pF
T_{RR}	Reverse Recovery Time	$I_F = I_R = 10 mA, I_{RR} = 1.0 mA,$ $R_L = 100 \Omega$		6.0	nS
V_{FM}	Peak Forward Voltage	$I_F = 10 mA, t_r = 20 nS$		1.75	V

Typical Characteristics

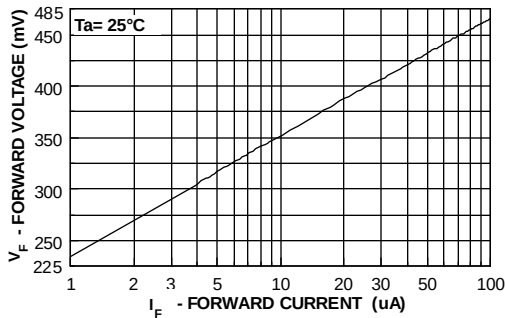
REVERSE VOLTAGE vs REVERSE CURRENT
BV - 1.0 to 100 μA



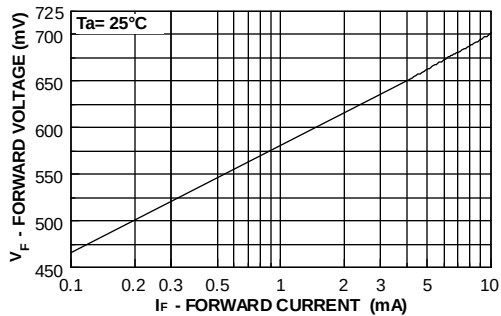
REVERSE CURRENT vs REVERSE VOLTAGE
IR - 10 to 100 V



FORWARD VOLTAGE vs FORWARD CURRENT
VF - 1.0 to 100 μA



FORWARD VOLTAGE vs FORWARD CURRENT
VF - 0.1 to 10 mA



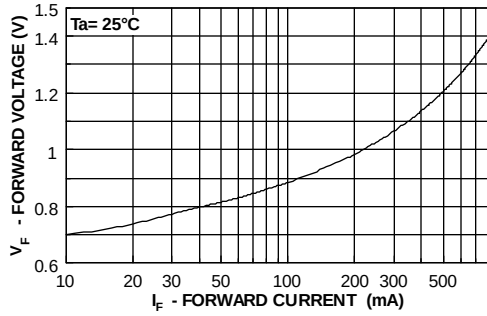
High Conductance Ultra Fast Diode

(continued)

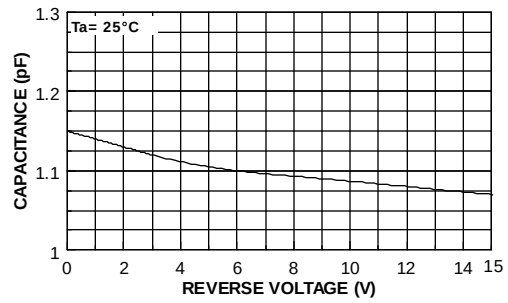
BAV99

Typical Characteristics (continued)

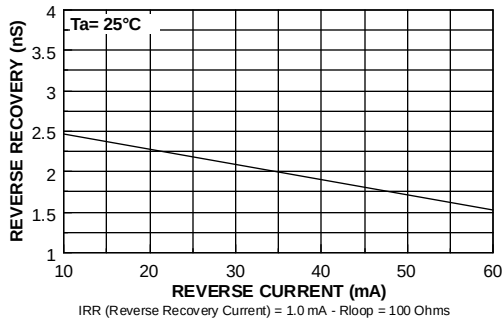
FORWARD VOLTAGE vs FORWARD CURRENT
VF - 10 - 800 mA



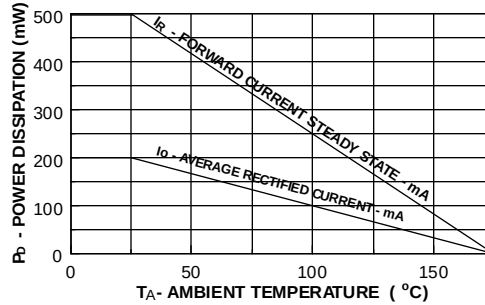
CAPACITANCE vs REVERSE VOLTAGE
VR - 0.0 to 15 V



REVERSE RECOVERY TIME vs REVERSE CURRENT
TRR - IR 10 mA vs 60 mA



Average Rectified Current (I_o) & Forward Current (I_F) versus Ambient Temperature (T_A)



POWER DERATING CURVE

