

# BAL99

# BAW56

# BAV70

# BAV99

Silicon epitaxial planar type

## Features

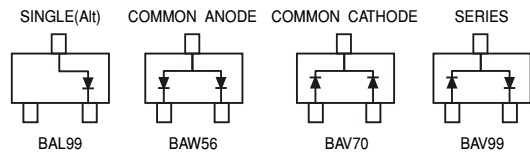
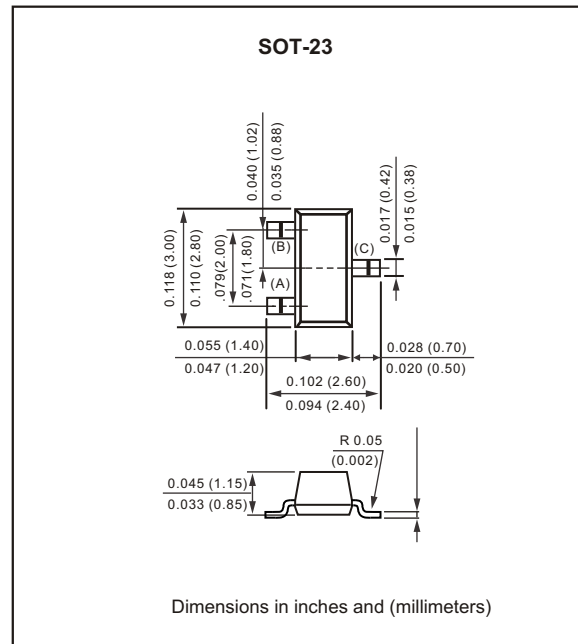
- Small surface mounting type
- High reliability
- High speed ( $t_{rr} < 1.5 \text{ ns}$ )

## Mechanical data

Case : SOT-23

Terminals : Solder plated, solderable per MIL-STD-750,  
Method 2026

Mounting Position : Any



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

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Repetitive peak reverse voltage		$V_{RRM}$			70	V
Reverse voltage		$V_R$			70	V
Peak forward surge current	$t_p = 1 \text{ us}$	$I_{FSM}$			2.0	A
Repetitive peak forward current		$I_{FRM}$			450	mA
Forward current		$I_F$			215	mA
Average forward current	$V_R = 0$	$I_{FAV}$			715	mA
Power dissipation		$P_D$			225	mW
Junction temperature		$T_j$			175	$^\circ\text{C}$
Storage temperature		$T_{STG}$	-55		+150	$^\circ\text{C}$

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

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 10\text{mA}$	$V_F$			0.855	V
	$I_F = 150\text{mA}$	$V_F$			1.250	V
Reverse current	$V_R = 70\text{V}$	$I_R$			2.5	$\mu\text{A}$
	$V_R = 20\text{V}, T_j = 150^\circ\text{C}$	$I_R$			30	$\mu\text{A}$
	$V_R = 70\text{V}, T_j = 150^\circ\text{C}$	$I_R$			50	$\mu\text{A}$
Breakdown current	$I_R = 100\mu\text{A}, T_P/T = 0.01, T_P = 0.3\text{ms}$	$V_{(BR)}$	70			V
Diode capacitance	$V_R = 0, f = 1\text{MHz}, V_{HF} = 50\text{mV}$	$C_D$			1.5	pF
Reverse recovery time	$I_F = 10\text{mA}, V_R = 10\text{mA}, I_{RR} = 0.1 \times I_R, R_L = 100\Omega$	$t_{rr}$			6	ns

## RATING AND CHARACTERISTIC CURVES for each diode (BAL99 BAW56 BAV70 BAV99)

FIG.1-TYPICAL FORWARD

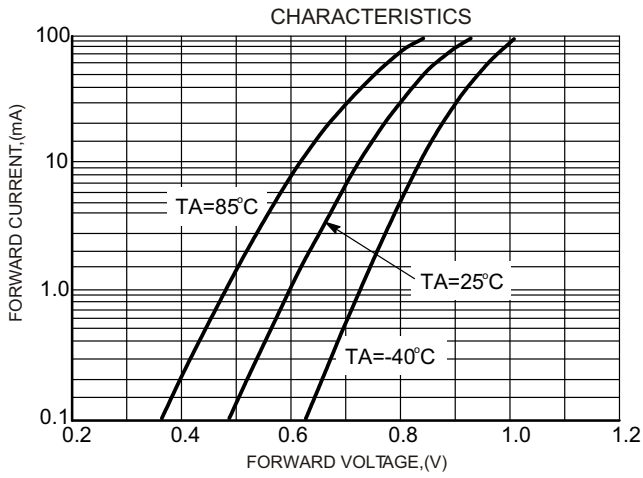


FIG.2 - Leakage Current

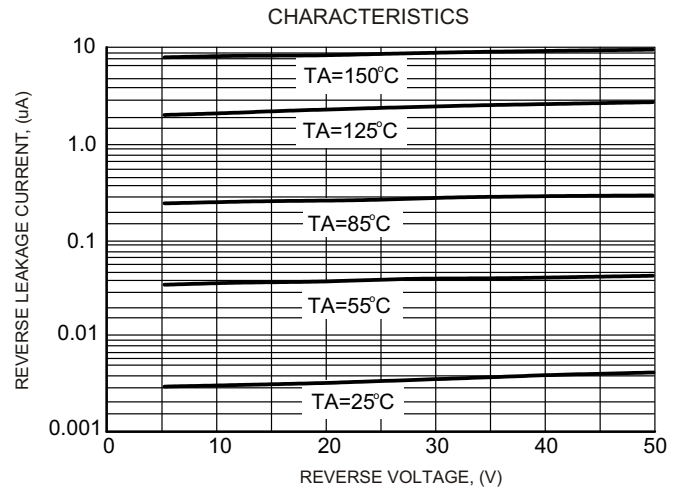
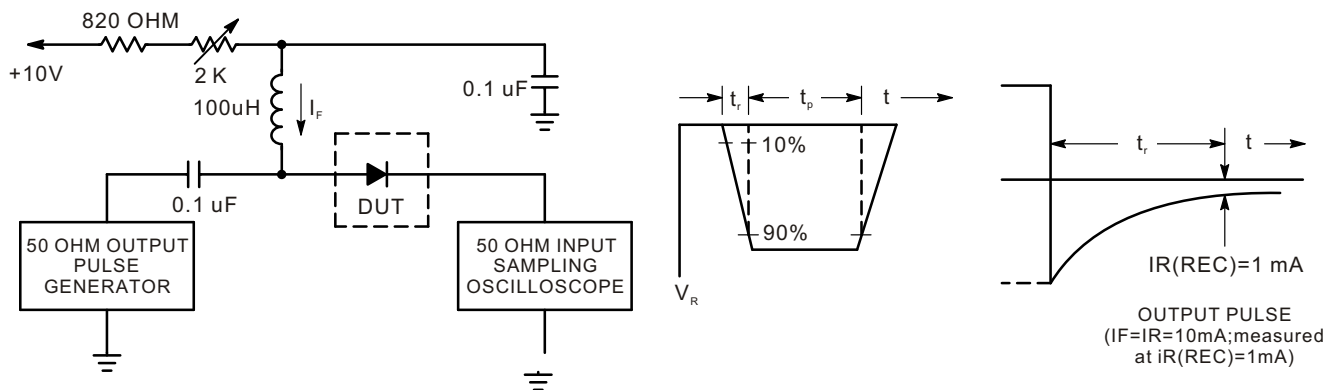
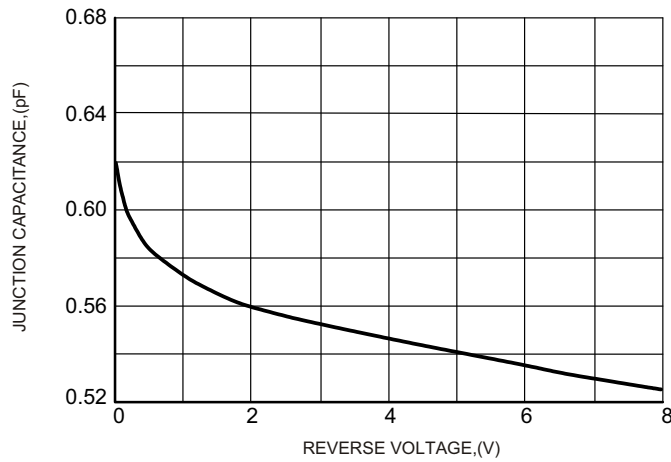


FIG.3-TYPICAL JUNCTION CAPACITANCE



- Notes :
1. A 2.0 Kohm variable resistor adjusted for a forward Current (I<sub>F</sub>) of 10mA.
  2. Input pulse is adjusted so I<sub>R</sub>(peak) is equal to 10 mA.
  3. t<sub>p</sub> >> t<sub>rr</sub>.

t

### Recovery Time Equivalent Test Circuit