Dual Series Switching Diode

Formosa MS

BAL99
BAW56
BAV70
BAV99

Silicon epitaxial planar type

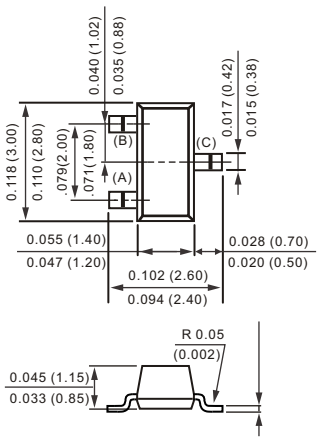
Features

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

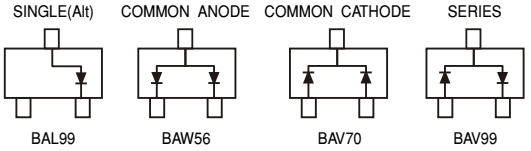
Mechanical data

Case : SOT-23
Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
Mounting Position : Any

SOT-23



Dimensions in inches and (millimeters)



MAXIMUM RATINGS *(AT T_A=25°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 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	°C
Storage temperature		T_{STG}	-55		+150	°C

ELECTRICAL CHARACTERISTICS *(AT T_A=25°C unless otherwise noted)*

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

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

FIG.1-TYPICAL FORWARD CHARACTERISTICS

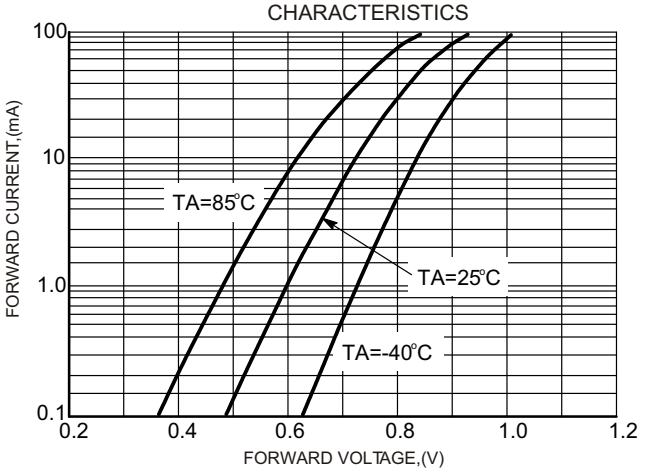


FIG.2 - Leakage Current CHARACTERISTICS

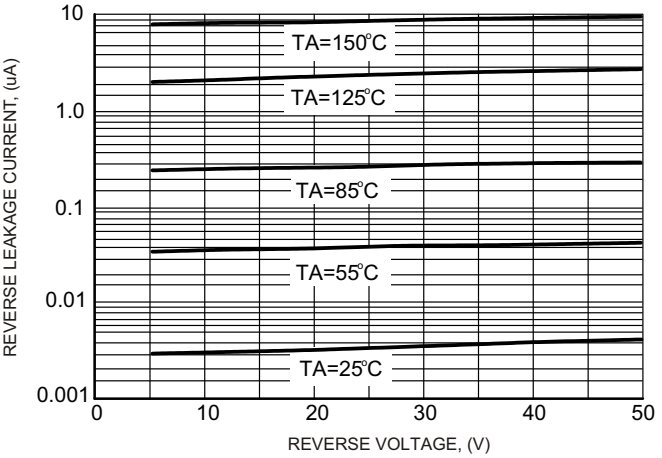
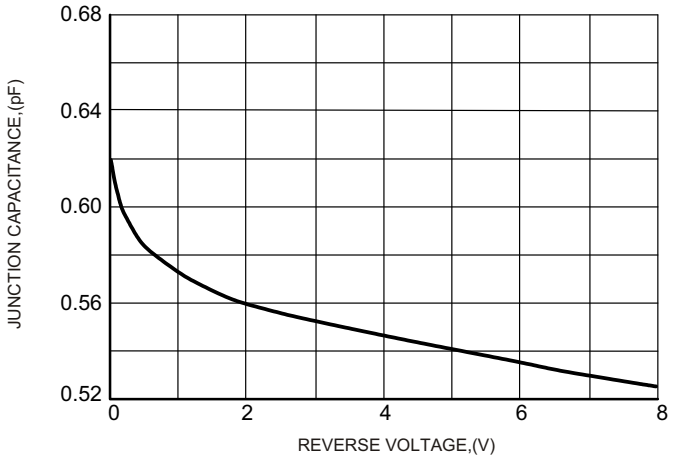
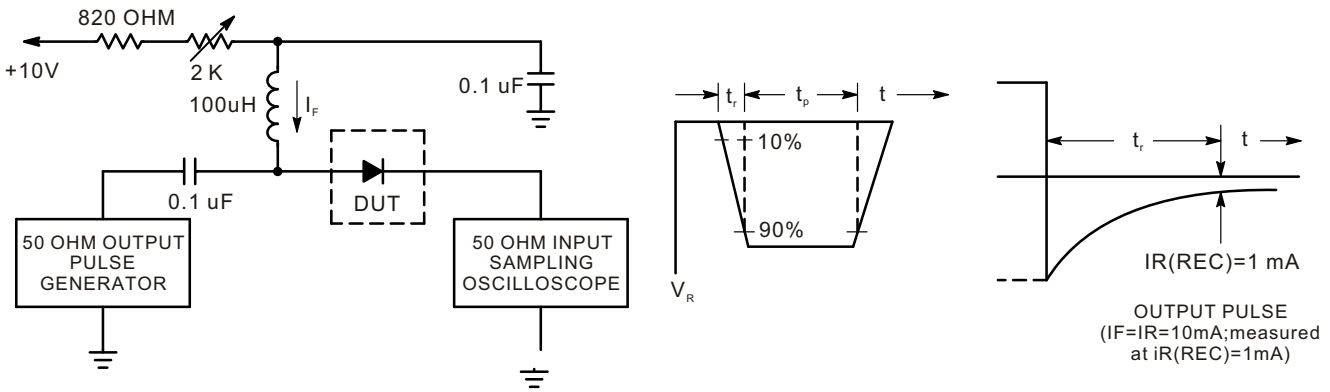


FIG.3-TYPICAL JUNCTION CAPACITANCE





Notes : 1. A2.0 Kohm variable resistor adjusted for a forward Current (IF) of 10mA.
2. Input pulse is adjusted so IR(peak) is equal to 10 mA.
3. tp >> trr.

t

Recovery Time Equivalent Test Circuit