Surface Mount Schottky Diode

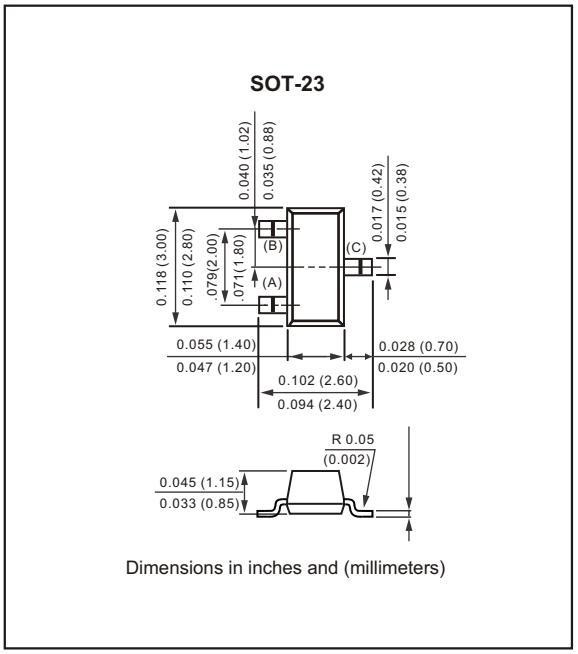
Formosa MS

BAT54 / A / C / S

Silicon epitaxial planar type

Features

- Small surface mounting type
- High reliability
- High speed (t_{rr} < 5 ns)

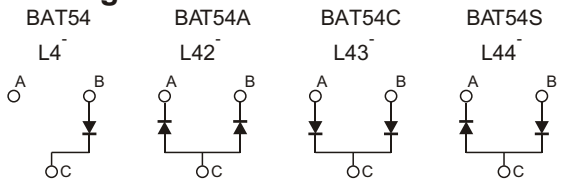


Dimensions in inches and (millimeters)

Mechanical data

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

Marking Code



MAXIMUM RATINGS (AT T_A=25°C unless otherwise noted)

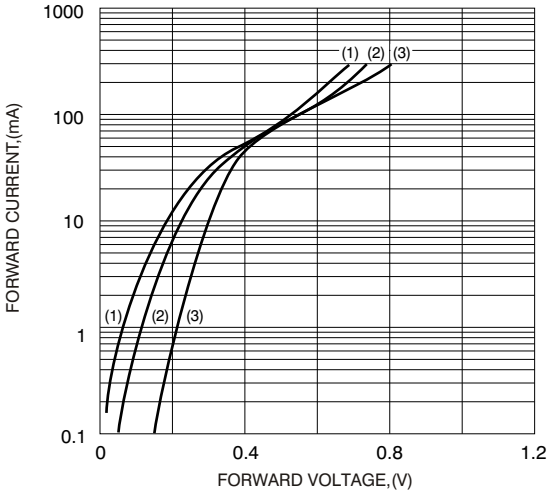
PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Repetitive peak reverse voltage		V_{RRM}			30	V
Reverse voltage		V_R			30	V
Peak forward surge current	t_p < 10 ms	I_{FSM}			600	mA
Repetitive peak forward current	t_p < 1 s	I_{FRM}			300	mA
Forward current		I_F			200	mA
Junction temperature		T_j			125	°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 = 0.1mA	V_F			0.240	V
	I_F = 1mA	V_F			0.320	V
	I_F = 10mA	V_F			0.400	V
	I_F = 30mA	V_F			0.500	V
	I_F = 100mA	V_F			1.000	V
Reverse current	V_R = 25V	I_R			2.0	uA
Diode capacitance	V_R = 1V , f = 1MHz	C_D			10.0	pF
Reverse recovery time	I_F =10mA, V_R = 10mA, I_{RR} = 0.1 X I_R, R_L=100$_{OHM}$	t_{rr}			5	ns

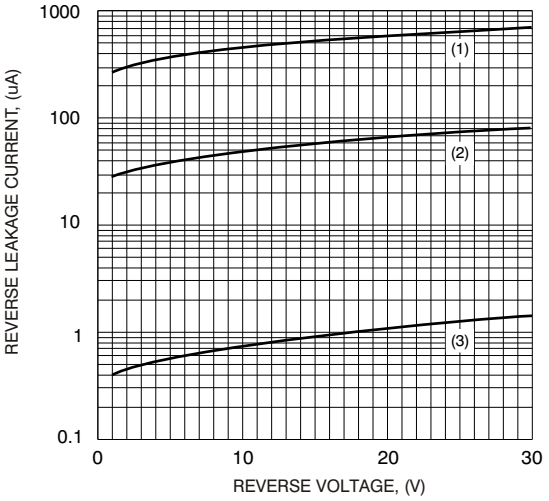
RATING AND CHARACTERISTIC CURVES for each diode (BAT54 / A / C / S)

FIG.1-TYPICAL FORWARD CHARACTERISTICS



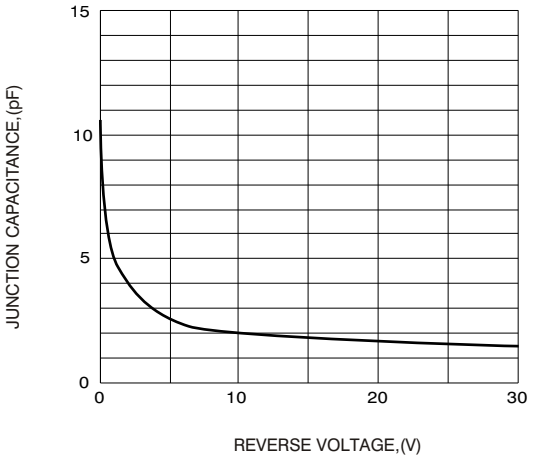
(1) TA = 125 °C (2) TA = 85 °C (3) TA = 25 °C

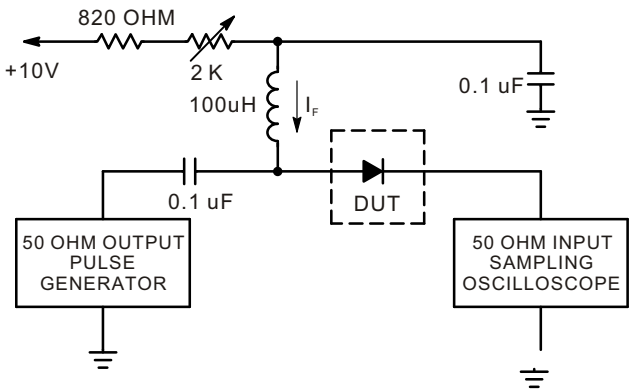
FIG.2 - Leakage Current CHARACTERISTICS

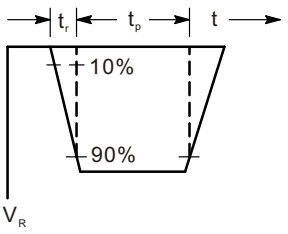


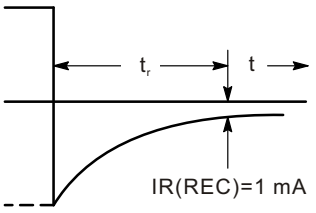
(1) TA = 125 °C (2) TA = 85 °C (3) TA = 25 °C

FIG.3-TYPICAL JUNCTION CAPACITANCE









OUTPUT PULSE
(IF=IR=10mA;measured at iR(REC)=1mA)

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