

Schottky Barrier Diodes

 Lead(Pb)-Free

Features:

- *Extremely Fast Switching Speed
- *Schottky Barrier Diodes Encapsulated in a SOD- 882Package

Description:

These schottky barrier diodes are designed for high speed switching applications circuit protection, and voltage clamping, Extremely low forward voltage reduces conduction loss, Miniature surface mount package is excellent for hand held and portable applications where space is limited.

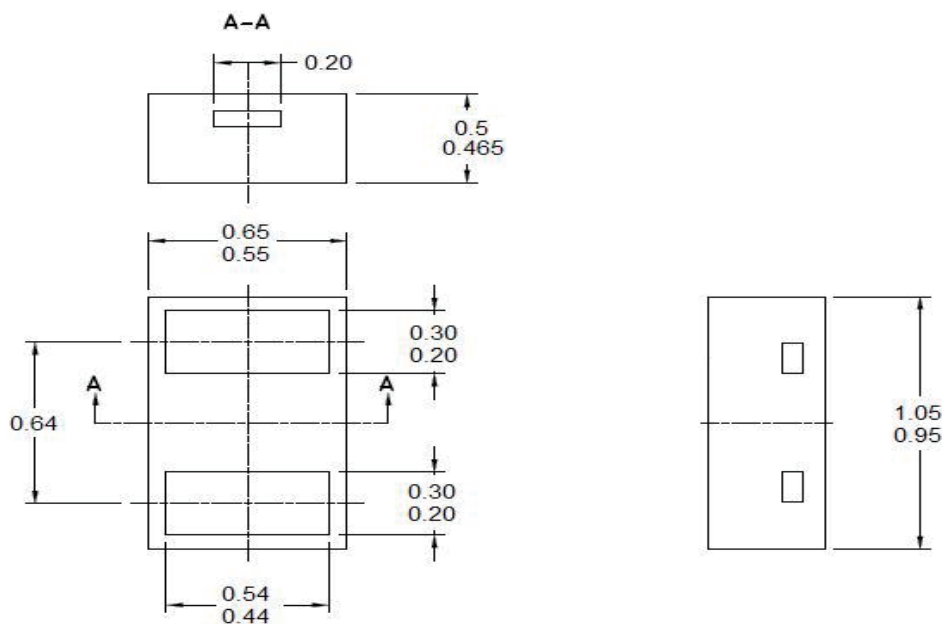
SMALL SIGNAL
SCHOTTKY DIODES
250m AMPERES
30 VOLTS



SOD- 882

SOD- 882 Outline Dimensions

Unit:mm



BAT54BS



MAXIMUM RATINGS (T_J = 125°C unless otherwise noted)

Rating	Symbol	Value	Unit
Reverse Voltage	V _R	30	Volts
Forward Power Dissipation @ T _A = 25°C Derate above 25°C	P _D	250 4.0	mW mW/°C
Forward Current (DC)	I _F	200 Max	mA
Thermal Resistance Junction to Ambient	R _{θJA}	400	°C/W
Junction Temperature	T _J	125 Max	°C
Storage Temperature Range	T _{stg}	-55 to +150	°C

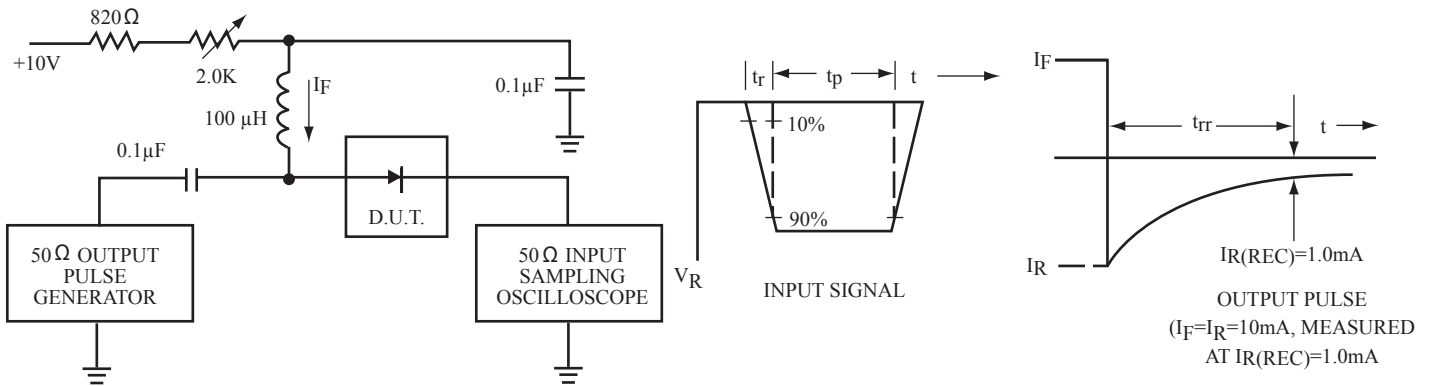
ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted) (EACH DIODE)

Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage (I _R = 10 μA)	V _{(BR)R}	30	—	—	Volts
Total Capacitance (V _R = 1.0 V, f = 1.0 MHz)	C _T	—	7.6	10	pF
Reverse Leakage (V _R = 25 V)	I _R	—	0.5	2.0	μAdc
Forward Voltage (I _F = 0.1 mAdc)	V _F	—	0.22	0.24	Vdc
Forward Voltage (I _F = 30 mAdc)	V _F	—	0.41	0.5	Vdc
Forward Voltage (I _F = 100 mAdc)	V _F	—	0.52	1.0	Vdc
Reverse Recovery Time (I _F = I _R = 10 mAdc, I _{R(REC)} = 1.0 mAdc) Figure 1	t _{rr}	—	—	5.0	ns
Forward Voltage (I _F = 1.0 mAdc)	V _F	—	0.29	0.32	Vdc
Forward Voltage (I _F = 10 mAdc)	V _F	—	0.35	0.40	Vdc
Forward Current (DC)	I _F	—	—	200	mAdc
Repetitive Peak Forward Current	I _{FRM}	—	—	300	mAdc
Non-Repetitive Peak Forward Current (t < 1.0 s)	I _{FSM}	—	—	600	mAdc

Note : 1.FR-5 = 1.0 x 0.75 x 0.062 in

Device Marking

Item	Marking	Equivalent Circuit Diagram
BAT54BS	TU	



- Notes: 1. A 2.0 k Ω variable resistor for a Forward Current (I_F) of 10 mA
 2. Input pulses is adjusted so $I_R(\text{peak})$ is equal to 10 mA
 3. $t_p \gg t_{rr}$

FIG.1 Recovery Time Equivalent Test Circuit

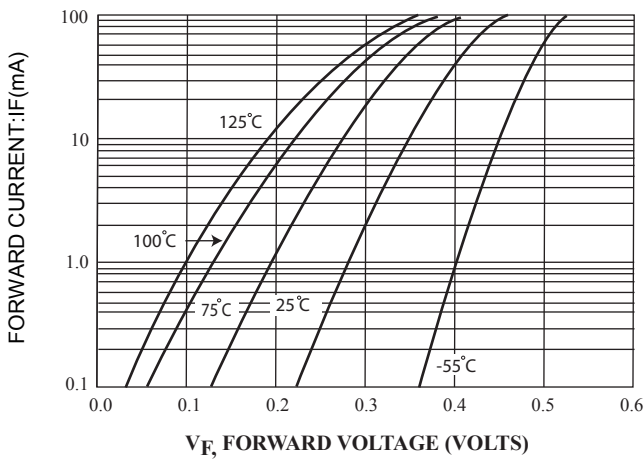


FIG.2 Forward Voltage

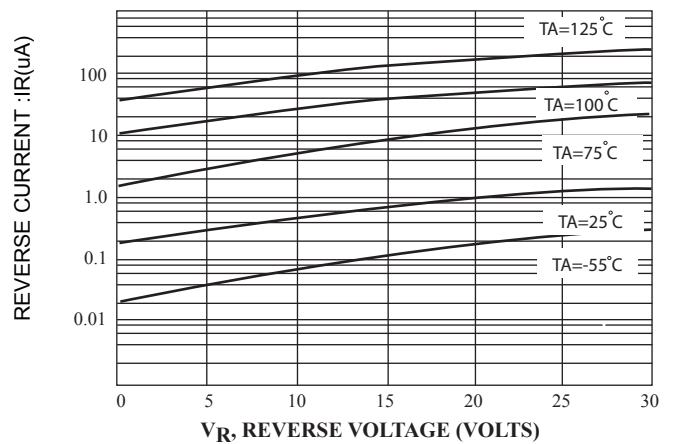


FIG.3 Leakage Current

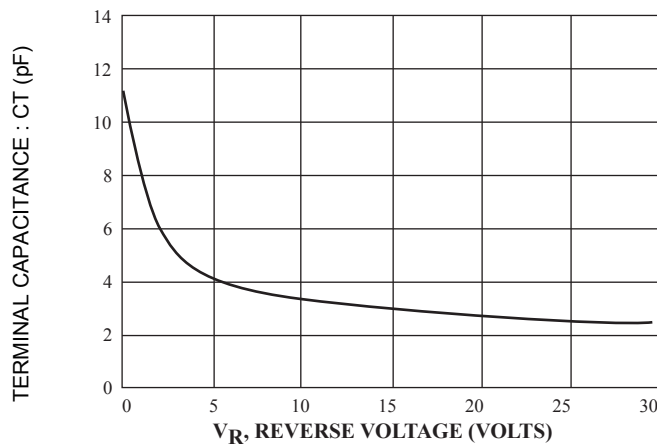


FIG.4 Total Capacitance