

# BAT54ALT1

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

Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage ( $I_R = 10\ \mu\text{A}$ )	$V_{(BR)R}$	30	–	–	V
Total Capacitance ( $V_R = 1.0\ \text{V}$ , $f = 1.0\ \text{MHz}$ )	$C_T$	–	7.6	10	pF
Reverse Leakage ( $V_R = 25\ \text{V}$ )	$I_R$	–	0.5	2.0	$\mu\text{A}_{dc}$
Forward Voltage ( $I_F = 0.1\ \text{mA}_{dc}$ )	$V_F$	–	0.22	0.24	V <sub>dc</sub>
Forward Voltage ( $I_F = 30\ \text{mA}_{dc}$ )	$V_F$	–	0.41	0.5	V <sub>dc</sub>
Forward Voltage ( $I_F = 100\ \text{mA}_{dc}$ )	$V_F$	–	0.52	0.8	V <sub>dc</sub>
Reverse Recovery Time ( $I_F = I_R = 10\ \text{mA}_{dc}$ , $I_{R(REC)} = 1.0\ \text{mA}_{dc}$ , Figure 1)	$t_{rr}$	–	–	5.0	ns
Forward Voltage ( $I_F = 1.0\ \text{mA}_{dc}$ )	$V_F$	–	0.29	0.32	V <sub>dc</sub>
Forward Voltage ( $I_F = 10\ \text{mA}_{dc}$ )	$V_F$	–	0.35	0.40	V <sub>dc</sub>
Forward Current (DC)	$I_F$	–	–	200	$\text{mA}_{dc}$
Repetitive Peak Forward Current	$I_{FRM}$	–	–	300	$\text{mA}_{dc}$
Non–Repetitive Peak Forward Current ( $t < 1.0\ \text{s}$ )	$I_{FSM}$	–	–	600	$\text{mA}_{dc}$

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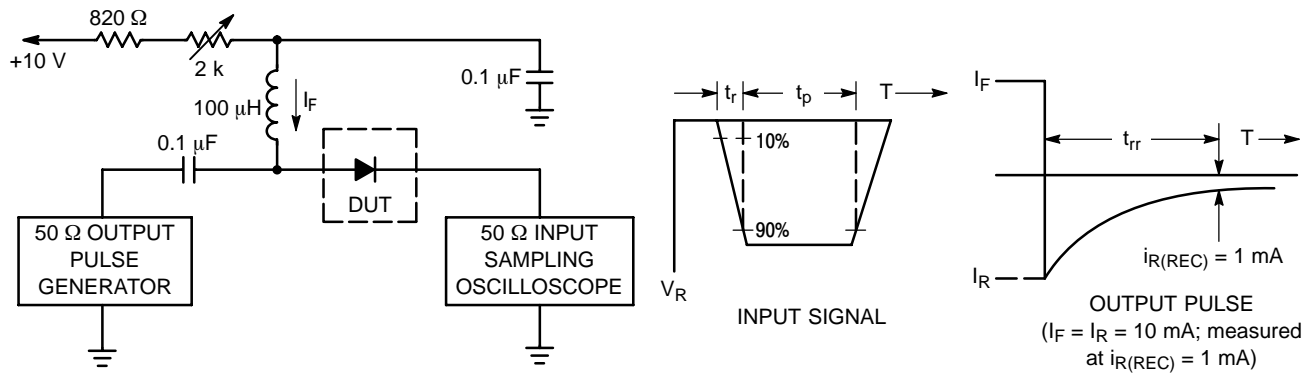


Figure 1. Recovery Time Equivalent Test Circuit

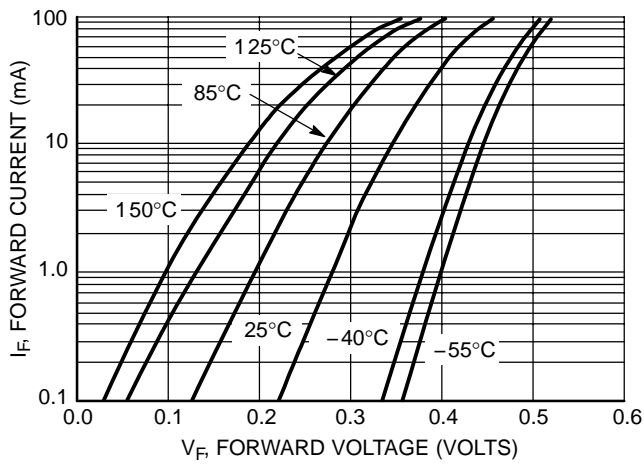


Figure 2. Forward Voltage

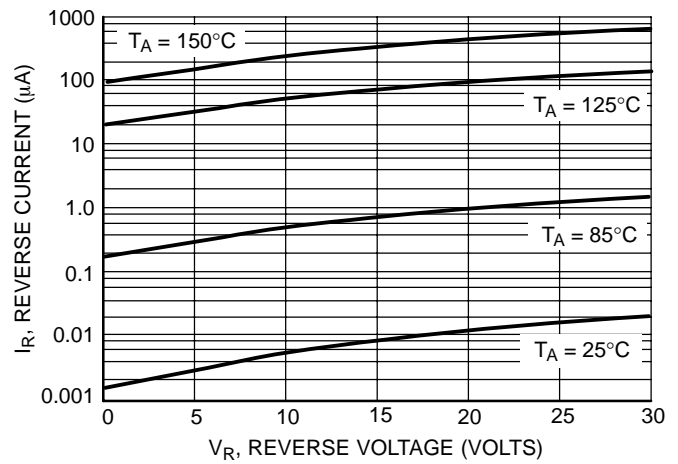


Figure 3. Leakage Current

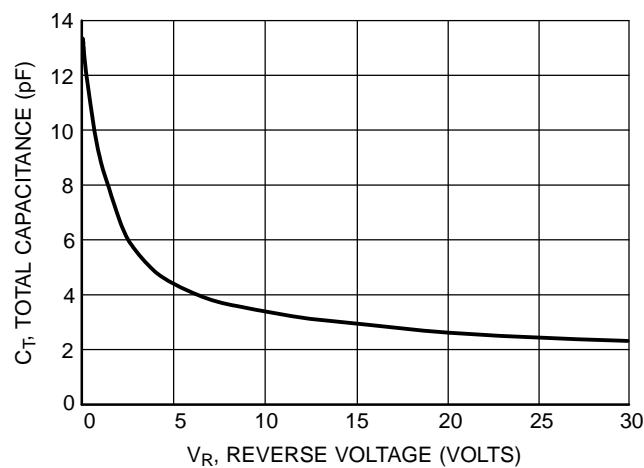
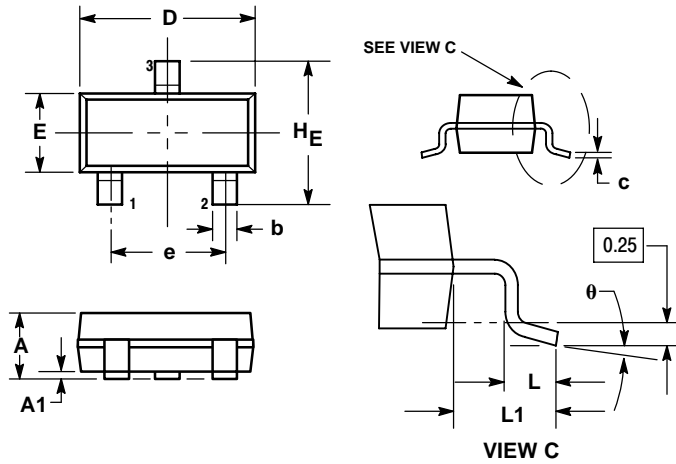


Figure 4. Total Capacitance

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## PACKAGE DIMENSIONS

### SOT-23 (TO-236) CASE 318-08 ISSUE AN



#### NOTES:

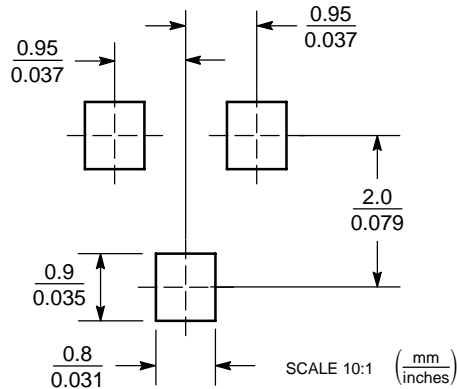
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. 318-01 THRU -07 AND -09 OBSOLETE, NEW STANDARD 318-08.

DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.89	1.00	1.11	0.035	0.040	0.044
A1	0.01	0.06	0.10	0.001	0.002	0.004
b	0.37	0.44	0.50	0.015	0.018	0.020
c	0.09	0.13	0.18	0.003	0.005	0.007
D	2.80	2.90	3.04	0.110	0.114	0.120
E	1.20	1.30	1.40	0.047	0.051	0.055
e	1.78	1.90	2.04	0.070	0.075	0.081
L	0.10	0.20	0.30	0.004	0.008	0.012
L1	0.35	0.54	0.69	0.014	0.021	0.029
HE	2.10	2.40	2.64	0.083	0.094	0.104


#### STYLE 12:

- PIN 1. CATHODE  
2. CATHODE  
3. ANODE

### SOLDERING FOOTPRINT\*



\*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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