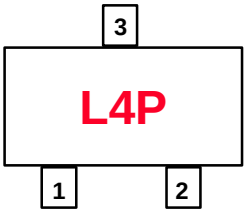
FAIRCHILD SEMICONDUCTOR TM

# BAT54/A/C/S

DISCRETE POWER AND SIGNAL TECHNOLOGIES

**PACKAGE**

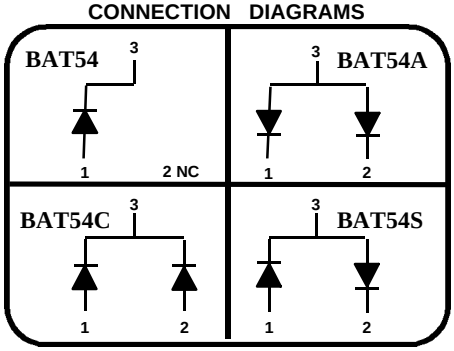
SOT-23
TO-236AB (Low)




**MARKING**

| | | | |
|---|---|---|---|
| BAT54 | L4P | BAT54C | L43 |
| BAT54A | L42 | BAT54S | L44 |

**CONNECTION DIAGRAMS**




## Schottky Barrier Diode

Sourced from Process KA

## Absolute Maximum Ratings* TA = 25°C unless otherwise noted

| Sym | Parameter | Value | Units |
|---|---|---|---|
| $T_{stg}$ | Storage Temperature | -55 to +150 | °C |
| $T_J$ | Operating Junction Temperature | +150 | °C |
| $W_{iv}$ | Working Inverse Voltage | 25 | V |
| $I_F$ | DC Forward Current ($I_F$) | 200 | mA |
| $i_f$ | Recurrent Peak Forward Current ($I_{FRM}$) | 300 | mA |
| $i_{F(surge)}$ | Peak Forward Surge Current ($I_{FSM}$) Pulse Width = 1.0 Second | 600 | mA |
| $P_D$ | Total Power Dissipation at 25°C | 230 | mW |
| | Theta ($R_{th\ j\text{-}a}$) (Note 1) | 430 | °K/W |

*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired

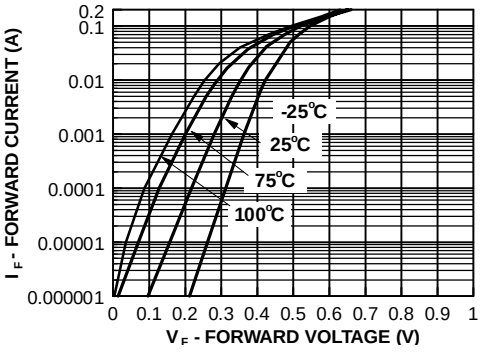
**NOTES:**

1) From junction to ambient mounted on a ceramic substrate of 10 mm x 8 mm x 0.6 mm

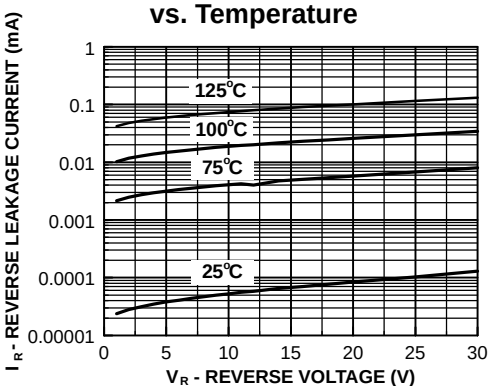
## Electrical Characteristics TA = 25°C unless otherwise noted

| SYM | CHARACTERISTICS | MIN | MAX | UNITS | TEST CONDITIONS |
|---|---|---|---|---|---|
| $B_V$ | Breakdown Voltage | 30 | | V | $I_R$ = 10 uA |
| $I_R$ | Reverse Leakage | | 2.0 | uA | $V_R$ = 25 V |
| $V_F$ | Forward Voltage | | 240<br>320<br>400<br>500<br>1.0 | mV<br>mV<br>mV<br>mV<br>V | $I_F$ = 100 uA<br>$I_F$ = 1.0 mA<br>$I_F$ = 10 mA<br>$I_F$ = 30 mA<br>$I_F$ = 100 mA |
| $C_T$ | Capacitance | | 10 | pF | $V_R$ = 1.0 V<br>f = 1.0 MHz |
| $T_{RR}$ | Reverse Recovery Time | | 5.0 | ns | $I_F$= $I_R$ = 10 mA<br>$I_{RR}$ = 1.0 mA<br>$R_L$ = 100 Ohms |

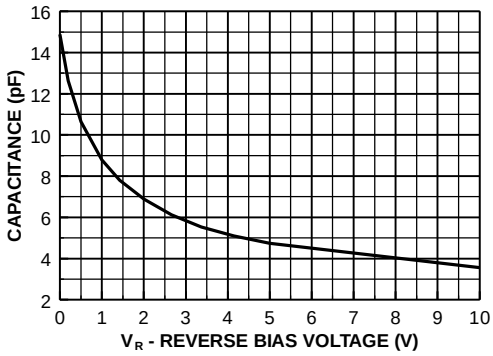
**Forward Voltage vs. Temperature**




**Reverse Leakage Current vs. Temperature**

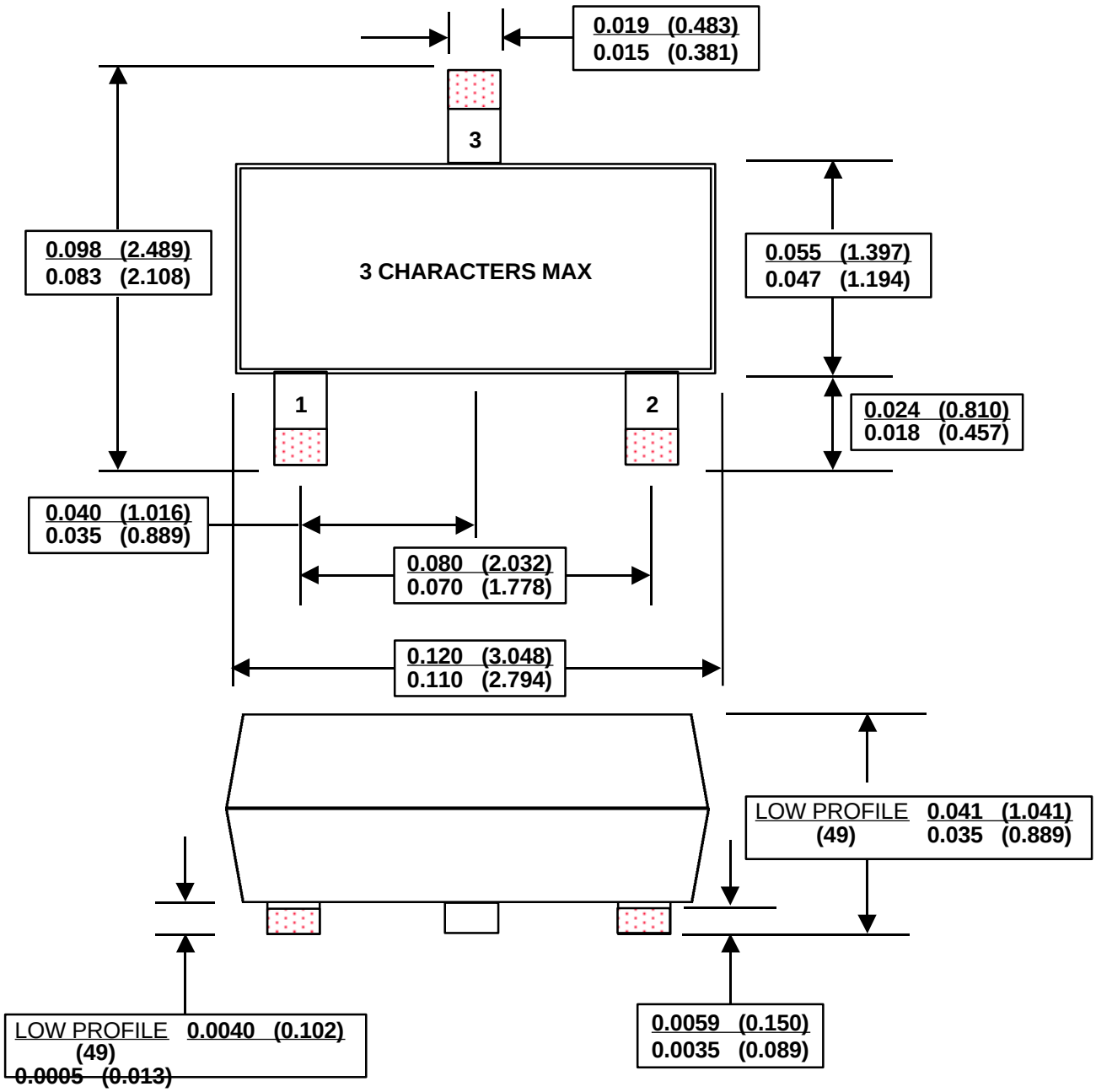



**Capacitance vs. Reverse Bias Voltage**



FAIRCHILD SEMICONDUCTOR™

DISCRETE POWER AND SIGNAL TECHNOLOGIES



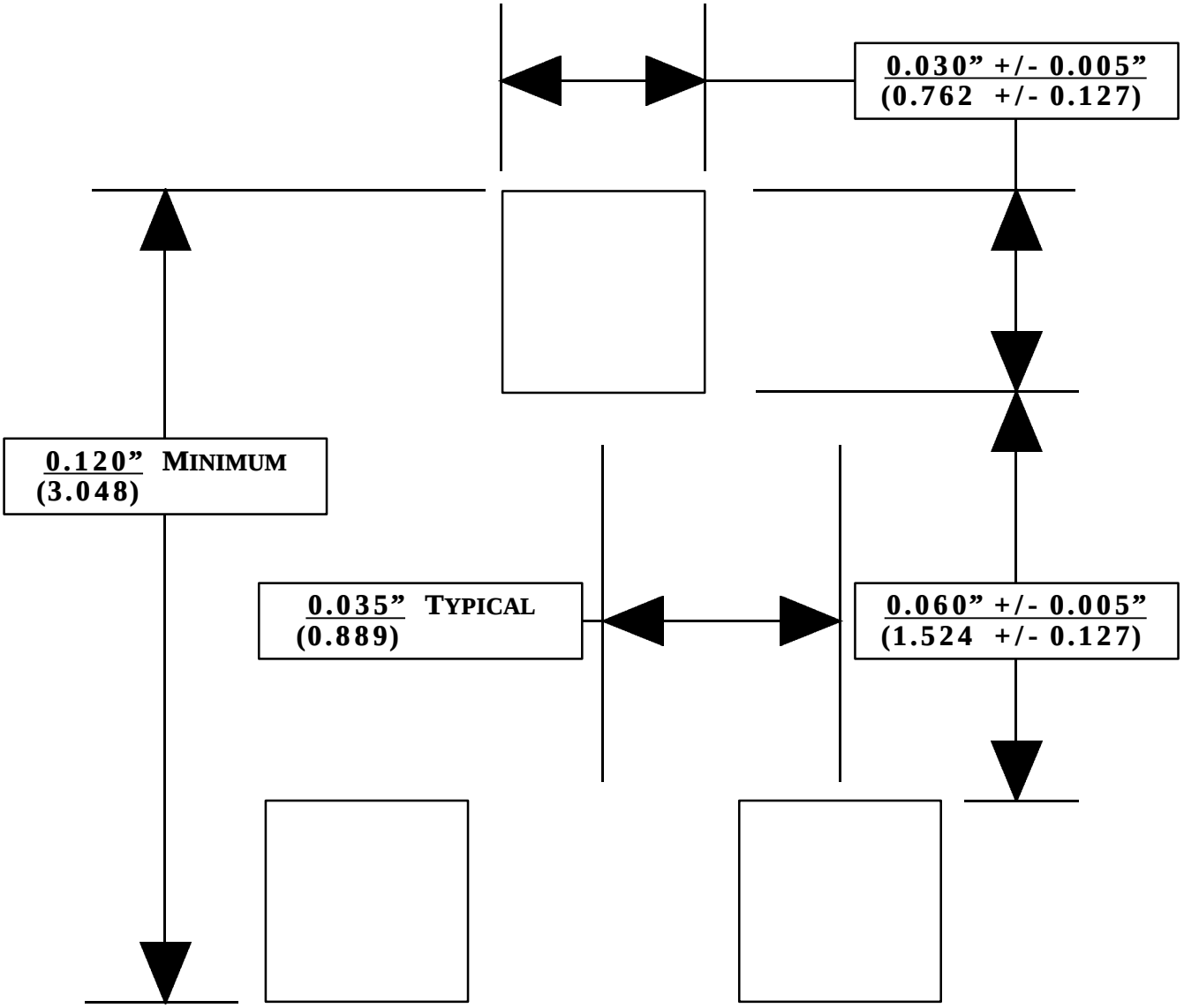

# SOT-23

## TO-236AB (LOW PROFILE)

22-August-1994

FAIRCHILD
SEMICONDUCTOR TM

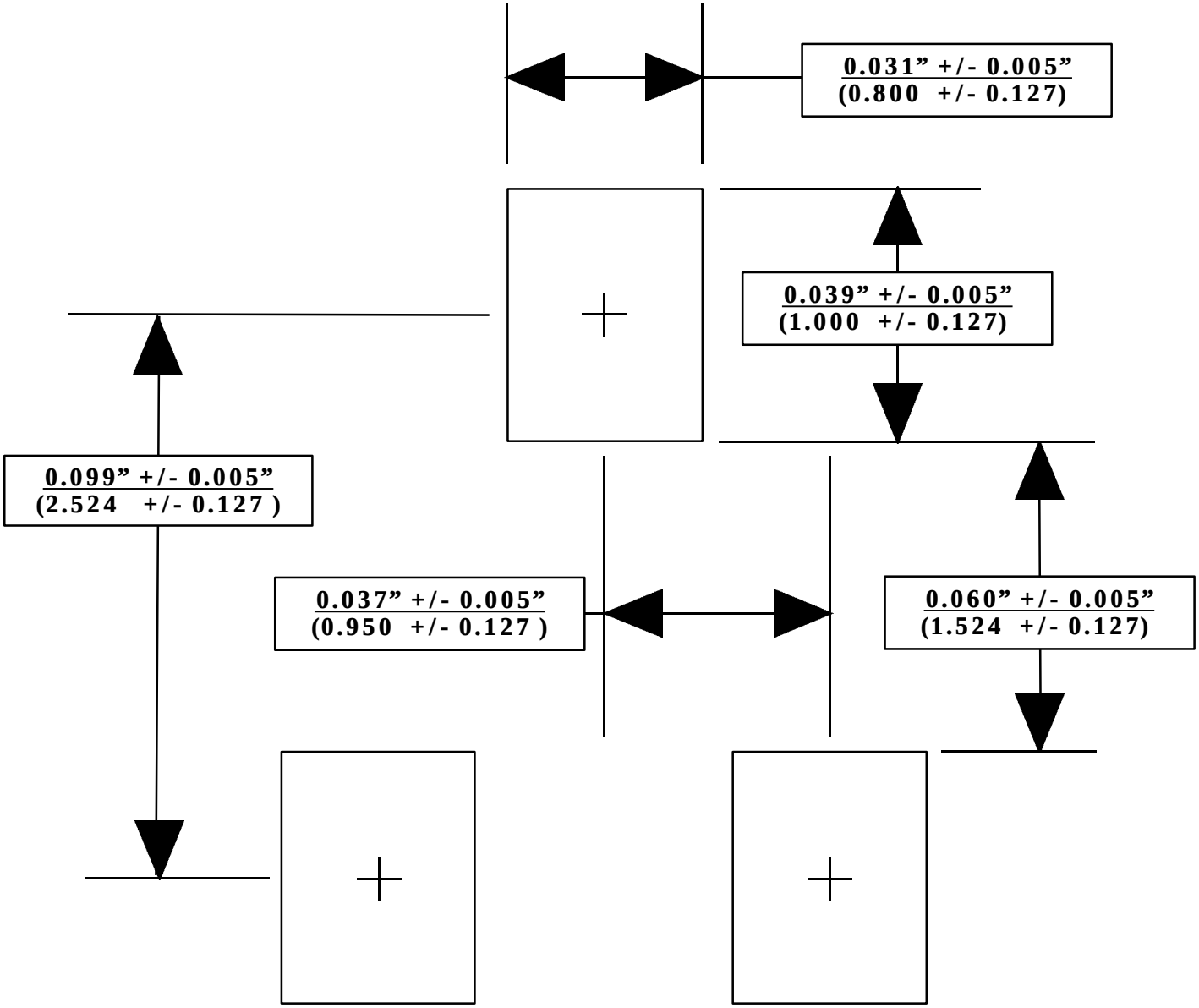
DISCRETE POWER AND SIGNAL
TECHNOLOGIES




# RECOMMENDED SOLDER PADS
## FOR
# SOT-23

FAIRCHILD
SEMICONDUCTOR TM

DISCRETE POWER AND SIGNAL
TECHNOLOGIES




# RECOMMENDED SOLDER PADS
## FOR
## U.S. & European SOT-23
## &
## Japanese SC-59