

# SOT223 PNP SILICON PLANAR HIGH PERFORMANCE TRANSISTOR

## FZT751

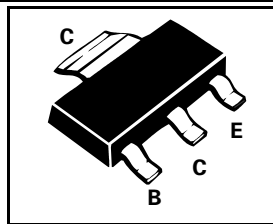
ISSUE 2 – FEBRUARY 1995

### FEATURES

- \* 60 Volt  $V_{CE0}$
- \* 3 Amp continuous current
- \* Low saturation voltage

COMPLEMENTARY TYPE – FZT651

PARTMARKING DETAIL – FZT751



### ABSOLUTE MAXIMUM RATINGS.

| PARAMETER                                  | SYMBOL         | VALUE       | UNIT        |
|--|----------------|-------------|-------------|
| Collector-Base Voltage                     | $V_{CBO}$      | -80         | V           |
| Collector-Emitter Voltage                  | $V_{CEO}$      | -60         | V           |
| Emitter-Base Voltage                       | $V_{EBO}$      | -5          | V           |
| Peak Pulse Current                         | $I_{CM}$       | -6          | A           |
| Continuous Collector Current               | $I_C$          | -3          | A           |
| Power Dissipation at $T_{amb}=25^{\circ}C$ | $P_{tot}$      | 2           | W           |
| Operating and Storage Temperature Range    | $T_j; T_{stg}$ | -55 to +150 | $^{\circ}C$ |

### ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}C$ unless otherwise stated).

| PARAMETER                             | SYMBOL                | MIN.                  | TYP.                     | MAX.        | UNIT    | CONDITIONS.   |
|---------------------------------------|-----------------------|-----------------------|--------------------------|-------------|---------|---|
| Collector-Base Breakdown Voltage      | $V_{(BR)CBO}$         | -80                   |                          |             | V       | $I_C = -100\mu A$   |
| Collector-Emitter Breakdown Voltage   | $V_{(BR)CEO}$         | -60                   |                          |             | V       | $I_C = -10mA^*$   |
| Emitter-Base Breakdown Voltage        | $V_{(BR)EBO}$         | -5                    |                          |             | V       | $I_E = 100\mu A$  |
| Collector Cut-Off Current             | $I_{CBO}$             |                       |                          | -0.1<br>-10 | $\mu A$ | $V_{CB} = -60V$<br>$V_{CB} = -60V, T_{amb} = 100^{\circ}C$  |
| Emitter Cut-Off Current               | $I_{EBO}$             |                       |                          | -0.1        | $\mu A$ | $V_{EB} = -4V$  |
| Collector-Emitter Saturation Voltage  | $V_{CE(sat)}$         |                       | -0.15<br>-0.45           | 0.3<br>0.6  | V       | $I_C = -1A, I_B = -100mA^*$<br>$I_C = -3A, I_B = -300mA^*$  |
| Base-Emitter Saturation Voltage       | $V_{BE(sat)}$         |                       | -0.9                     | -1.25       | V       | $I_C = -1A, I_B = -100mA^*$   |
| Base-Emitter Turn-On Voltage          | $V_{BE(on)}$          |                       | -0.8                     | -1.0        | V       | $I_C = -1A, V_{CE} = -2V^*$   |
| Static Forward Current Transfer Ratio | $h_{FE}$              | 70<br>100<br>80<br>40 | 200<br>200<br>170<br>150 | 300         |         | $I_C = -50mA, V_{CE} = -2V^*$<br>$I_C = -500mA, V_{CE} = -2V^*$<br>$I_C = -1A, V_{CE} = -2V^*$<br>$I_C = -2A, V_{CE} = -2V^*$ |
| Transition Frequency                  | $f_T$                 | 100                   | 140                      |             | MHz     | $I_C = -100mA, V_{CE} = -5V$<br>$f = 100MHz$  |
| Switching Times                       | $t_{on}$<br>$t_{off}$ |                       | 40<br>450                |             | ns      | $I_C = -500mA, V_{CC} = -10V$<br>$I_{B1} = I_{B2} = -50mA$  |
| Output Capacitance                    | $C_{obo}$             |                       |                          | 30          | pF      | $V_{CB} = -10V, f = 1MHz$   |

\*Measured under pulsed conditions. Pulse width=300 $\mu s$ . Duty cycle  $\leq 2\%$   
Spice parameter data is available upon request for this device

# FZT751

## TYPICAL CHARACTERISTICS

