

# SOT223 PNP SILICON PLANAR MEDIUM POWER TRANSISTOR

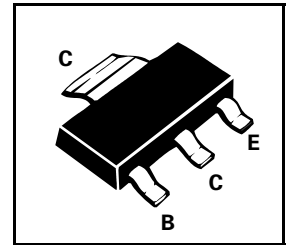
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## FEATURES

- \* 25 Volt  $V_{CEO}$
- \* 3 Amp continuous current
- \* Low saturation voltage
- \* Excellent  $h_{FE}$  specified up to 6A (pulsed).

COMPLEMENTARY TYPE – FZT649

PARTMARKING DETAIL – FZT749



## ABSOLUTE MAXIMUM RATINGS.

| PARAMETER                                  | SYMBOL         | VALUE       | UNIT        |
|--------------------------------------------|----------------|-------------|-------------|
| Collector-Base Voltage                     | $V_{CBO}$      | -35         | V           |
| Collector-Emitter Voltage                  | $V_{CEO}$      | -25         | V           |
| Emitter-Base Voltage                       | $V_{EBO}$      | -5          | V           |
| Peak Pulse Current                         | $I_{CM}$       | -8          | 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.                                                                                                                |
|---------------------------------------|---------------|-----------------------|-------------------------|--------------|--------------------|----------------------------------------------------------------------------------------------------------------------------|
| Breakdown Voltages                    | $V_{(BR)CBO}$ | -35                   |                         |              | V                  | $I_C = -100\mu A$                                                                                                          |
|                                       | $V_{(BR)CEO}$ | -25                   |                         |              | V                  | $I_C = -10mA^*$                                                                                                            |
|                                       | $V_{(BR)EBO}$ | -5                    |                         |              | V                  | $I_E = -100\mu A$                                                                                                          |
| Collector Cut-Off Currents            | $I_{CBO}$     |                       |                         | -0.1<br>-10  | $\mu A$<br>$\mu A$ | $V_{CB} = -30V$<br>$V_{CB} = -30V, T_{amb} = 100^{\circ}C$                                                                 |
|                                       | $I_{EBO}$     |                       |                         | -0.1         | $\mu A$            | $V_{EB} = 4V$                                                                                                              |
| Saturation Voltages                   | $V_{CE(sat)}$ |                       | -0.12<br>-0.40          | -0.3<br>-0.6 | V<br>V             | $I_C = -1A, I_B = -100mA^*$<br>$I_C = -3A, I_B = -300mA^*$                                                                 |
|                                       | $V_{BE(sat)}$ |                       | -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>75<br>15 | 200<br>200<br>150<br>50 | 300          |                    | $I_C = -50mA, V_{CE} = -2V^*$<br>$I_C = -1A, V_{CE} = -2V^*$<br>$I_C = -2A, V_{CE} = -2V^*$<br>$I_C = -6A, V_{CE} = -2V^*$ |
| Transition Frequency                  | $f_T$         | 100                   | 160                     |              | MHz                | $I_C = -100mA, V_{CE} = -5V$<br>$f = 100MHz$                                                                               |
| Output Capacitance                    | $C_{obo}$     |                       | 55                      | 100          | pF                 | $V_{CB} = -10V, f = 1MHz$                                                                                                  |
| Switching Times                       | $t_{on}$      |                       | 40                      |              | ns                 | $I_C = -500mA, V_{CC} = -10V$                                                                                              |
|                                       | $t_{off}$     |                       | 450                     |              | ns                 | $I_{B1} = I_{B2} = -50mA$                                                                                                  |

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

TYPICAL CHARACTERISTICS

