

SOT223 NPN SILICON PLANAR MEDIUM POWER TRANSISTOR

FZT657

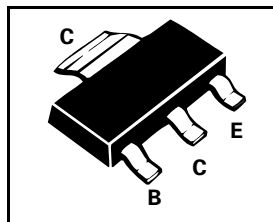
ISSUE 3- FEBRUARY 1995

FEATURES

- * Low saturation voltage

COMPLEMENTARY TYPE - FZT757

PARTMARKING DETAIL - FZT657



ABSOLUTE MAXIMUM RATINGS.

| PARAMETER | SYMBOL | VALUE | UNIT |
|--|----------------|-------------|-------------|
| Collector-Base Voltage | V_{CBO} | 300 | V |
| Collector-Emitter Voltage | V_{CEO} | 300 | V |
| Emitter-Base Voltage | V_{EBO} | 5 | V |
| Peak Pulse Current | I_{CM} | 1 | A |
| Continuous Collector Current | I_C | 0.5 | 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 | $^{\circ}C$ |

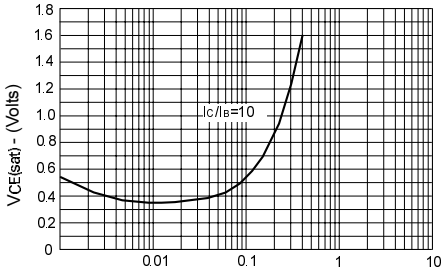
ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}C$ unless otherwise stated).

| PARAMETER | SYMBOL | MIN. | TYP. | MAX. | UNIT | CONDITIONS. |
|---------------------------------------|---------------|----------|------|------|---------|---|
| Collector-Base Breakdown Voltage | $V_{(BR)CBO}$ | 300 | | | V | $I_C=100\mu A$ |
| Collector-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | 300 | | | 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 | μA | $V_{CB}=200V$ |
| Emitter Cut-Off Current | I_{EBO} | | | 0.1 | μA | $V_{EB}=3V$ |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | | | 0.5 | V | $I_C=100mA, I_B=10mA^*$ |
| Base-Emitter Saturation Voltage | $V_{BE(sat)}$ | | | 1.0 | V | $I_C=100mA, I_B=10mA^*$ |
| Base-Emitter Turn-On Voltage | $V_{BE(on)}$ | | | 1.0 | V | $I_C=100mA, V_{CE}=5V^*$ |
| Static Forward Current Transfer Ratio | h_{FE} | 40 50 | | | | $I_C=10mA, V_{CE}=5V^*$ $I_C=100mA, V_{CE}=5V^*$ |
| Transition Frequency | f_T | 30 | | | MHz | $I_C=10mA, V_{CE}=20V$ $f=20MHz$ |
| Output Capacitance | C_{obo} | | | 20 | pF | $V_{CB}=20V, f=1MHz$ |

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

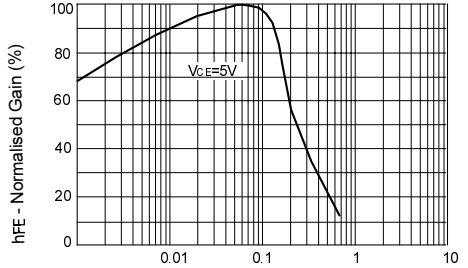
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TYPICAL CHARACTERISTICS



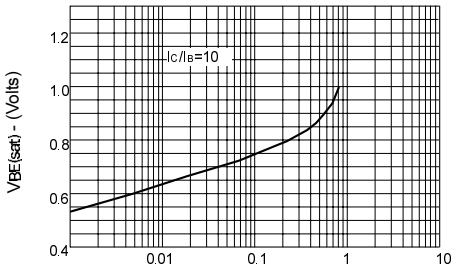
I_C - Collector Current (Amps)

$V_{CE(sat)}$ v I_C



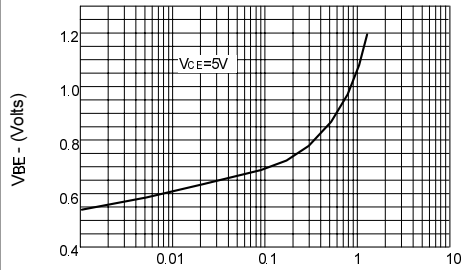
I_C - Collector Current (Amps)

h_{FE} v I_C



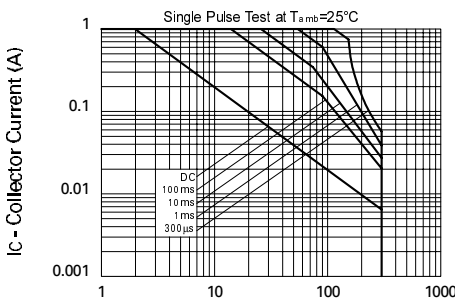
I_C - Collector Current (Amps)

$V_{BE(sat)}$ v I_C



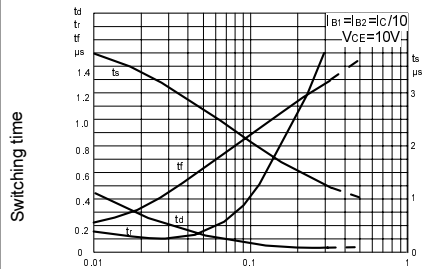
I_C - Collector Current (Amps)

$V_{BE(on)}$ v I_C



V_{CE} - Collector Emitter Voltage (V)

Safe Operating Area



I_C - Collector Current (Amps)

Switching Speeds