

SOT223 PNP SILICON PLANAR HIGH CURRENT (HIGH PERFORMANCE) POWER TRANSISTOR

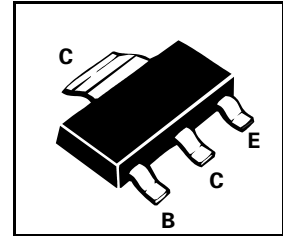
FZT968

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FEATURES

- * Extremely low equivalent on-resistance; $R_{CE(sat)}$ **44m Ω at 5A**
- * 6 Amps continuous current (Up to 20 Amps peak)
- * High gain and very low saturation voltage

PARTMARKING DETAIL – FZT968



ABSOLUTE MAXIMUM RATINGS.

| PARAMETER | SYMBOL | VALUE | UNIT |
|---|----------------|-------------|------------------|
| Collector-Base Voltage | V_{CBO} | -15 | V |
| Collector-Emitter Voltage | V_{CEO} | -12 | V |
| Emitter-Base Voltage | V_{EBO} | -6 | V |
| Peak Pulse Current | I_{CM} | -20 | A |
| Continuous Collector Current | I_C | -6 | A |
| Power Dissipation at $T_{amb}=25^\circ\text{C}$ | P_{tot} | 3 | W |
| Operating and Storage Temperature Range | $T_j; T_{stg}$ | -55 to +150 | $^\circ\text{C}$ |

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

| PARAMETER | SYMBOL | MIN. | TYP. | MAX. | UNIT | CONDITIONS. | | |
|---------------------------------------|-----------------------|---------------------------------|---------------------|----------------------|---------------------|--|----|---|
| Breakdown Voltages | $V_{(BR)CBO}$ | -15 | -28 | | V | $I_C = -100\mu\text{A}$ | | |
| | $V_{(BR)CEO}$ | -12 | -20 | | V | $I_C = -10\text{mA}^*$ | | |
| | $V_{(BR)EBO}$ | -6 | -8 | | V | $I_E = -100\mu\text{A}$ | | |
| Collector Cut-Off Current | I_{CBO} | | | -10 -1.0 | nA μA | $V_{CB} = -12\text{V}$ $V_{CB} = -12\text{V}, T_{amb} = 100^\circ\text{C}$ | | |
| Emitter Cut-Off Current | I_{EBO} | | | -10 | nA | $V_{EB} = -6\text{V}$ | | |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | | -65 -132 -360 | -130 -170 -450 | mV mV mV | $I_C = -500\text{mA}, I_B = -5\text{mA}^*$ $I_C = -2\text{A}, I_B = -50\text{mA}^*$ $I_C = -6\text{A}, I_B = -250\text{mA}^*$ | | |
| | | Base-Emitter Saturation Voltage | $V_{BE(sat)}$ | | -1050 | -1200 | mV | $I_C = -6\text{A}, I_B = -250\text{mA}^*$ |
| | | Base-Emitter Turn-On Voltage | $V_{BE(on)}$ | | -870 | -1050 | mV | $I_C = -6\text{A}, V_{CE} = -1\text{V}^*$ |
| Static Forward Current Transfer Ratio | h_{FE} | 300 | 450 | 1000 | | $I_C = -10\text{mA}, V_{CE} = -1\text{V}^*$ $I_C = -500\text{mA}, V_{CE} = -1\text{V}^*$ $I_C = -5\text{A}, V_{CE} = -1\text{V}^*$ $I_C = -10\text{A}, V_{CE} = -1\text{V}^*$ $I_C = -20\text{A}, V_{CE} = -1\text{V}^*$ | | |
| | | 300 | 450 | | | | | |
| | | 200 | 300 | | | | | |
| | | 150 | 240 | | | | | |
| | | 150 | 50 | | | | | |
| Transition Frequency | f_T | | 80 | | MHz | $I_C = -100\text{mA}, V_{CE} = -10\text{V}$ $f = 50\text{MHz}$ | | |
| Output Capacitance | C_{obo} | | 161 | | pF | $V_{CB} = -20\text{V}, f = 1\text{MHz}$ | | |
| Switching Times | t_{on} t_{off} | | 120 | | ns | $I_C = -4\text{A}, I_B = -400\text{mA}$ $I_B = 400\text{mA}, V_{CE} = -10\text{V}$ | | |
| | | | 116 | | ns | | | |

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

TYPICAL CHARACTERISTICS

