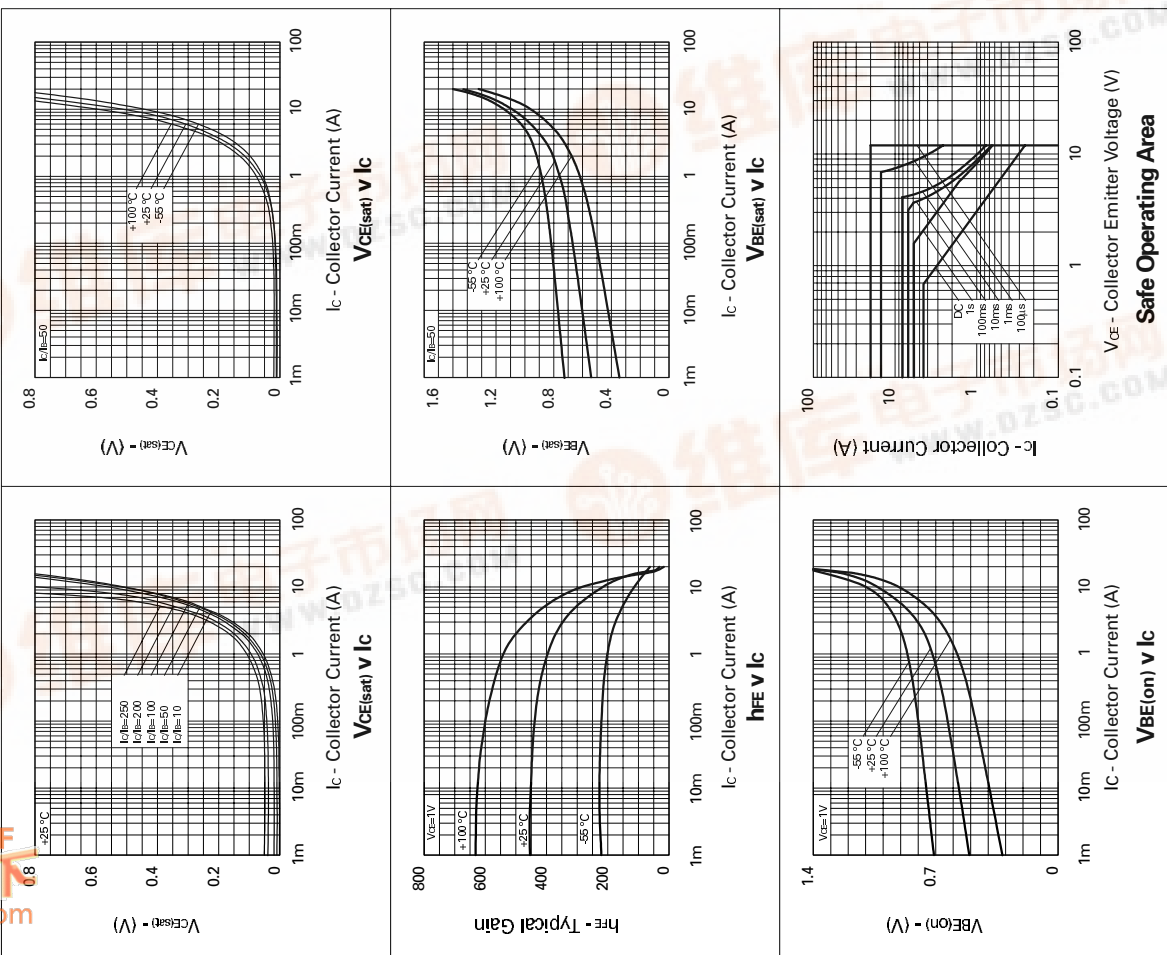




FZT968

TYPICAL CHARACTERISTICS



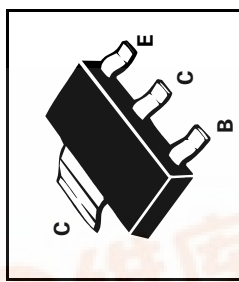
SOT223 PNP SILICON PLANAR HIGH CURRENT (HIGH PERFORMANCE) POWER TRANSISTOR

ISSUE 3 - OCTOBER 1995

FEATURES

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

PARTMARKING DETAIL - FZT968



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 $T_{amb}=25^\circ C$ | P_{tot} | 3 | W |
| Operating and Storage Temperature Range | T_j, T_{stg} | -55 to +150 | $^\circ C$ |

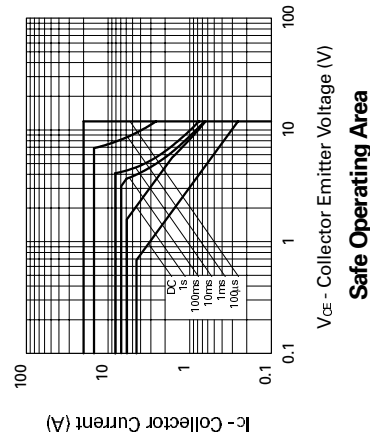
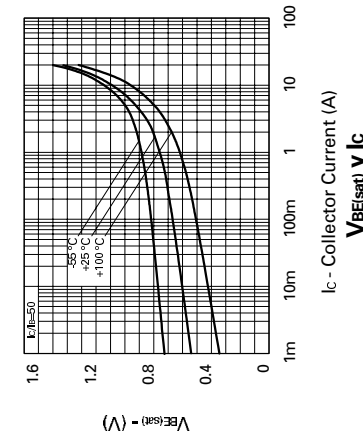
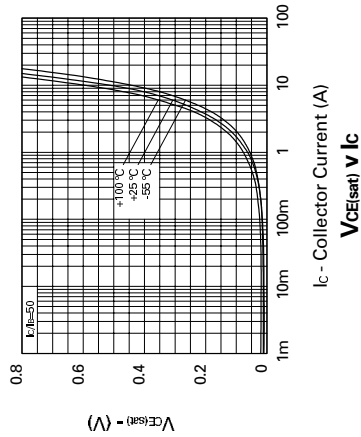
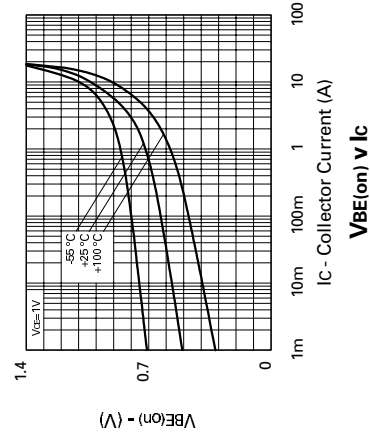
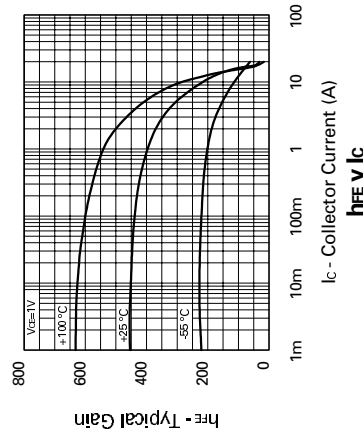
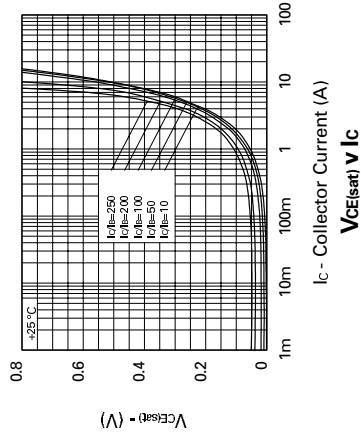
ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^\circ C$ unless otherwise stated)

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

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

FZT968

TYPICAL CHARACTERISTICS



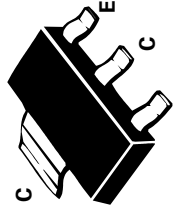
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FZT968

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| | | | | -1.0 | μA | $V_{CE} = -12V, T_{amb} = 100^\circ C$ |
| Emitter Cut-Off Current | I_{EBO} | | | -10 | nA | $V_{EB} = -6V$ |
| | | | | -130 | mV | $I_C = -500mA, I_B = -5mA^*$ |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | | -132 | -170 | mV | $I_C = -2A, I_B = -50mA^*$ |
| | | | -360 | -450 | mV | $I_C = -6A, I_B = -250mA^*$ |
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