

SOT23 NPN SILICON PLANAR HIGH VOLTAGE TRANSISTOR

FMMT6517

ISSUE 3 – NOVEMBER 1995

FEATURES

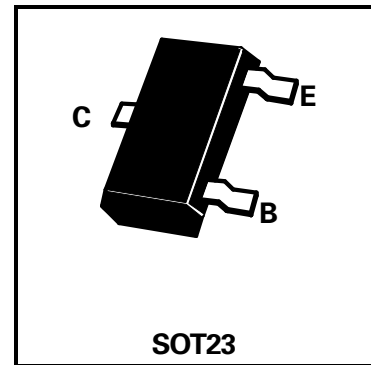
- * 350 Volt V_{CEO}
- * Gain of 15 at $I_C=100\text{mA}$

APPLICATIONS

- * SUITABLE FOR AMPLIFIER AND SWITCHING PRODUCTS

COMPLEMENTARY TYPE - FMMT6520

PARTMARKING DETAIL - 517



ABSOLUTE MAXIMUM RATINGS.

| PARAMETER | SYMBOL | VALUE | UNIT |
|---|----------------|-------------|------------------|
| Collector-Base Voltage | V_{CBO} | 350 | V |
| Collector-Emitter Voltage | V_{CEO} | 350 | V |
| Emitter-Base Voltage | V_{EBO} | 5 | V |
| Continuous Collector Current | I_C | 500 | mA |
| Power Dissipation at $T_{amb}=25^\circ\text{C}$ | P_{tot} | 330 | mW |
| 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. | MAX. | UNIT | CONDITIONS. |
|---------------------------------------|---------------|----------------------------|---------------------------|------|--|
| Breakdown Voltages | $V_{(BR)CBO}$ | 350 | | V | $I_C=100\mu\text{A}, I_E=0$ |
| | $V_{(BR)CEO}$ | 350 | | V | $I_C=1\text{mA}, I_B=0^*$ |
| | $V_{(BR)EBO}$ | 5 | | V | $I_E=10\mu\text{A}, I_C=0$ |
| Cut-Off Currents | I_{CBO} | | 50 | nA | $V_{CB}=250\text{V}, I_E=0$ |
| | I_{EBO} | | 50 | nA | $V_{EB}=5\text{V}, I_C=0$ |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | | 0.3 0.35 0.5 1.0 | V | $I_C=10\text{mA}, I_B=1\text{mA}^*$ $I_C=20\text{mA}, I_B=2\text{mA}^*$ $I_C=30\text{mA}, I_B=3\text{mA}^*$ $I_C=50\text{mA}, I_B=5\text{mA}^*$ |
| Base-Emitter Saturation Voltage | $V_{BE(sat)}$ | | 0.80 0.85 0.90 | V | $I_C=10\text{mA}, I_B=1\text{mA}^*$ $I_C=20\text{mA}, I_B=2\text{mA}^*$ $I_C=30\text{mA}, I_B=3\text{mA}^*$ |
| Base-Emitter Turn-On Voltage | $V_{BE(on)}$ | | 2.0 | V | $I_C=100\text{mA}, V_{CE}=10\text{V}^*$ |
| Static Forward Current Transfer Ratio | h_{FE} | 20 30 30 20 15 | 200 200 | | $I_C=1\text{mA}, V_{CE}=10\text{V}$ $I_C=10\text{mA}, V_{CE}=10\text{V}^*$ $I_C=30\text{mA}, V_{CE}=10\text{V}^*$ $I_C=50\text{mA}, V_{CE}=10\text{V}^*$ $I_C=100\text{mA}, V_{CE}=10\text{V}^*$ |
| Output Capacitance | C_{obo} | | 6 | pF | $V_{CB}=20\text{V}, f=1\text{MHz}$ |
| Transition Frequency | f_T | 50 | | MHz | $I_C=10\text{mA}, V_{CE}=20\text{V}, f=20\text{MHz}$ |

*Measured under pulsed conditions. Pulse width=300 μs . Duty cycle $\leq 2\%$