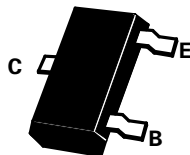


SOT23 NPN SILICON PLANAR MEDIUM POWER TRANSISTOR

FMMT494

ISSUE 3 - NOVEMBER 1995

PARTMARKING DETAIL - 494



ABSOLUTE MAXIMUM RATINGS.

| PARAMETER | SYMBOL | VALUE | UNIT |
|--|----------------|-------------|-------------|
| Collector-Base Voltage | V_{CBO} | 140 | V |
| Collector-Emitter Voltage | V_{CEO} | 120 | V |
| Emitter-Base Voltage | V_{EBO} | 5 | V |
| Continuous Collector Current | I_C | 1 | A |
| Peak Pulse Current | I_{CM} | 2 | A |
| Base Current | I_B | 200 | mA |
| Power Dissipation at $T_{amb}=25^{\circ}C$ | P_{tot} | 500 | mW |
| Operating and Storage Temperature Range | $T_j; T_{stg}$ | -55 to +150 | $^{\circ}C$ |

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

| PARAMETER | SYMBOL | MIN. | MAX. | UNIT | CONDITIONS. |
|---------------------------------------|----------------|------|------|------|---|
| Breakdown Voltages | $V_{(BR)CBO}$ | 140 | | V | $I_C=100\mu A$ |
| | $V_{CEO(sus)}$ | 120 | | V | $I_C=10mA^*$ |
| | $V_{(BR)EBO}$ | 5 | | V | $I_E=100\mu A$ |
| Collector Cut-Off Currents | I_{CBO} | | 100 | nA | $V_{CB}=120V$ |
| | I_{CES} | | 100 | nA | $V_{CE}=120V$ |
| Emitter Cut-Off Current | I_{EBO} | | 100 | nA | $V_{EB}=4V$ |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | | 0.2 | V | $I_C=250mA, I_B=25mA^*$ $I_C=500mA, I_B=50mA^*$ |
| | | | 0.3 | V | |
| Base-Emitter Saturation Voltage | $V_{BE(sat)}$ | | 1.1 | V | $I_C=500mA, I_B=50mA^*$ |
| Base-Emitter Turn On Voltage | $V_{BE(on)}$ | | 1.0 | V | $I_C=500mA, V_{CE}=10V^*$ |
| Static Forward Current Transfer Ratio | h_{FE} | 100 | 300 | | $I_C=1mA, V_{CE}=10V^*$ $I_C=250mA, V_{CE}=10V^*$ $I_C=500mA, V_{CE}=10V^*$ $I_C=1A, V_{CE}=10V^*$ |
| | | 100 | | | |
| | | 60 | | | |
| | | 20 | | | |
| Transition Frequency | f_T | 100 | | MHz | $I_C=50mA, V_{CE}=10V$ $f=100MHz$ |
| Collector-Base Breakdown Voltage | C_{obo} | | 10 | pF | $V_{CB}=10V, f=1MHz$ |

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

FMMT494

TYPICAL CHARACTERISTICS

