

SOT23 NPN SILICON PLANAR MEDIUM POWER TRANSISTOR

FMMT491A

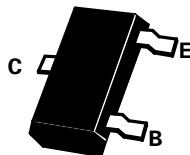
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FEATURES

* Very Low Equivalent Resistance, $R_{CE(sat)}$ 195m Ω at 1A

COMPLEMENTARY TYPE – FMMT591A

PARTMARKING DETAIL – 41A



ABSOLUTE MAXIMUM RATINGS.

| PARAMETER | SYMBOL | VALUE | UNIT |
|---|----------------|-------------|------------------|
| Collector-Base Voltage | V_{CBO} | 40 | V |
| Collector-Emitter Voltage | V_{CEO} | 40 | V |
| Emitter-Base Voltage | V_{EBO} | 5 | V |
| Continuous Collector Current | I_C | 1 | A |
| Peak Pulse Current | I_{CM} | 2 | A |
| Power Dissipation at $T_{amb}=25^\circ\text{C}$ | P_{tot} | 500 | mW |
| Operating and Storage Temperature Range | $T_j; T_{stg}$ | -55 to +150 | $^\circ\text{C}$ |

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

| PARAMETER | SYMBOL | MIN. | MAX. | UNIT | CONDITIONS. |
|---------------------------------------|--------------------|-------------------------|------------|--------|--|
| Collector-Base Breakdown Voltage | $V_{(BR)CBO}$ | 40 | | V | $I_C=100\mu\text{A}$ |
| Collector-Emitter Breakdown Voltage | $V_{CEO(sus)}$ | 40 | | V | $I_C=10\text{mA}^*$ |
| Emitter-Base Breakdown Voltage | $V_{(BR)EBO}$ | 5 | | V | $I_E=100\mu\text{A}$ |
| Cut-Off Currents | I_{CBO}, I_{CES} | | 100 | nA | $V_{CB}=30\text{V}, V_{CES}=30\text{V}$ |
| Emitter Cut-Off Current | I_{EBO} | | 100 | nA | $V_{EB}=4\text{V}$ |
| Saturation Voltages | $V_{CE(sat)}$ | | 0.3 0.5 | V V | $I_C=500\text{mA}, I_B=50\text{mA}^*$ $I_C=1\text{A}, I_B=100\text{mA}^*$ |
| | $V_{BE(sat)}$ | | 1.1 | V | $I_C=1\text{A}, I_B=100\text{mA}^*$ |
| Base Emitter Turn On Voltage | $V_{BE(on)}$ | | 1.0 | V | $I_C=1\text{A}, V_{CE}=5\text{V}^*$ |
| Static Forward Current Transfer Ratio | h_{FE} | 300 300 200 35 | 900 | | $I_C=1\text{mA}, V_{CE}=5\text{V}^*$ $I_C=500\text{mA}, V_{CE}=5\text{V}^*$ $I_C=1\text{A}, V_{CE}=5\text{V}^*$ $I_C=2\text{A}, V_{CE}=5\text{V}^*$ |
| Transition Frequency | f_T | 150 | | MHz | $I_C=50\text{mA}, V_{CE}=10\text{V}$ $f=100\text{MHz}$ |
| Collector-Base Breakdown Voltage | C_{obo} | | 10 | pF | $V_{CB}=10\text{V}, f=1\text{MHz}$ |

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

FMMT491A

TYPICAL CHARACTERISTICS

