

SOT23 NPN SILICON PLANAR MEDIUM POWER TRANSISTOR

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FEATURES

* Very low equivalent on-resistance; $R_{CE(sat)}$ 175mΩ at 1A

COMPLEMENTARY TYPE – FMMT589
PARTMARKING DETAIL – 489

ABSOLUTE MAXIMUM RATINGS.

| PARAMETER | SYMBOL | VALUE | UNIT |
|--|----------------|-------------|-------------|
| Collector-Base Voltage | V_{CBO} | 50 | V |
| Collector-Emitter Voltage | V_{CEO} | 30 | V |
| Emitter-Base Voltage | V_{EBO} | 5 | V |
| Continuous Collector Current | I_C | 1 | A |
| Peak Pulse Current | I_{CM} | 4 | 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 | $^{\circ}C$ |

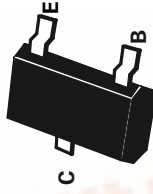
ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}C$).

| PARAMETER | SYMBOL | MIN. | MAX. | UNIT | CONDITIONS. |
|---------------------------------------|----------------|------|------|------|----------------------------------|
| Breakdown Voltages | $V_{(BR)CBO}$ | 50 | | V | $I_C=100\mu A$ |
| | $V_{CEO(sus)}$ | 30 | | V | $I_C=10mA^*$ |
| | $V_{(BR)EBO}$ | 5 | | V | $I_E=100\mu A$ |
| Collector Cut-Off Current | I_{CBO} | | 100 | nA | $V_{CB}=30V$ |
| | I_{CES} | | 100 | nA | $V_{CES}=30V$ |
| Emitter Cut-Off Current | I_{EBO} | | 100 | nA | $V_{EB}=4V$ |
| | $V_{CE(sat)}$ | 0.3 | | V | $I_C=1A, I_B=100mA^*$ |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | 0.6 | | V | $I_C=2A, I_B=200mA^*$ |
| | $V_{BE(sat)}$ | 1.1 | | V | $I_C=1A, I_B=100mA^*$ |
| Base-Emitter Saturation Voltage | $V_{BE(sat)}$ | | 1.0 | V | $I_C=1A, V_{CE}=2V^*$ |
| Base-Emitter Turn On Voltage | $V_{BE(on)}$ | | 100 | | $I_C=1mA, V_{CE}=2V^*$ |
| Static Forward Current Transfer Ratio | h_{FE} | 100 | | | $I_C=1A, V_{CE}=2V^*$ |
| | | 60 | | | $I_C=2A, V_{CE}=2V^*$ |
| | | 20 | | | $I_C=4A, V_{CE}=2V^*$ |
| Transition Frequency | f_T | 150 | | 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=300us. Duty cycle ≤ 2%
For typical characteristics graphs see FMMT449 datasheet

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FMMT489