

# SOT23 NPN SILICON PLANAR HIGH VOLTAGE TRANSISTOR

## FMMT6517

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### FEATURES

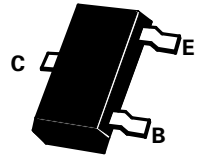
- \* 350 Volt  $V_{CE0}$
- \* Gain of 15 at  $I_C=100\text{mA}$

### APPLICATIONS

- \* SUITABLE FOR AMPLIFIER AND SWITCHING PRODUCTS

COMPLEMENTARY TYPE - FMMT6520

PARTMARKING DETAIL - 517



SOT23

### 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  | V    | $I_C=10\text{mA}$ , $I_B=1\text{mA}^*$                     |
|                                       |               |      | 0.35 | V    | $I_C=20\text{mA}$ , $I_B=2\text{mA}^*$                     |
|                                       |               |      | 0.5  | V    | $I_C=30\text{mA}$ , $I_B=3\text{mA}^*$                     |
|                                       |               |      | 1.0  | V    | $I_C=50\text{mA}$ , $I_B=5\text{mA}^*$                     |
|                                       |               |      |      |      |                                                            |
| Base-Emitter Saturation Voltage       | $V_{BE(sat)}$ |      | 0.80 | V    | $I_C=10\text{mA}$ , $I_B=1\text{mA}^*$                     |
|                                       |               |      | 0.85 | V    | $I_C=20\text{mA}$ , $I_B=2\text{mA}^*$                     |
|                                       |               |      | 0.90 | V    | $I_C=30\text{mA}$ , $I_B=3\text{mA}^*$                     |
|                                       |               |      |      |      |                                                            |
| 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   |      |      | $I_C=1\text{mA}$ , $V_{CE}=10\text{V}$                     |
|                                       |               | 30   |      |      | $I_C=10\text{mA}$ , $V_{CE}=10\text{V}^*$                  |
|                                       |               | 30   | 200  |      | $I_C=30\text{mA}$ , $V_{CE}=10\text{V}^*$                  |
|                                       |               | 20   | 200  |      | $I_C=50\text{mA}$ , $V_{CE}=10\text{V}^*$                  |
|                                       |               | 15   |      |      | $I_C=100\text{mA}$ , $V_{CE}=10\text{V}^*$                 |
|                                       |               |      |      |      |                                                            |
| 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 $\mu\text{s}$ . Duty cycle  $\leq 2\%$