

# SOT23 PNP SILICON PLANAR HIGH GAIN MEDIUM POWER TRANSISTOR

**FMMTL717**

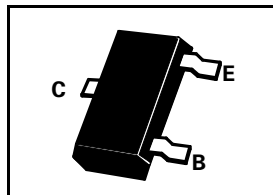
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## FEATURES

Very low equivalent on-resistance;  $R_{CE(sat)}=160m\Omega$  at 1.25A

COMPLEMENTARY TYPE – FMMTL617

PARTMARKING DETAIL – L77



## ABSOLUTE MAXIMUM RATINGS.

| PARAMETER                                  | SYMBOL         | VALUE       | UNIT        |
|--|----------------|-------------|-------------|
| Collector-Base Voltage                     | $V_{CBO}$      | -12         | V           |
| Collector-Emitter Voltage                  | $V_{CEO}$      | -12         | V           |
| Emitter-Base Voltage                       | $V_{EBO}$      | -5          | V           |
| Continuous Collector Current               | $I_C$          | -1.25       | 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 | $^{\circ}C$ |

# FMMTL717

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

| PARAMETER                             | SYMBOL                | MIN.                           | TYP.                            | MAX.                        | UNIT                 | CONDITIONS.  |
|---------------------------------------|-----------------------|--------------------------------|---------------------------------|-----------------------------|----------------------|--|
| Collector-Base Breakdown Voltage      | $V_{(BR)CBO}$         | -12                            | -35                             |                             | V                    | $I_C = -100\mu\text{A}$  |
| Collector-Emitter Breakdown Voltage   | $V_{(BR)CEO}$         | -12                            | -25                             |                             | V                    | $I_C = -10\text{mA}^*$   |
| Emitter-Base Breakdown Voltage        | $V_{(BR)EBO}$         | -5                             | -8.5                            |                             | V                    | $I_E = -100\mu\text{A}$  |
| Collector Cut-Off Current             | $I_{CBO}$             |                                |                                 | -10                         | nA                   | $V_{CB} = -10\text{V}$   |
| Emitter Cut-Off Current               | $I_{EBO}$             |                                |                                 | -10                         | nA                   | $V_{EB} = -4\text{V}$  |
| Collector Cut-Off Current             | $I_{CES}$             |                                |                                 | -10                         | nA                   | $V_{CE} = -10\text{V}$   |
| Collector-Emitter Saturation Voltage  | $V_{CE(sat)}$         |                                | -24<br>-94<br>-160<br>-200      | -40<br>-140<br>-240<br>-290 | mV<br>mV<br>mV<br>mV | $I_C = -100\text{mA}, I_B = -10\text{mA}^*$<br>$I_C = -500\text{mA}, I_B = -20\text{mA}^*$<br>$I_C = -1\text{A}, I_B = -50\text{mA}^*$<br>$I_C = -1.25\text{A}, I_B = -50\text{mA}$  |
| Base-Emitter Saturation Voltage       | $V_{BE(sat)}$         |                                | -970                            | -1100                       | mV                   | $I_C = -1.25\text{A}, I_B = -50\text{mA}^*$  |
| Base-Emitter Turn On Voltage          | $V_{BE(on)}$          |                                | -875                            | -1000                       | mV                   | $I_C = -1.25\text{A}, V_{CE} = -2\text{V}^*$   |
| Static Forward Current Transfer Ratio | $h_{FE}$              | 300<br>300<br>180<br>100<br>50 | 490<br>450<br>275<br>180<br>110 |                             |                      | $I_C = -10\text{mA}, V_{CE} = -2\text{V}$<br>$I_C = -100\text{mA}, V_{CE} = -2\text{V}^*$<br>$I_C = -1\text{A}, V_{CE} = -2\text{V}^*$<br>$I_C = -2\text{A}, V_{CE} = -2\text{V}^*$<br>$I_C = -3\text{A}, V_{CE} = -2\text{V}^*$ |
| Transition Frequency                  | $f_T$                 |                                | 205                             |                             | MHz                  | $I_C = -50\text{mA}, V_{CE} = -10\text{V}$<br>$f = 100\text{MHz}$  |
| Collector-Base Breakdown Voltage      | $C_{obo}$             |                                | 15                              | 20                          | pF                   | $V_{CB} = -10\text{V}, f = 1\text{MHz}$  |
| Switching times                       | $t_{on}$<br>$t_{off}$ |                                | 76<br>149                       |                             | ns<br>ns             | $I_C = -1\text{A}, V_{CC} = -10\text{V}$<br>$I_{B1} = I_{B2} = -10\text{mA}$   |

\*Measured under pulsed conditions. Pulse width=300 $\mu\text{s}$ . Duty cycle  $\leq 2\%$

## TYPICAL CHARACTERISTICS

