

## Medium Power Transistor

## FMMT449

## ■ Features

- Low equivalent on-resistance.

## ■ Absolute Maximum Ratings Ta = 25°C

| Parameter                               | Symbol         | Rating      | Unit |
|---|----------------|-------------|------|
| Collector-base voltage                  | $V_{CB0}$      | 50          | V    |
| Collector-emitter voltage               | $V_{CE0}$      | 30          | V    |
| Emitter-base voltage                    | $V_{EB0}$      | 5           | V    |
| Peak collector current                  | $I_{CM}$       | 2           | A    |
| Collector current                       | $I_C$          | 1           | A    |
| Base current                            | $I_B$          | 200         | mA   |
| Power dissipation                       | $P_{tot}$      | 500         | mW   |
| Operating and storage temperature range | $T_j, T_{stg}$ | -55 to +125 | °C   |

## ■ Electrical Characteristics Ta = 25°C

| Parameter                              | Symbol        | Testconditons                     | Min | Typ | Max  | Unit    |
|--|---------------|-----------------------------------|-----|-----|------|---------|
| Collector-base breakdown voltage       | $V_{(BR)CBO}$ | $I_C=1mA, I_E=0$                  | 50  |     |      | V       |
| Collector-emitter breakdown voltage    | $V_{(BR)CEO}$ | $I_C=10mA, I_B=0$                 | 30  |     |      | V       |
| Emitter-base breakdown voltage         | $V_{(BR)EBO}$ | $I_E=100\mu A, I_C=0$             | 5   |     |      | V       |
| Collector cutoff current               | $I_{CBO}$     | $V_{CB}=40V, I_E=0$               |     |     | 0.1  | $\mu A$ |
|  |               | $V_{CB}=40V, T_{amb}=100^\circ C$ |     |     | 10   | $\mu A$ |
| Emitter cut-off current                | $I_{EBO}$     | $V_{EB}=4V, I_C=0$                |     |     | 0.1  | $\mu A$ |
| Collector-emitter saturation voltage * | $V_{CE(sat)}$ | $I_C=1A, I_B=100mA$               |     |     | 0.5  | V       |
|  |               | $I_C=2A, I_B=200mA$               |     |     | 1.0  | V       |
| Base-emitter saturation voltage *      | $V_{BE(sat)}$ | $I_C=1A, I_B=100mA$               |     |     | 1.25 | V       |
| Base-emitter voltage *                 | $V_{BE(ON)}$  | $I_C=1A, V_{CE}=2V$               |     |     | 1.0  | V       |
| Static Forward Current Transfer Ratio  | $h_{FE}$      | $I_C=50mA, V_{CE}=2V^*$           | 70  |     |      |         |
|  |               | $I_C=500mA, V_{CE}=2V^*$          | 100 |     | 300  |         |
|  |               | $I_C=1A, V_{CE}=2V^*$             | 80  |     |      |         |
|  |               | $I_C=2A, V_{CE}=2V^*$             | 40  |     |      |         |
| Current-gain-bandwidth product         | $f_T$         | $I_C=50mA, V_{CE}=10V, f=100MHz$  | 150 |     |      | MHz     |
| Output capacitance                     | $C_{ob0}$     | $V_{CB}=10V, f=1MHz$              |     |     | 15   | pF      |

\* Pulse width=300 $\mu s$ . Duty cycle  $\leq 2\%$

## ■ Marking

|         |     |
|---------|-----|
| Marking | 449 |
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