

## SMD Type

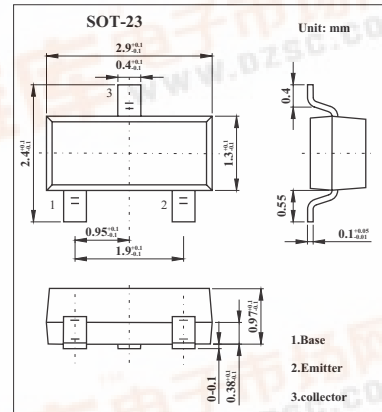
## Transistors

## Medium Power Transistor

## FMMT449

## ■ Features

- Low equivalent on-resistance.

■ Absolute Maximum Ratings  $T_a = 25^\circ\text{C}$ 

| 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 | $^\circ\text{C}$ |

■ Electrical Characteristics  $T_a = 25^\circ\text{C}$ 

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

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

## ■ Marking

Marking

449