

# FMMT591A

## SOT23 PNP silicon planar medium power transistor

### Features

Low equivalent on resistance  $R_{CE(sat)} = 350m\Omega$  at 1A

Part Marking Detail -91A

Complementary type -FMMT491A

### Absolute maximum ratings.

| Parameter                                 | Symbol          | Value       | Unit       |
|-------------------------------------------|-----------------|-------------|------------|
| Collector-Base voltage                    | $V_{CBO}$       | -40         | V          |
| Collector-Emitter voltage                 | $V_{CEO}$       | -40         | V          |
| Emitter-Base voltage                      | $V_{EBO}$       | -5          | V          |
| Peak pulse current                        | $I_{CM}$        | -2          | A          |
| Continuous Collector current              | $I_C$           | -1          | A          |
| Base current                              | $I_B$           | -200        | mA         |
| Power dissipation at $T_{amb}=25^\circ C$ | $P_{tot}$       | 500         | mW         |
| Operating an storage temperature range    | $T_j ; T_{STG}$ | -55 to +150 | $^\circ C$ |

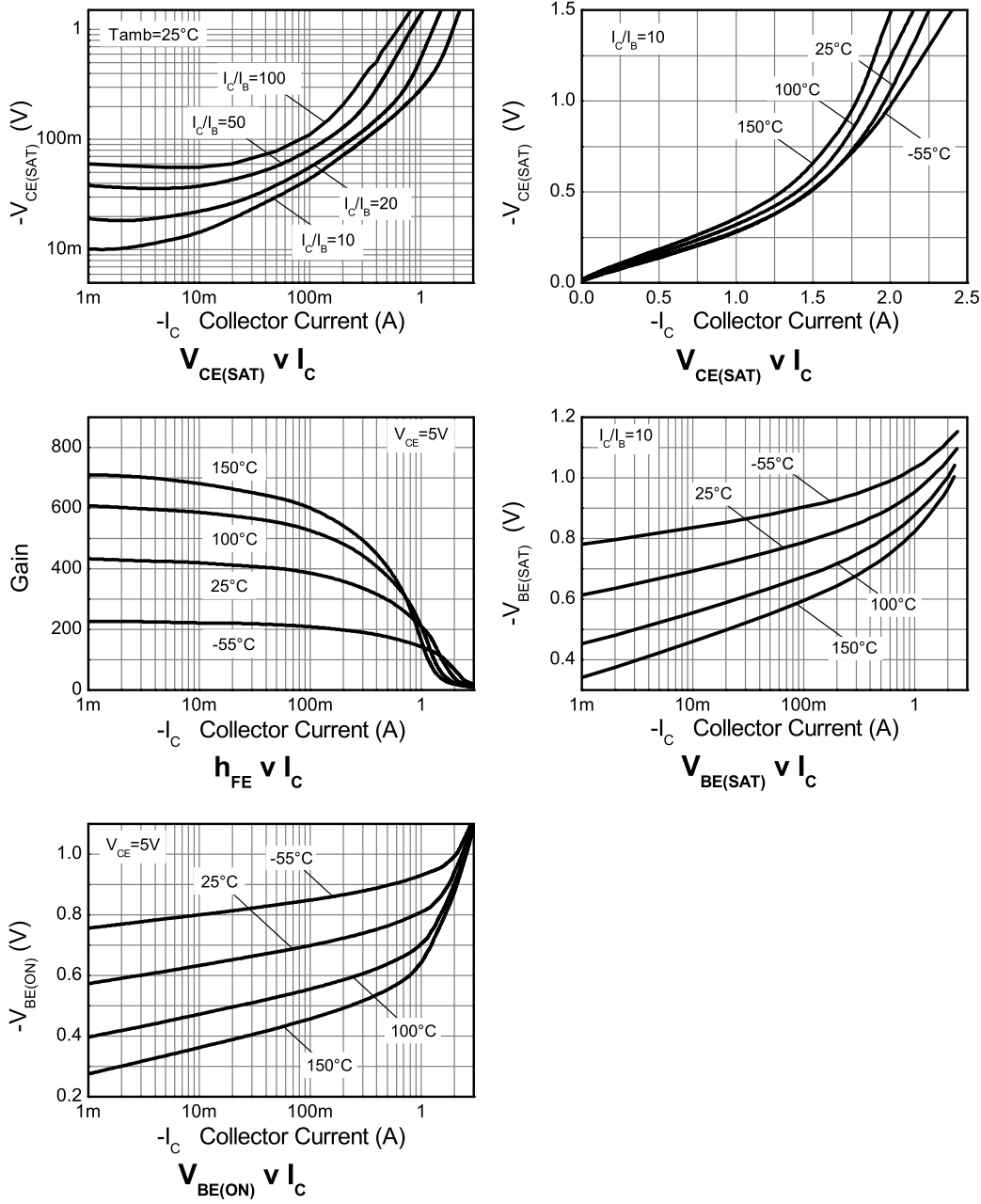
### Electrical characteristics (at $T_{amb} = 25^\circ C$ )

| Parameter                             | Symbol        | Min | Max   | Unit | Conditions                                   |
|---------------------------------------|---------------|-----|-------|------|----------------------------------------------|
| Collector-Base breakdown voltage      | $V_{(BR)CBO}$ | -40 |       | V    | $I_C = -100\mu A$                            |
| Collector-Emitter breakdown voltage   | $V_{(BR)CEO}$ | -40 |       | V    | $I_C = -10mA^{(*)}$                          |
| Emitter-Base breakdown voltage        | $V_{(BR)EBO}$ | -5  |       | V    | $I_E = -100\mu A$                            |
| Collector cut-off current             | $I_{CBO}$     |     | -100  | nA   | $V_{CB} = -30V$                              |
| Emitter cut-off current               | $I_{EBO}$     |     | -100  | nA   | $V_{EB} = -4V$                               |
| Collector-Emitter cut-off current     | $I_{CES}$     |     | -100  | nA   | $V_{CES} = -30V$                             |
| Collector-Emitter saturation voltage  | $V_{CE(sat)}$ |     | -0.2  | V    | $I_C = -100mA, I_B = -1mA^{(*)}$             |
|                                       |               |     | -0.35 | V    | $I_C = -500mA, I_B = -20mA^{(*)}$            |
|                                       |               |     | -0.5  | V    | $I_C = -1A, I_B = -100mA^{(*)}$              |
| Base-Emitter saturation voltage       | $V_{BE(sat)}$ |     | -1.1  | V    | $I_C = -1A, I_B = -50mA^{(*)}$               |
| Base-Emitter turn-on voltage          | $V_{BE(on)}$  |     | -1.0  | V    | $I_C = -1A, V_{CE} = -5V^{(*)}$              |
| Static forward current transfer ratio | $h_{FE}$      | 300 | 800   |      | $I_C = -1mA,$                                |
|                                       |               | 300 |       |      | $I_C = -100mA^{(*)}$                         |
|                                       |               | 250 |       |      | $I_C = -500mA^{(*)}, V_{CE} = -5V$           |
|                                       |               | 160 |       |      | $I_C = -1A^{(*)}$                            |
|                                       |               | 30  |       |      | $I_C = -2A^{(*)}$                            |
| Transition frequency                  | $f_T$         | 150 |       | MHz  | $I_C = -50mA, V_{CE} = -10V$<br>$f = 100MHz$ |
| Output capacitance                    | $C_{obo}$     |     | 10    | pF   | $V_{CB} = -10V, f = 1MHz$                    |

### NOTES:

(\*) Measured under pulse conditions. Pulse width=300 $\mu s$ . Duty cycle 2%

Electrical characteristics



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|                                   |                                                                                |
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|                       |                                                                                                                                                                                                             |
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