

# MMBT589

Rev.F Apr.-2017

SOT-23

PNP

Silicon PNP transistor in a SOT-23 Plastic Package.

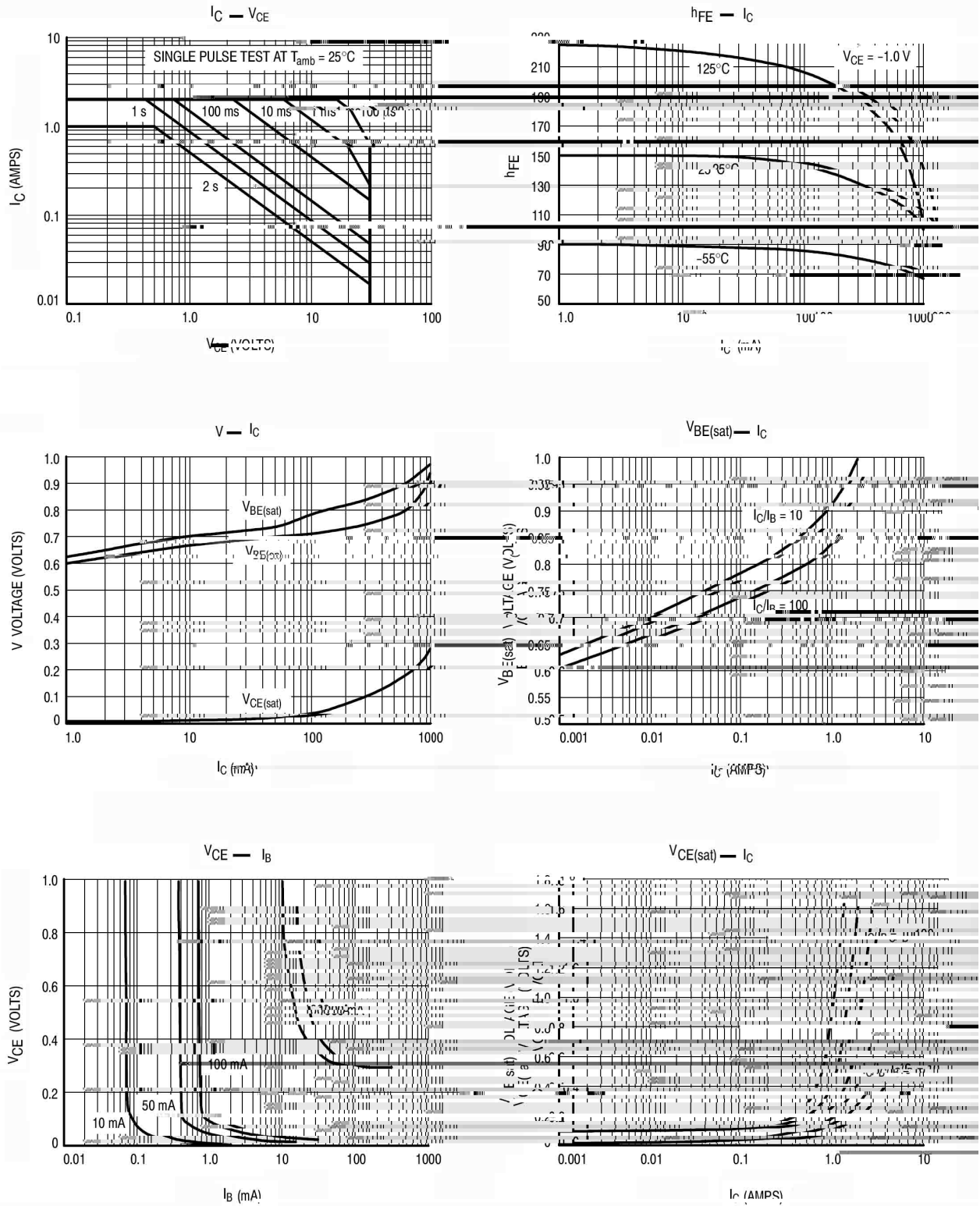
Large current, surface mount device.

Switching for high current applica-5em.3.

| Parameter                    | Symbol    | Rating  | Unit |
|------------------------------|-----------|---------|------|
| Collector to Base Voltage    | $V_{CBO}$ | -50     | V    |
| Collector to Emitter Voltage | $V_{CEO}$ | -30     | V    |
| Emitter to Base Voltage      | $V_{EBO}$ | -5.0    | V    |
| Collector Current            | $I_C$     | -1.0    | A    |
| Collector Current – Peak     | $I_{CM}$  | -2.0    | A    |
| Collector Power Dissipation  | $P_D$     | 310     | mW   |
| Junction Temperature         | $T_J$     | 150     |      |
| Storage Temperature Range    | $T_{stg}$ | -55 150 |      |

| Parameter                              | Symbol           | Test Conditions                 | Min  | Typ | Max   | Unit    |
|----------------------------------------|------------------|---------------------------------|------|-----|-------|---------|
| Collector to Base Breakdown Voltage    | $V_{CBO}$        | $I_C = -0.1mA$ $I_E = 0$        | -50  |     |       | V       |
| Collector to Emitter Breakdown Voltage | $V_{CEO}$        | $I_C = -10mA$ $I_B = 0$         | -30  |     |       | V       |
| Emitter to Base Breakdown Voltage      | $V_{EBO}$        | $I_E = -0.1mA$ $I_C = 0$        | -5.0 |     |       | V       |
| Collector Cut-Off Current              | $I_{CBO}$        | $V_{CB} = -30V$ $I_E = 0$       |      |     | -0.1  | $\mu A$ |
| Emitter Cutoff Current                 | $I_{EBO}$        | $V_{EB} = -4.0V$ $I_E = 0$      |      |     | -0.1  | $\mu A$ |
| Collector–Emitter Cutoff Current       | $I_{CES}$        | $V_{CES} = -30V$ $I_E = 0$      |      |     | -0.1  | $\mu A$ |
| DC Current Gain                        | $h_{FE(1)}$      | $V_{CE} = -2.0V$ $I_C = -500mA$ | 100  |     | 300   |         |
|                                        | $h_{FE(2)}$      | $V_{CE} = -2.0V$ $I_C = -2.0A$  | 40   |     |       |         |
|                                        | $h_{FE(3)}$      | $V_{CE} = -2.0V$ $I_C = -1.0A$  | 80   |     |       |         |
|                                        | $h_{FE(4)}$      | $V_{CE} = -2.0V$ $I_C = -1.0mA$ | 100  |     |       |         |
| Collector –Emitter Saturation Voltage  | $V_{CE(sat)(1)}$ | $I_C = -500mA$ $I_B = -50mA$    |      |     | -0.25 | V       |
|                                        | $V_{CE(sat)(2)}$ | $I_C = -1.0A$ $I_B = -100mA$    |      |     | -0.30 | V       |
|                                        | $V_{CE(sat)(3)}$ | $I_C = -2.0A$ $I_B = -200mA$    |      |     | -0.65 | V       |
| Base–Emitter Saturation Voltage        | $V_{BE(sat)}$    | $I_C = -1.0A$ $I_B = -0.1A$     |      |     | -1.2  | V       |
| Base–Emitter Turn–on Voltage           | $V_{BE(ON)}$     | $I_C$                           |      |     |       |         |

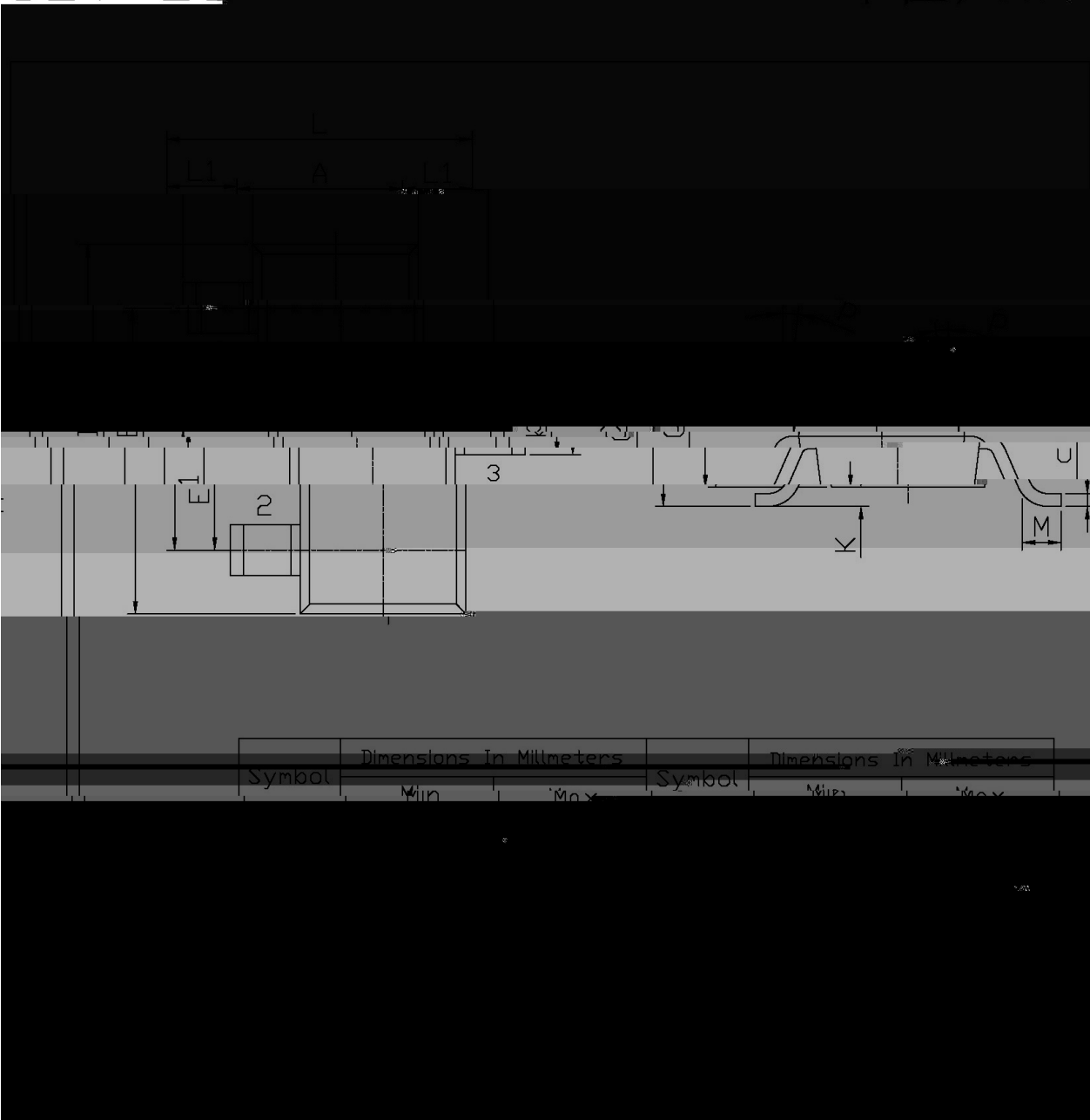
/ Electrical Characteristic Curve



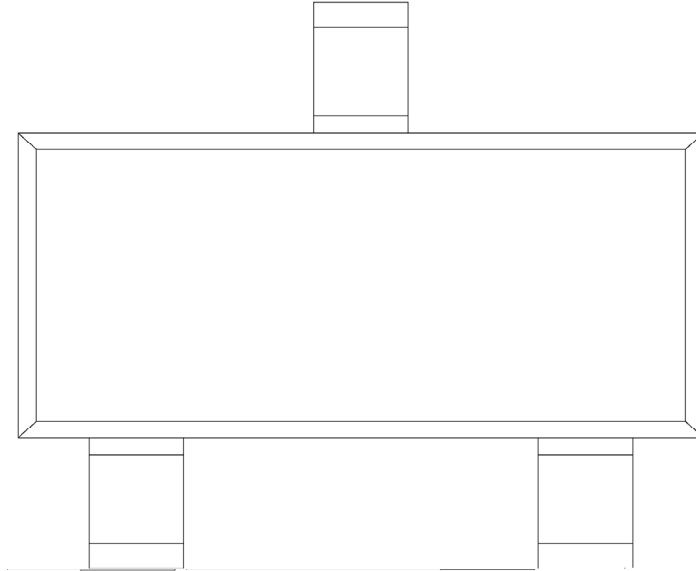
/ Package Dimensions

SOT-23

单位: mm



**/ Marking Instructions**



H

G3

Note:

