

/ Descriptions

Silicon PNP transistor in a SOT-23 Plastic Package.

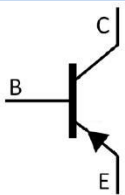
/ Features

Low $V_{CE(sat)}$, Complementary pair with FMMT491.

/ Applications

Medium power amplifier applications.

/ Equivalent Circuit



/ Pinning



PIN1 Base PIN 2 Emitter PIN 3 Collector

/ Marking

| | |
|----------------|---------|
| h_{FE} Range | 100~300 |
| Marking | H591 |

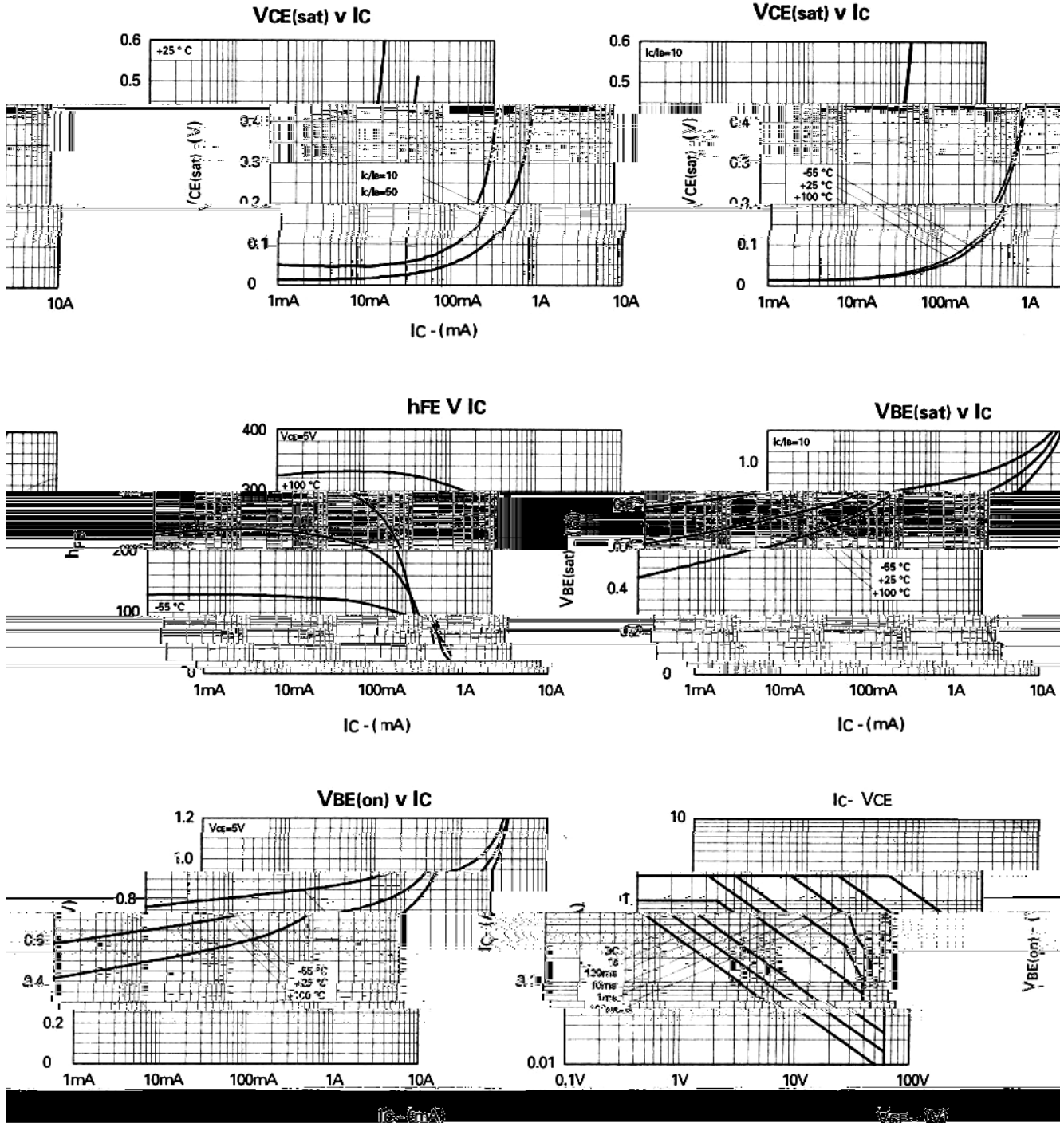
/ Absolute Maximum Ratings(Ta=25)

| Parameter | Symbol | Rating | Unit |
|--------------------------------|-----------|---------|------|
| Collector to Base Voltage | V_{CBO} | -80 | V |
| Collector to Emitter Voltage | V_{CEO} | -60 | V |
| Emitter to Base Voltage | V_{EBO} | -5.0 | V |
| Collector Current - Continuous | I_C | -1.0 | A |
| Peak Collector Current | I_{CM} | -2.0 | A |
| Base Current | I_B | -200 | mA |
| Collector Power Dissipation | P_C | 500 | mW |
| Junction Temperature | T_j | 150 | |
| Storage Temperature Range | T_{stg} | -55~150 | |

/ Electrical Characteristics(Ta=25)

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|---|------------------|---|------|-----|------|---------|
| Collector to Base Breakdown Voltage | V_{CBO} | $I_C=-100\mu A$ $I_B=0$ | -80 | | | V |
| Collector to Emitter Breakdown Voltage | V_{CEO} | $I_C=-10mA$ $I_E=0$ | -60 | | | V |
| Emitter to Base Breakdown Voltage | V_{EBO} | $I_E=-100\mu A$ $I_C=0$ | -5.0 | | | V |
| Collector Cut-Off Current | I_{CBO} | $V_{CB}=-60V$ $I_E=0$ | | | 0.1 | μA |
| Collector Cut-Off Current | I_{CES} | $V_{CES}=-60V$ $I_E=0$ | | | 0.1 | μA |
| Emitter Base Cut-Off Current | I_{EBO} | $V_{EB}=-4.0V$ $I_E=0$ | | | 0.1 | μA |
| DC Current Gain | $*h_{FE(1)}$ | $V_{CE}=-5.0V$ $I_C=-500mA$ | 100 | | 300 | |
| | $*h_{FE(2)}$ | $V_{CE}=-5.0V$ $I_C=-1.0mA$ | 100 | | | |
| | $*h_{FE(3)}$ | $V_{CE}=-5.0V$ $I_C=-1.0A$ | 80 | | | |
| | $*h_{FE(4)}$ | $V_{CE}=-5.0V$ $I_C=-2.0A$ | 15 | | | |
| Collector to Emitter Saturation Voltage | $V_{CE(sat)(1)}$ | $I_C=-500mA$ $I_B=-50mA$ | | | -0.3 | V |
| | $V_{CE(sat)(2)}$ | $I_C=-1.0A$ $I_B=-100mA$ | | | -0.6 | V |
| Base-Emitter Saturation Voltage | $V_{BE(SAT)}$ | $I_C=-1.0A$ $I_B=-100mA$ | | | -1.2 | V |
| Base-Emitter On Voltage | $V_{BE(ON)}$ | $V_{CE}=-5.0V$ $I_C=-1.0A$ | | | -1.0 | V |
| Transition Frequency | f_T | $V_{CE}=-10V$ $I_C=-50mA$ $f=100MHz$ | 150 | | | MHz |
| Collector-Base Breakdown Voltage | C_{obo} | $V_{CB}=-10V$ $f=1.0MHz$ | | | 10 | pF |

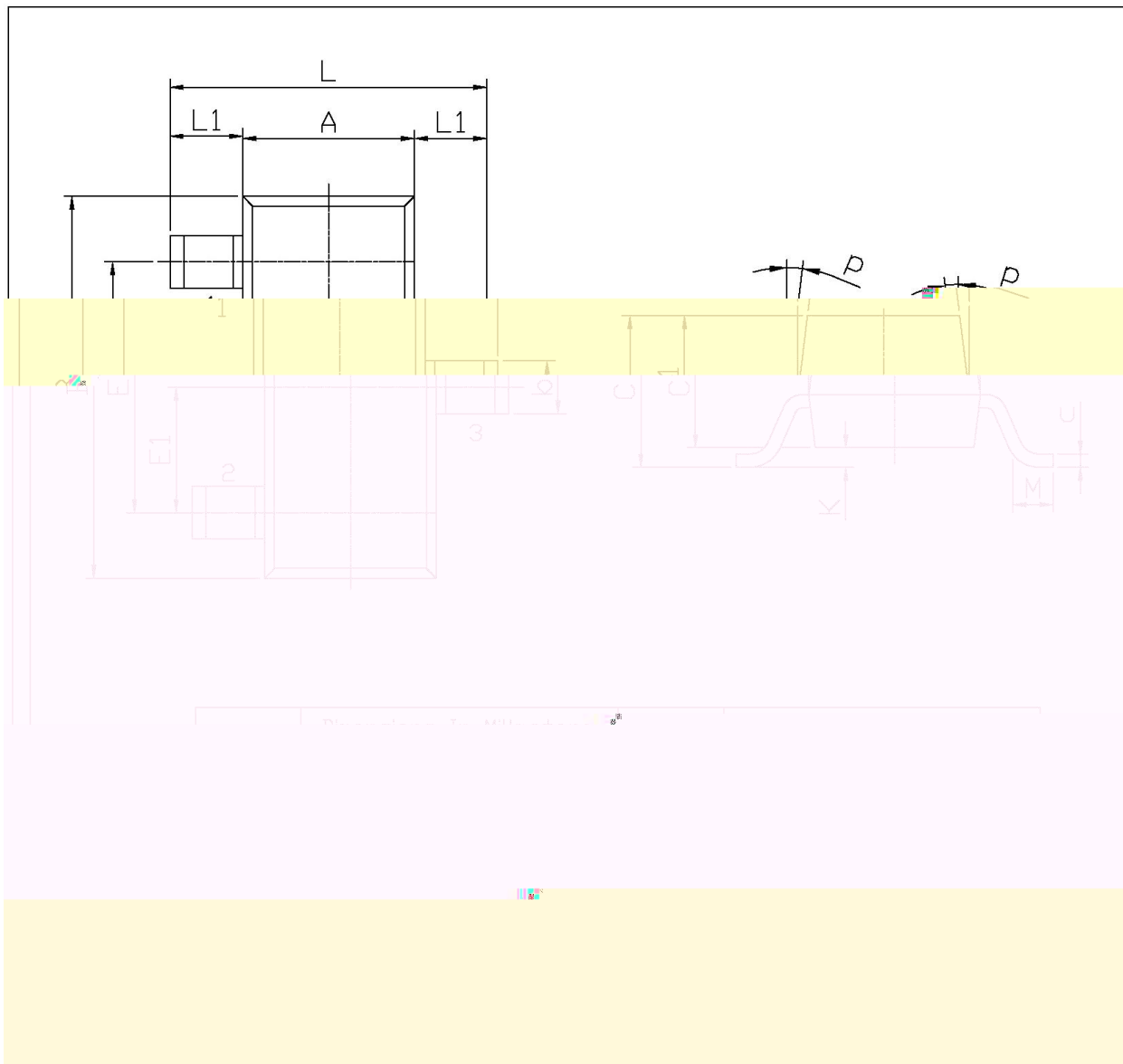
/ Electrical Characteristic Curve



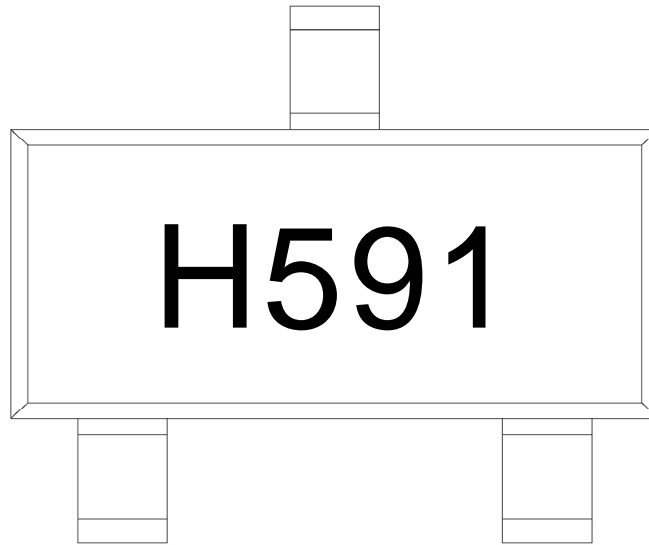
/ Package Dimensions

SOT-23

单位: mm



/ Marking Instructions



H

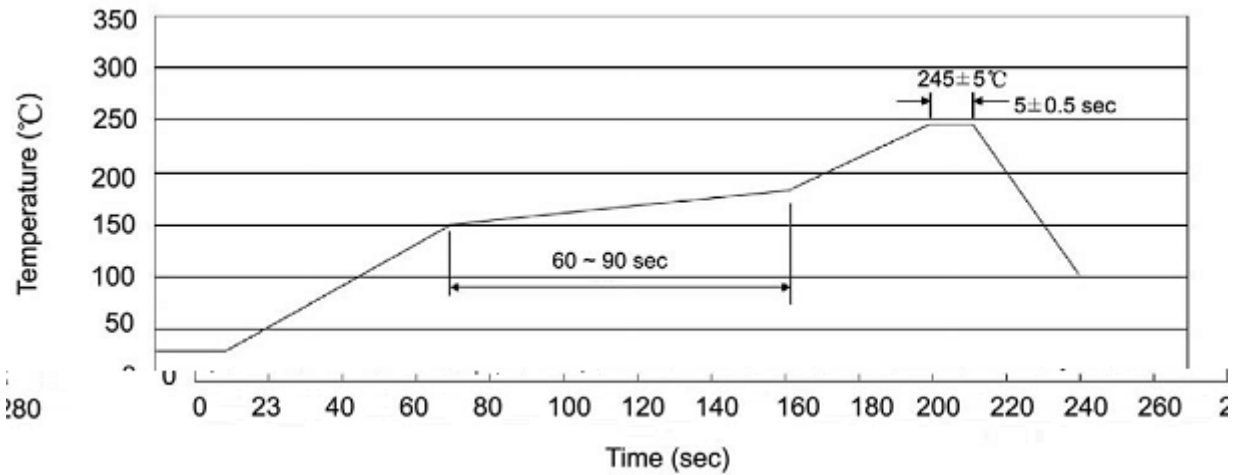
591

Note:

H: Company Code.

591: Product Type Code.

() / Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

- | | | | | | |
|---|-----|-----|----|----------|---|
| 1 | 25 | 150 | 60 | 90sec; | 1.Preheating:25~150 , Time:60~90sec. |
| 2 | 245 | 5 | 5 | 0.5sec; | 2.Peak Temp.:245 5 , Duration:5 0.5sec. |
| 3 | | | 2 | 10 /sec. | 3. Cooling Speed: 2~10 /sec. |

/ Resistance to Soldering Heat Test Conditions

260 5 10 1 sec. Temp.:260 5 Time:10 1 sec

/ Packaging SPEC.

/ REEL

| Package Type 封装形式 | Units 包装数量 | | | | | Dimension 包装尺寸 (unit: mm ³) | | |
|----------------------|--------------------|-------------------------|------------------------|------------------------------|------------------------|---|-------------|-------------|
| | Units/Reel 只/卷盘 | Reels/Inner Box 卷盘/盒 | Units/Inner Box 只/盒 | Inner Boxes/Outer Box 盒/箱 | Units/Outer Box 只/箱 | Reel | Inner Box 盒 | Outer Box 箱 |
| SOT-23 | 3,000 | 10 | 30,000 | 6 | 180,000 | 7" ×8 | 180×120×180 | 390×385×205 |

/ Notices