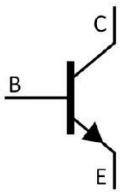


SOT-89                  NPN                  Silicon NPN transistor in a SOT-89 Plastic Package.

$h_{FE}$                   2SB798  
Low  $V_{CE(sat)}$ , excellent  $h_{FE}$  linearity, complements the 2SB798.

Audio frequency power amplifier applications.

#### / Equivalent Circuit



PIN1    Base                  PIN 2    Collector                  PIN 3    Emitter

#### / Marking

$h_{FE}$

| Parameter                            | Symbol    | Rating  | Unit |
|--------------------------------------|-----------|---------|------|
| Collector to Base Voltage            | $V_{CBO}$ | 30      | V    |
| Collector to Emitter Voltage         | $V_{CEO}$ | 25      | V    |
| Emitter to Base Voltage              | $V_{EBO}$ | 5.0     | V    |
| Collector Current-Continuous         | $I_C$     | 1.0     | A    |
| Collector Current -Continuous(Pulse) | $I_{CP}$  | 1.5     | A    |
| Collector Power Dissipation          | $P_C$     | 500     | mW   |
| Collector Power Dissipation*         | * $P_C$   | 2.0     | W    |
| Junction Temperature                 | $T_j$     | 150     |      |
| Storage Temperature Range            | $T_{stg}$ | -55 150 |      |

\*mounted on ceramic substrate(16cmm<sup>2</sup>×0.7mm)

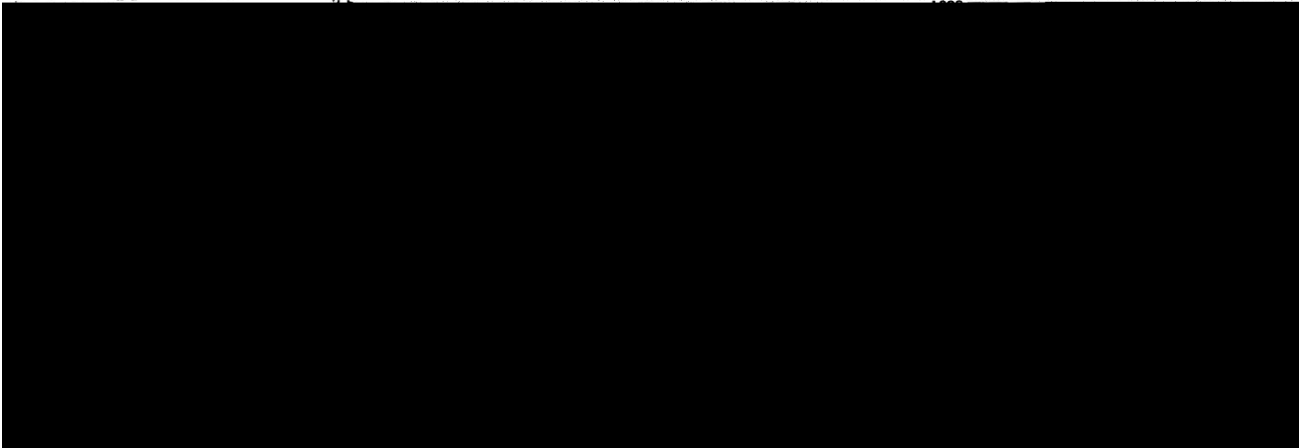
\* 16cmm<sup>2</sup>×0.7mm

| Parameter                               | Symbol        | Test Conditions                     | Min | Typ  | Max | Unit |
|-----------------------------------------|---------------|-------------------------------------|-----|------|-----|------|
| Collector Cut-Off Current               | $I_{CBO}$     | $V_{CB}=30V$ $I_E=0$                |     |      | 0.1 | μA   |
| Emitter Base Cut-Off Current            | $I_{EBO}$     | $V_{EB}=5.0V$ $I_C=0$               |     |      | 0.1 | μA   |
| DC Current Gain                         | $h_{FE(1)}$   | $V_{CE}=1.0V$ $I_C=100mA$           | 90  | 200  | 400 |      |
|                                         | $h_{FE(2)}$   | $V_{CE}=1.0V$ $I_C=1.0A$            | 50  | 140  |     |      |
| Collector to Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=1.0A$ $I_B=100mA$              |     | 0.21 | 0.4 | V    |
| Base to Emitter Saturation Voltage      | $V_{BE(sat)}$ | $I_C=1.0A$ $I_B=100mA$              |     | 1.0  | 1.2 | V    |
| Base to Emitter Voltage                 | $V_{BE}$      | $V_{CE}=6.0V$ $I_C=10mA$            | 600 | 630  | 700 | mV   |
| Transition Frequency                    | $f_T$         | $V_{CE}=6.0V$ $I_C=10mA$            |     | 130  |     | MHz  |
| Collector Output Capacitance            | $C_{ob}$      | $V_{CB}=6.0V$ $I_E=0$<br>$f=1.0MHz$ |     | 22   |     | pF   |

/ Electrical Characteristic Curve

$P_c - T_a$

$I_C - V_{CE}$

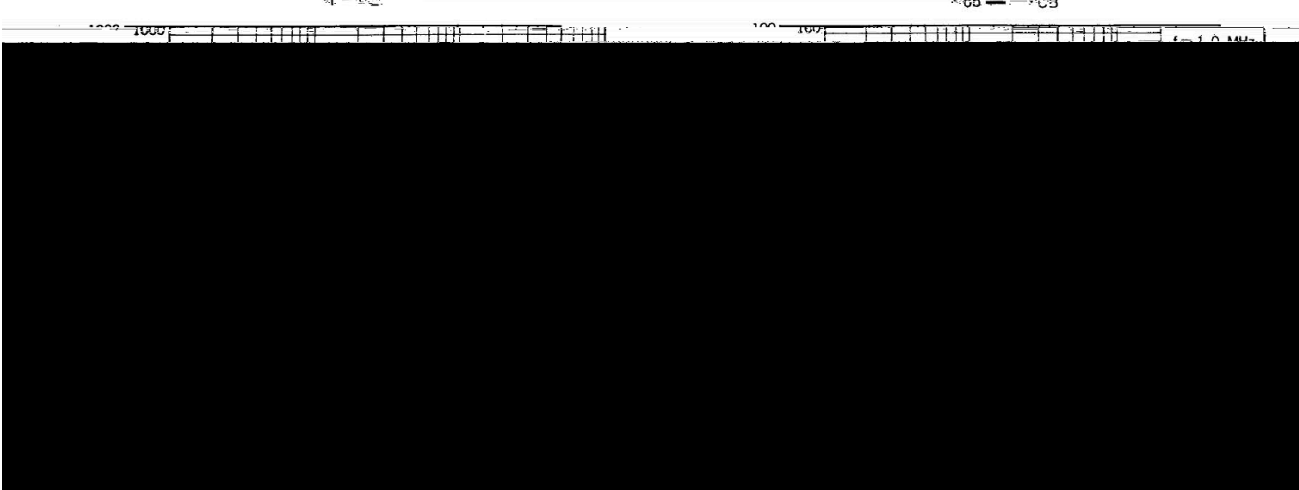


$V_{BE(sat)} - I_C$



$f_T - I_C$

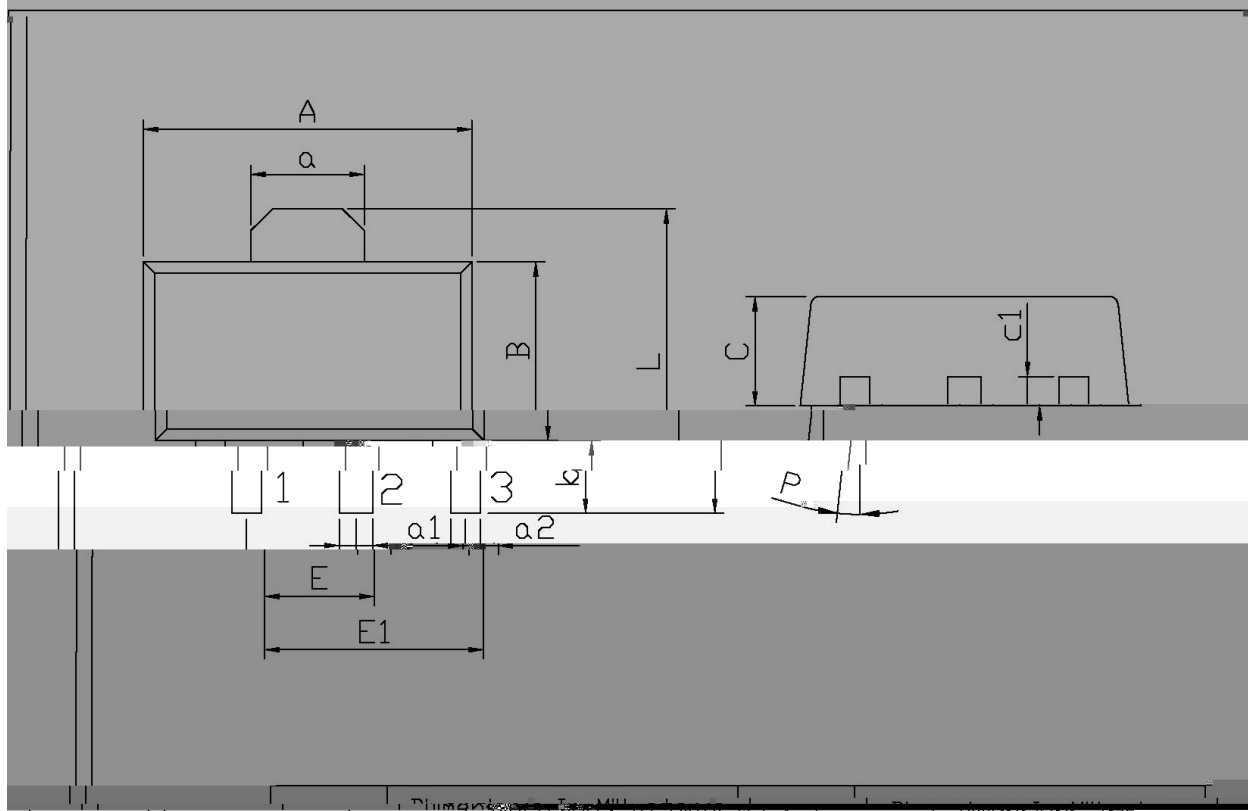
$C_{ob} - V_{CE}$



/ Package Dimensions

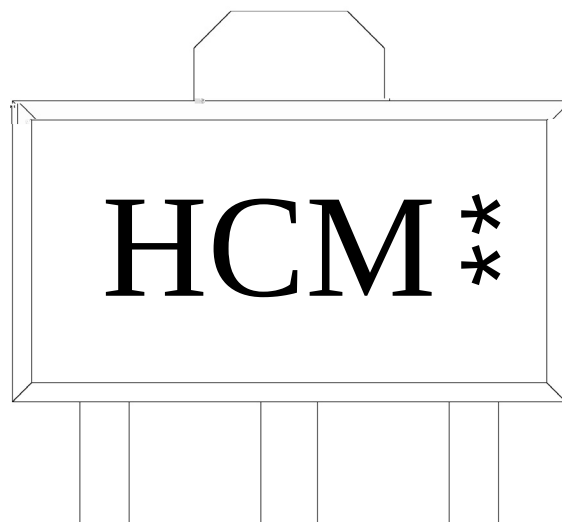
SOT-89

单位: mm



|    | 2.35  | 2.5   | 2.6 | 2.7  | 2.8  |
|----|-------|-------|-----|------|------|
| L  | 3.8/8 | 4.478 | C   | 1.40 | 1.7  |
| a  | 1.45  | 1.65  | c1  | 0.35 | 0.50 |
| E  | 1.40  | 1.60  | P   | 6°   |      |
| E1 | 2.80  | 3.20  |     |      |      |
| b  | 0.80  | 1.20  |     |      |      |

/ Marking Instructions



H

C

M

$h_{FE}$

\*\*

Note:

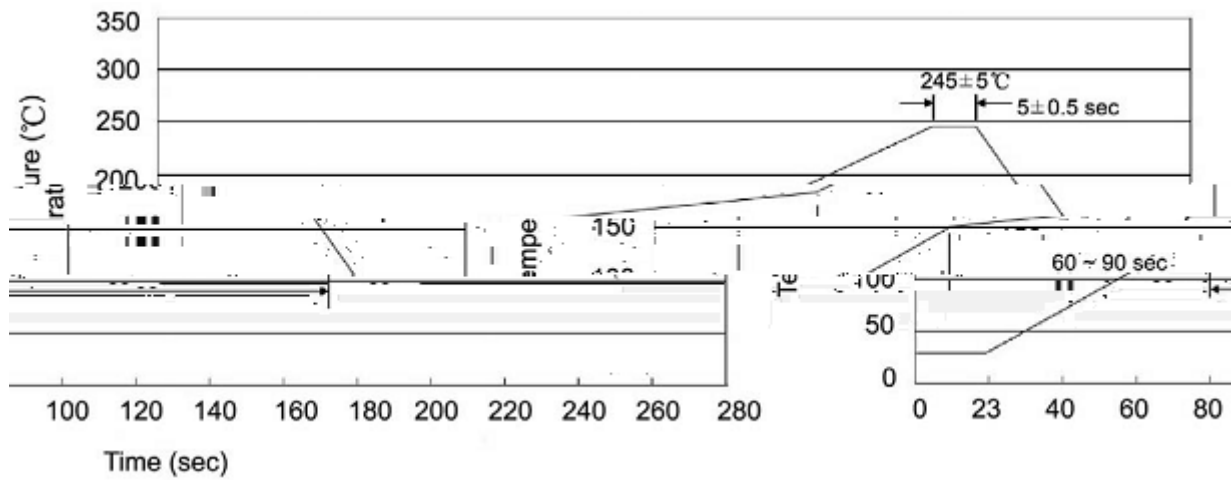
H: Company Code.

C: Product Type.

M  $h_{FE}$  Classifications Symbol

\*\*: Lot No. Code, code change with Lot No.

( ) / Whp shudwxuh Suriloh i ru LU Uhior z Vroghulqj+Se0l uhh,



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 | Units      |                 |                 |                       |                 | Dimension (unit mm <sup>3</sup> ) |             |             |
|--------------|------------|-----------------|-----------------|-----------------------|-----------------|-----------------------------------|-------------|-------------|
|              | Units/Reel | Reels/Inner Box | Units/Inner Box | Inner Boxes/Outer Box | Units/Outer Box | Reel                              | Inner Box   | Outer Box   |
| SOT-89       | 1,000      | 7               | 7,000           | 8                     | 56,000          | 7 ×12                             | 180×120×180 | 385×257×392 |

/ Notices