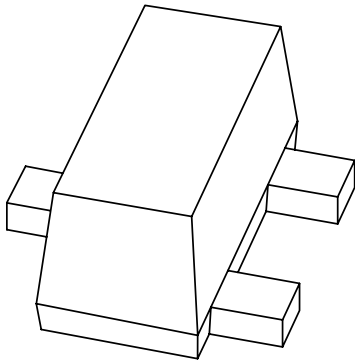


DATA SHEET



PBSS3515F

15 V low V_{CEsat} PNP transistor

Product specification
Supersedes data of 2001 Jan 26

2001 Sep 21

15 V low V_{CEsat} PNP transistor

PBSS3515F

FEATURES

- Low collector-emitter saturation voltage
- High current capabilities
- Improved thermal behaviour due to flat leads.

APPLICATIONS

- General purpose switching and muting
- Low frequency driver circuits
- LCD backlighting
- Audio frequency general purpose amplifier applications
- Battery driven equipment (mobile phones, video cameras and hand-held devices).

DESCRIPTION

PNP low V_{CEsat} transistor in a SC-89 (SOT490) plastic package.
 NPN complement: PBSS2515F.

MARKING

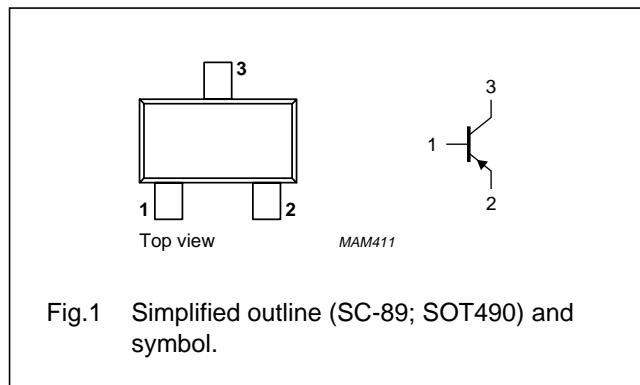
| TYPE NUMBER | MARKING CODE |
|-------------|--------------|
| PBSS3515F | 2B |

QUICK REFERENCE DATA

| SYMBOL | PARAMETER | MAX | UNIT |
|-------------|---------------------------|------|------------|
| V_{CEO} | emitter-collector voltage | -15 | V |
| I_C | collector current (DC) | -500 | mA |
| I_{CM} | peak collector current | -1 | A |
| R_{CEsat} | equivalent on-resistance | <500 | m Ω |

PINNING

| PIN | DESCRIPTION |
|-----|-------------|
| 1 | base |
| 2 | emitter |
| 3 | collector |



LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 60134).

| SYMBOL | PARAMETER | CONDITIONS | MIN. | MAX. | UNIT |
|-----------|-------------------------------|---|------|------|------------------|
| V_{CBO} | collector-base voltage | open emitter | - | -15 | V |
| V_{CEO} | collector-emitter voltage | open base | - | -15 | V |
| V_{EBO} | emitter-base voltage | open collector | - | -6 | V |
| I_C | collector current (DC) | | - | -500 | mA |
| I_{CM} | peak collector current | | - | -1 | A |
| I_{BM} | peak base current | | - | -100 | mA |
| P_{tot} | total power dissipation | $T_{amb} \leq 25\text{ }^\circ\text{C}$ | - | 250 | mW |
| T_{stg} | storage temperature | | -65 | +150 | $^\circ\text{C}$ |
| T_j | junction temperature | | - | 150 | $^\circ\text{C}$ |
| T_{amb} | operating ambient temperature | | -65 | +150 | $^\circ\text{C}$ |

15 V low V_{CEsat} PNP transistor

PBSS3515F

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|---------------|---|-------------|-------|------|
| $R_{th\ j-a}$ | thermal resistance from junction to ambient | in free air | 500 | K/W |

CHARACTERISTICS

 $T_{amb} = 25\text{ °C}$ unless otherwise specified.

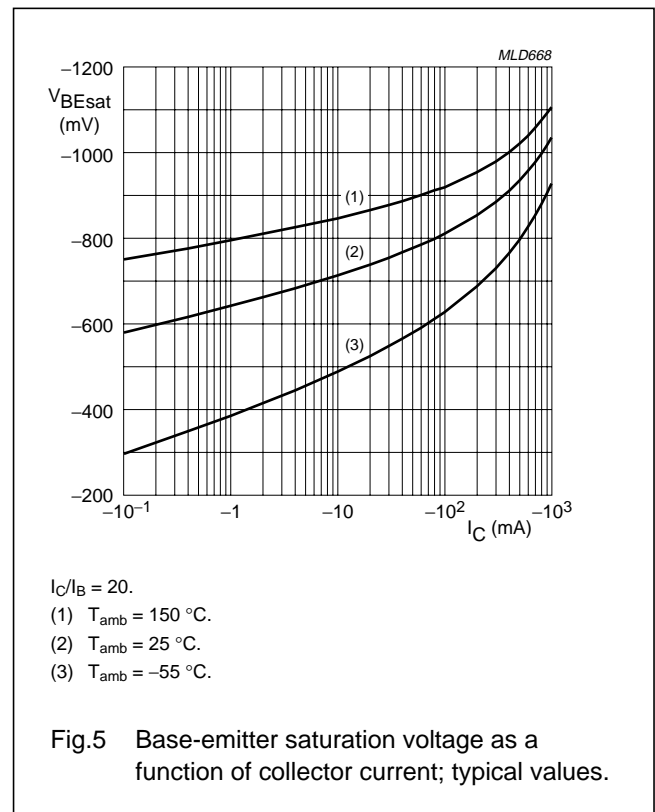
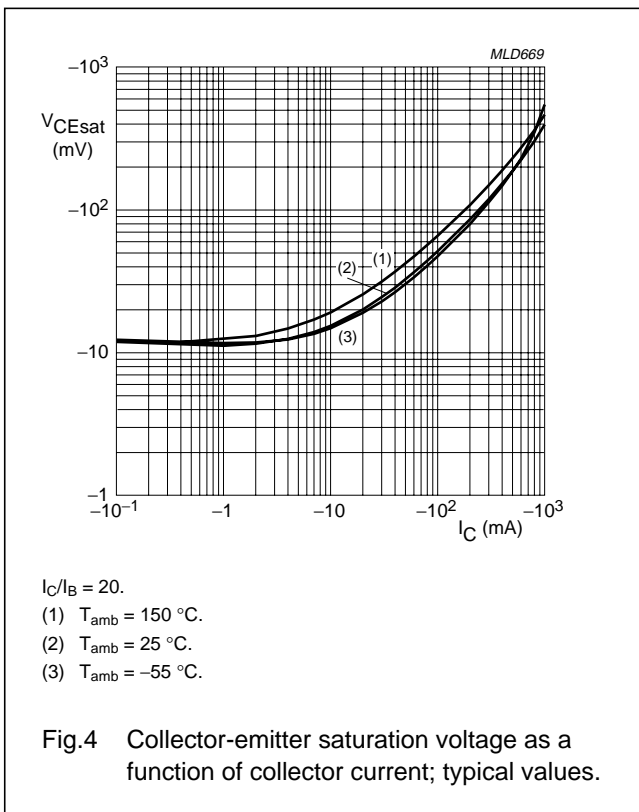
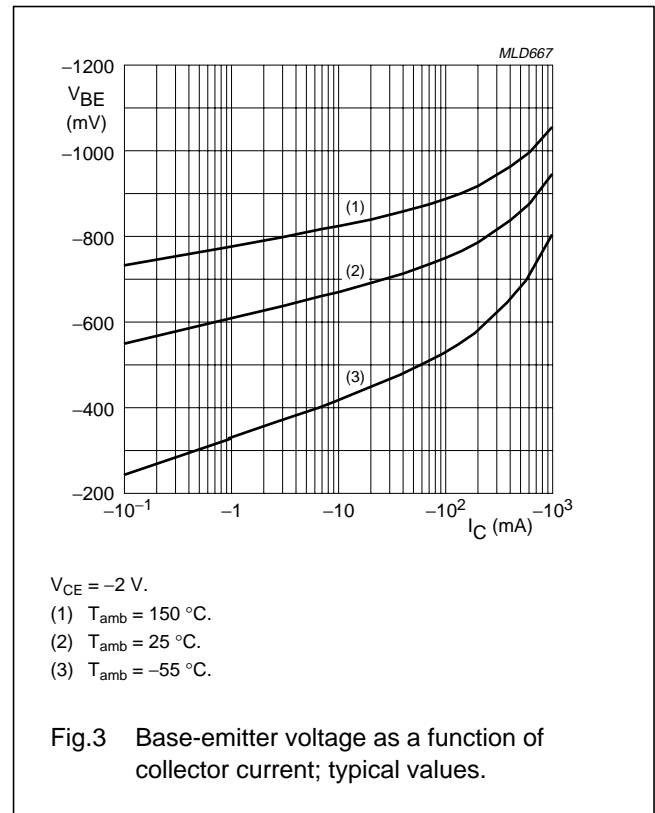
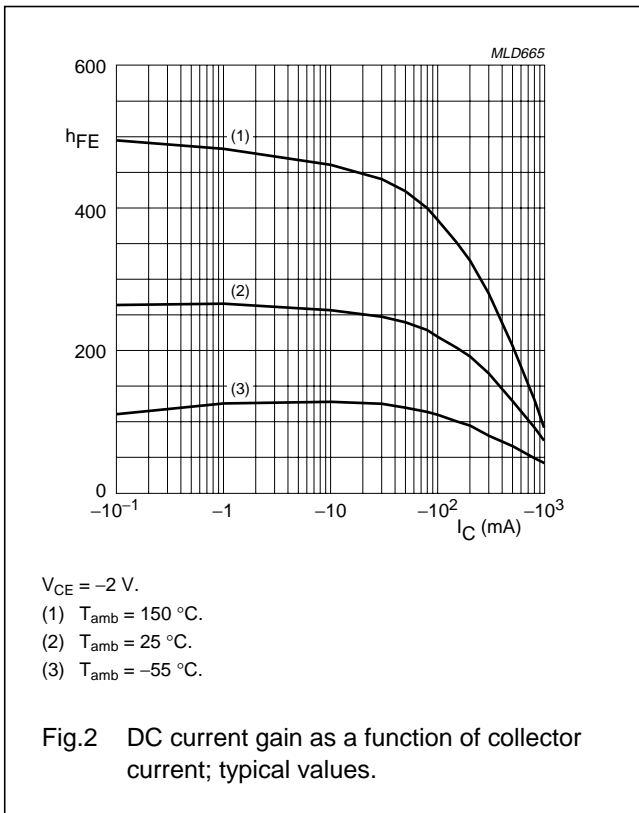
| SYMBOL | PARAMETER | CONDITIONS | MIN. | TYP. | MAX. | UNIT |
|-------------|--------------------------------------|--|------|------|------|------------------|
| I_{CBO} | collector-base cut-off current | $V_{CB} = -15\text{ V}; I_E = 0$ | – | – | –100 | nA |
| | | $V_{CB} = -15\text{ V}; I_E = 0; T_j = 150\text{ °C}$ | – | – | –50 | μA |
| I_{EBO} | emitter-base cut-off current | $V_{EB} = -5\text{ V}; I_C = 0$ | – | – | –100 | nA |
| h_{FE} | DC current gain | $V_{CE} = -2\text{ V}; I_C = -10\text{ mA}$ | 200 | – | – | |
| | | $V_{CE} = -2\text{ V}; I_C = -100\text{ mA}; \text{note 1}$ | 150 | – | – | |
| | | $V_{CE} = -2\text{ V}; I_C = -500\text{ mA}; \text{note 1}$ | 90 | – | – | |
| V_{CEsat} | collector-emitter saturation voltage | $I_C = -10\text{ mA}; I_B = -0.5\text{ mA}$ | – | – | –25 | mV |
| | | $I_C = -200\text{ mA}; I_B = -10\text{ mA}$ | – | – | –150 | mV |
| | | $I_C = -500\text{ mA}; I_B = -50\text{ mA}; \text{note 1}$ | – | – | –250 | mV |
| R_{CEsat} | equivalent on-resistance | $I_C = -500\text{ mA}; I_B = -50\text{ mA}; \text{note 1}$ | – | 300 | <500 | $\text{m}\Omega$ |
| V_{BEsat} | base-emitter saturation voltage | $I_C = -500\text{ mA}; I_B = -50\text{ mA}; \text{note 1}$ | – | – | –1.1 | V |
| V_{BE} | base-emitter turn-on voltage | $V_{CE} = -2\text{ V}; I_C = -100\text{ mA}; \text{note 1}$ | – | – | –0.9 | V |
| f_T | transition frequency | $I_C = -100\text{ mA}; V_{CE} = -5\text{ V}; f = 100\text{ MHz}$ | 100 | 280 | – | MHz |
| C_c | collector capacitance | $V_{CB} = -10\text{ V}; I_E = I_e = 0; f = 1\text{ MHz}$ | – | – | 10 | pF |

Note

1. Pulse test: $t_p \leq 300\ \mu\text{s}; \delta \leq 0.02$.

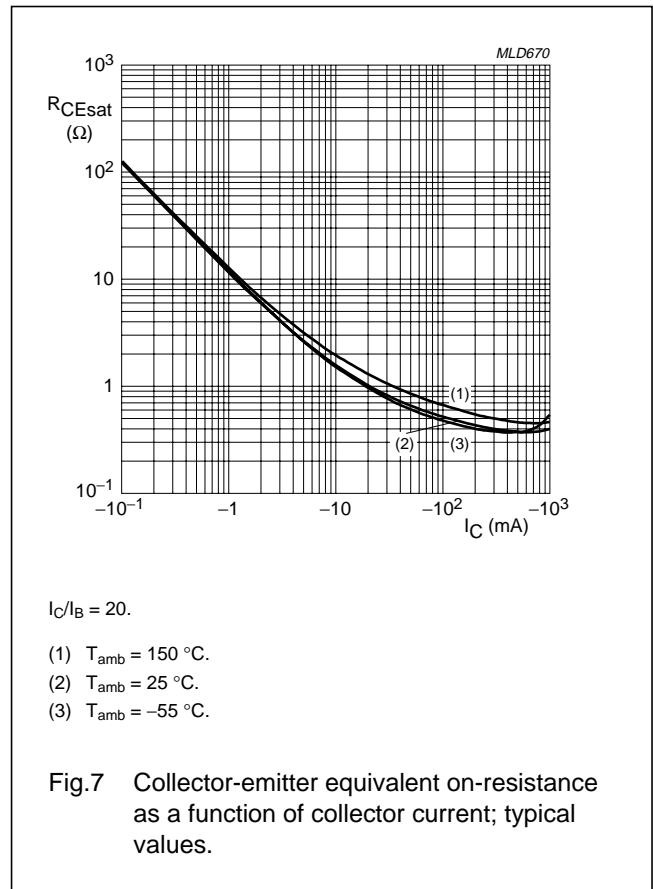
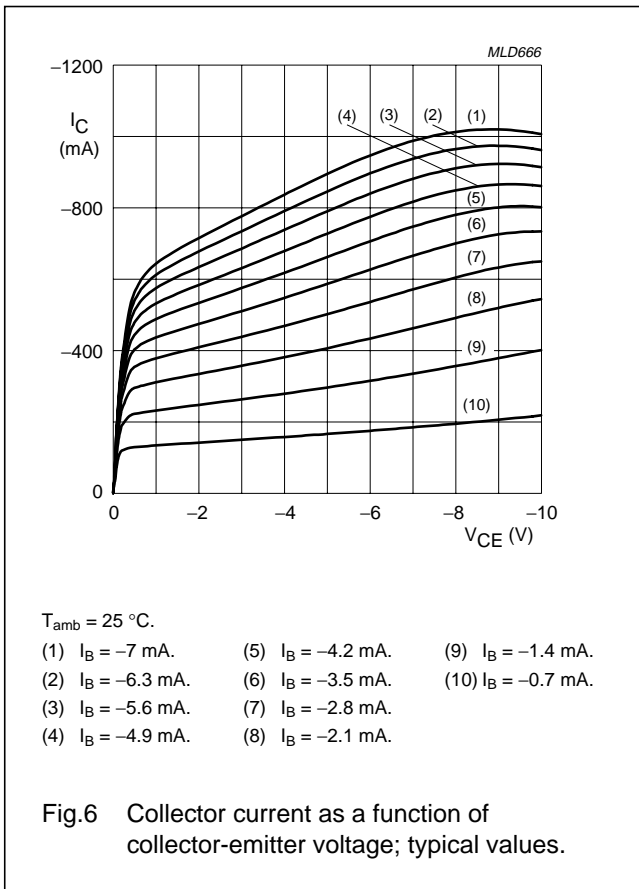
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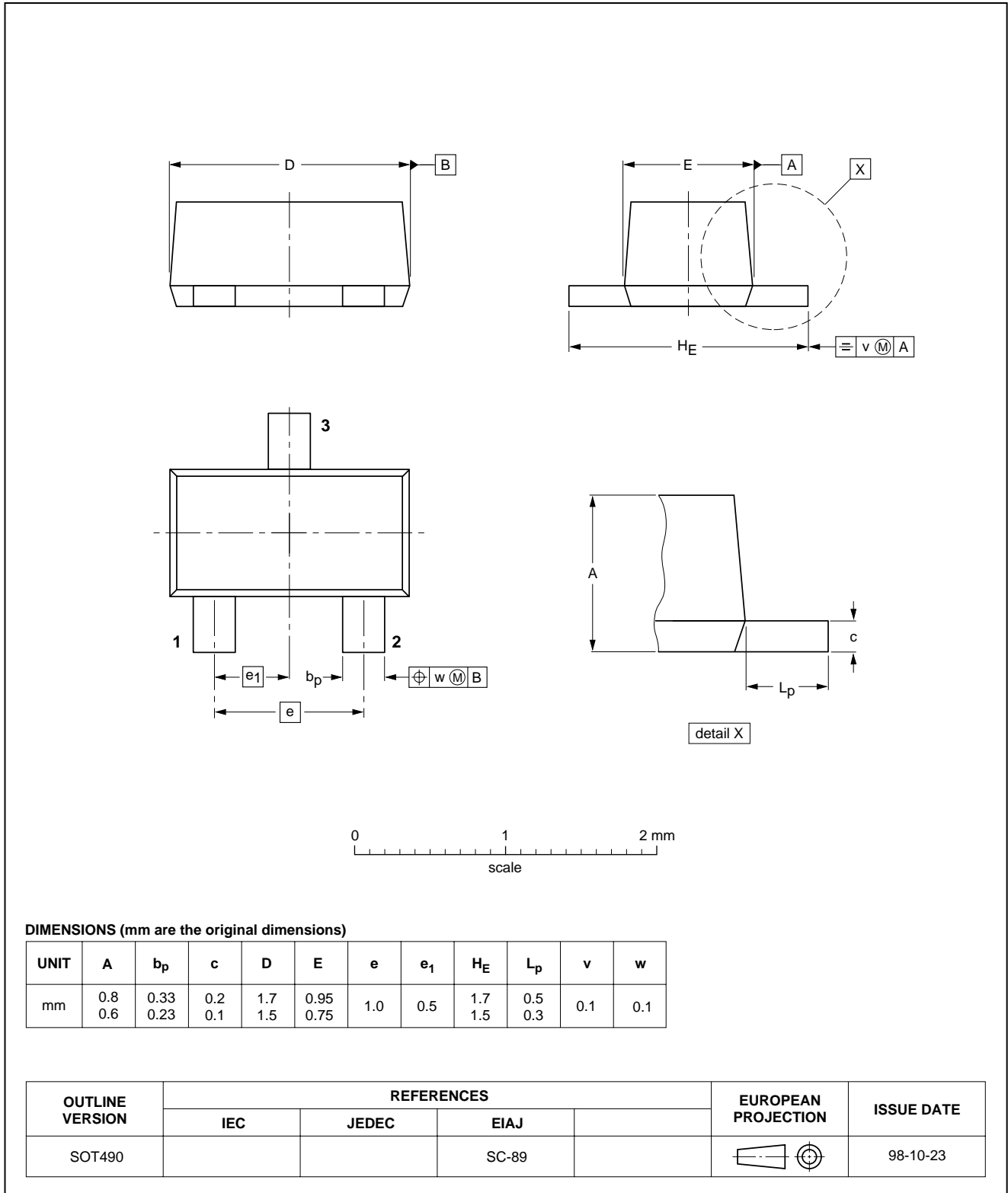
15 V low V_{CEsat} PNP transistor

PBSS3515F

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT490



15 V low V_{CEsat} PNP transistor

PBSS3515F

DATA SHEET STATUS

| DATA SHEET STATUS ⁽¹⁾ | PRODUCT STATUS ⁽²⁾ | DEFINITIONS |
|----------------------------------|-------------------------------|--|
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