

To our customers,

Old Company Name in Catalogs and Other Documents

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Renesas Electronics website: <http://www.renesas.com>

April 1st, 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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PNP SILICON TRIPLE DIFFUSED TRANSISTOR

DESCRIPTION

The 2SB768 is designed for Color TV Vertical Deflection Output, especially in Hybrid Integrated Circuits.

FEATURES

- High Voltage: $V_{CE0} = -150$ V
- Complement to 2SD1033

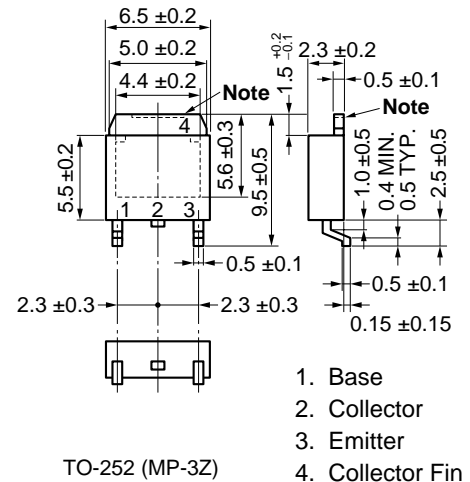
ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$)

| | | | |
|--|----------------|-------------|------------------|
| Collector to Base Voltage | V_{CBO} | -200 | V |
| Collector to Emitter Voltage | V_{CEO} | -150 | V |
| Emitter to Base Voltage | V_{EBO} | -5 | V |
| Collector Current (DC) | $I_{C(DC)}$ | -2 | A |
| Collector Current (pulse) ^{Note 1} | $I_{C(pulse)}$ | -3 | A |
| Total Power Dissipation ($T_A = 25^\circ\text{C}$) ^{Note 2} | P_T | 2.0 | W |
| Junction Temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage Temperature | T_{stg} | -55 to +150 | $^\circ\text{C}$ |

Notes 1. $PW \leq 10$ ms, Duty Cycle $\leq 50\%$

2. When mounted on ceramic substrate of $7.5\text{ cm}^2 \times 0.7$ mm

<R> PACKAGE DRAWING (Unit: mm)



Note The depth of notch at the top of the fin is from 0 to 0.2 mm.

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ELECTRICAL CHARACTERISTICS (T_a = 25 °C)

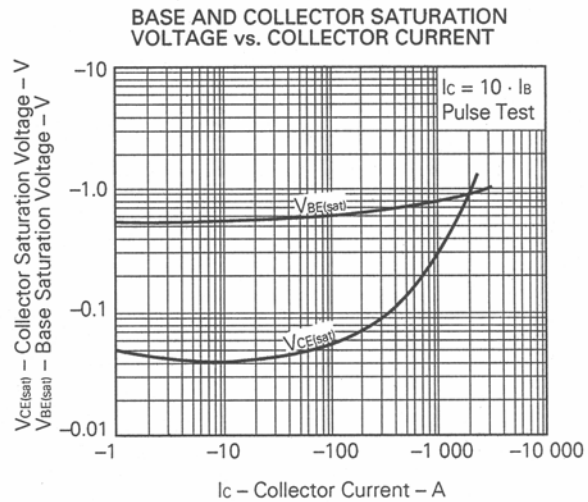
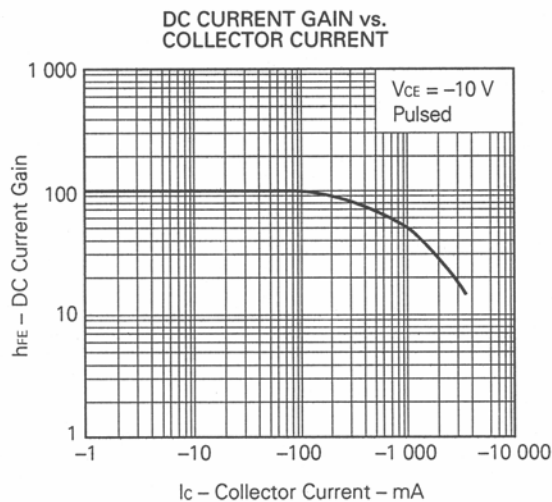
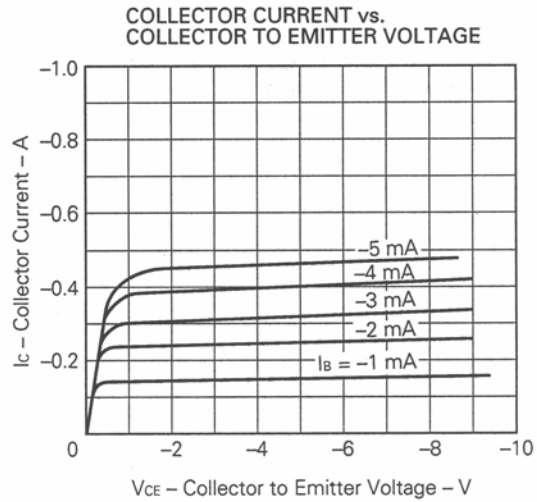
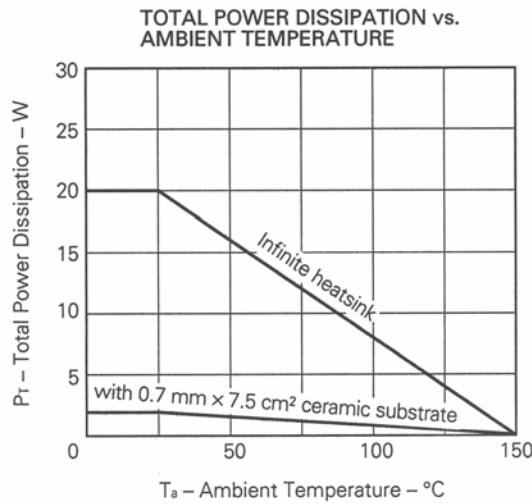
| CHARACTERISTIC | SYMBOL | MIN. | TYP. | MAX. | UNIT | TEST CONDITIONS |
|------------------------------|--------------------------|------|-------|------|------|---|
| Collector Cutoff Current | I _{cbo} | | | -50 | μA | V _{cb} = -150 V, I _E = 0 |
| Emitter Cutoff Current | I _{ebo} | | | -50 | μA | V _{eb} = -4.0 V, I _c = 0 |
| DC Current Gain | h _{FE1} *** | 40 | 80 | 200 | | V _{CE} = -10 V, I _c = -0.4 A |
| Collector Saturation Voltage | V _{CE(sat)} *** | | -0.15 | -1.0 | V | I _c = -500 mA, I _B = -50 mA |
| Gain Bandwidth Product | f _r | | 10 | | MHz | V _{CE} = -10 V, I _E = -0.4 mA |

*** Pulsed: PW ≤ 350 μs, Duty Cycle ≤ 2 %

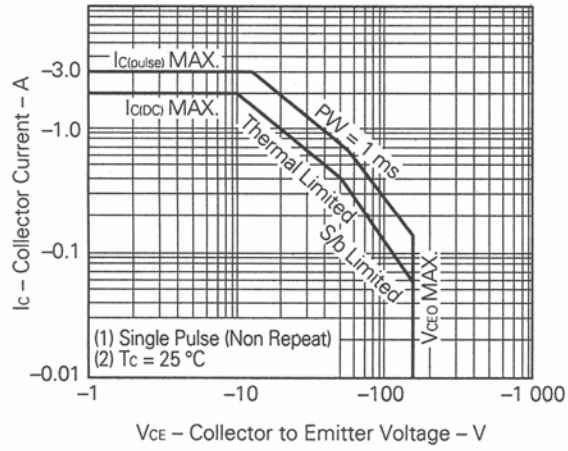
h_{FE} Classification

| MARKING | M | L | K |
|------------------|----------|-----------|------------|
| h _{FE1} | 40 to 80 | 60 to 120 | 100 to 200 |

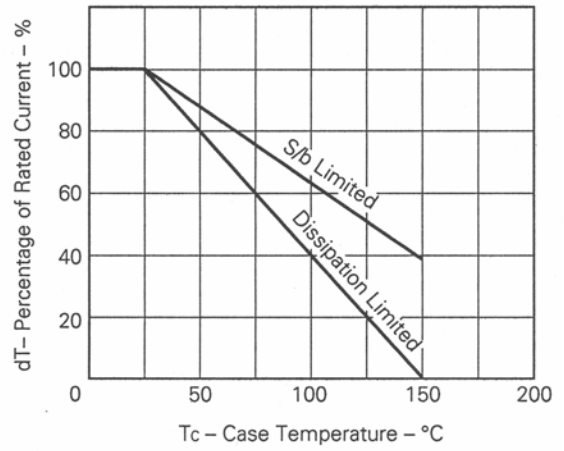
TYPICAL CHARACTERISTICS (T_a = 25 °C)



SAFE OPERATING AREA



DERATING OF SAFE OPERATING AREA



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