

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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Phase-out/Discontinued

NPN SILICON EPITAXIAL TRANSISTOR

DESCRIPTION

The 2SD1033 is designed for Color TV vertical deflection output, especially in Hybrid Integrated Circuits.

FEATURES

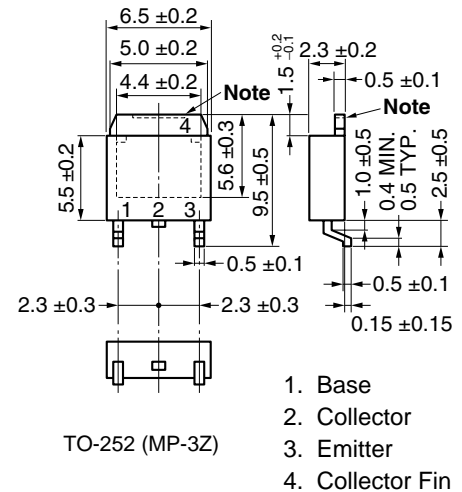
- High Voltage $V_{CE0} = 150$ V
- Complement to 2SB768

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)

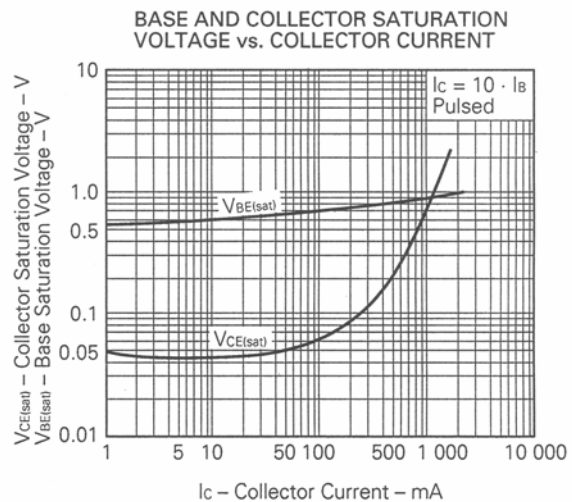
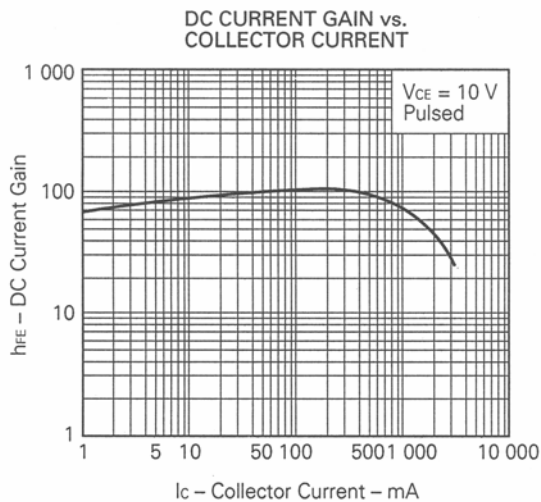
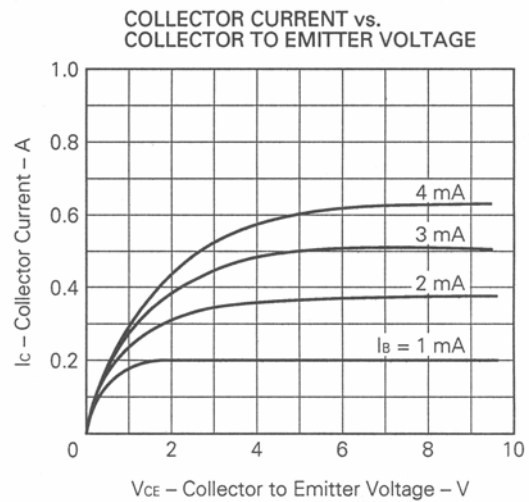
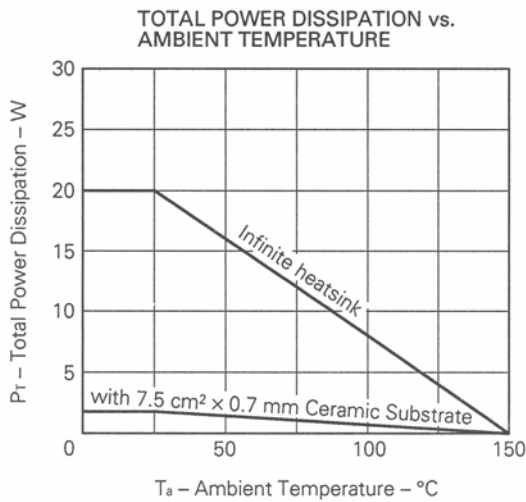
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cutoff Current	I _{cbo}			50	μA	V _{CB} = 150 V, I _E = 0
Emitter Cutoff Current	I _{EBO}			50	μA	V _{EB} = 4 V, I _C = 0
DC Current Gain	h _{FE} ***	40	100	200		V _{CE} = 10 V, I _C = 0.4 A
Collector Saturation Voltage	V _{CE(sat)} ***		0.2	1.0	V	I _C = 500 mA, I _B = 50 mA
Gain Bandwidth Product	f _T		10		MHz	V _{CE} = 10 V, I _E = 0.4 A

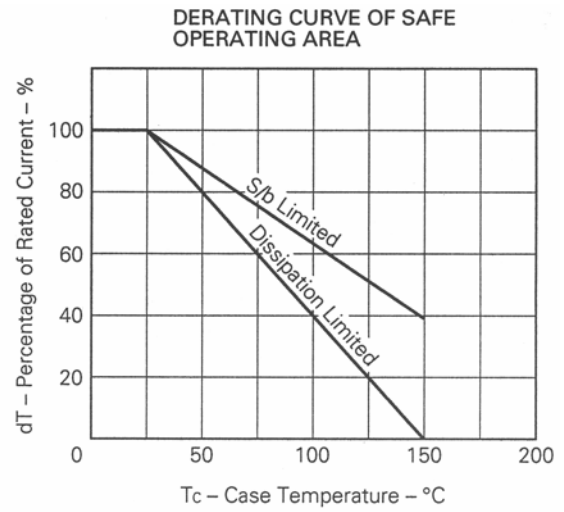
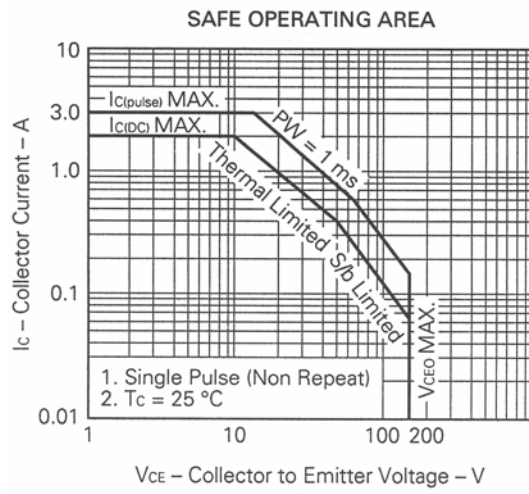
***Pulsed: PW ≤ 350 μs, Duty Cycle ≤ 2 %

h_{FE} Classification

MARKING	M	L	K
h _{FE}	40 to 80	60 to 120	100 to 200

TYPICAL CHARACTERISTICS (T_a = 25 °C)





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