

To our customers,

Old Company Name in Catalogs and Other Documents

On April 1st, 2010, NEC Electronics Corporation merged with Renesas Technology Corporation, and Renesas Electronics Corporation took over all the business of both companies. Therefore, although the old company name remains in this document, it is a valid Renesas Electronics document. We appreciate your understanding.

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

April 1st, 2010
Renesas Electronics Corporation

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

Send any inquiries to <http://www.renesas.com/inquiry>.

EOL announced Product

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Renesas Technology Home Page: <http://www.renesas.com>

Renesas Technology Corp.
Customer Support Dept.
April 1, 2003

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2SD768(K)

Silicon NPN Epitaxial

RENESAS

ADE-208-900 (Z)

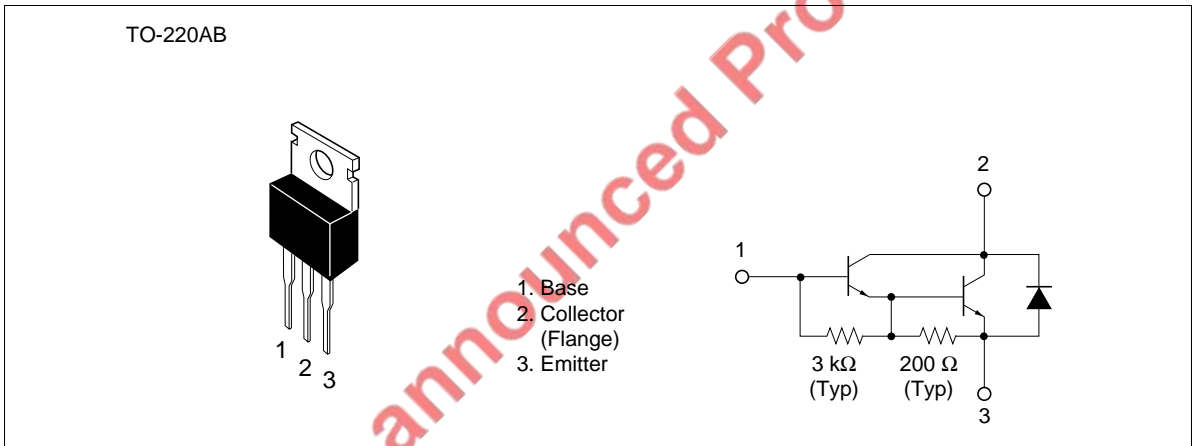
1st. Edition

September 2000

Application

Medium speed and power switching complementary pair with 2SB727(K)

Outline



Absolute Maximum Ratings (T_a = 25°C)

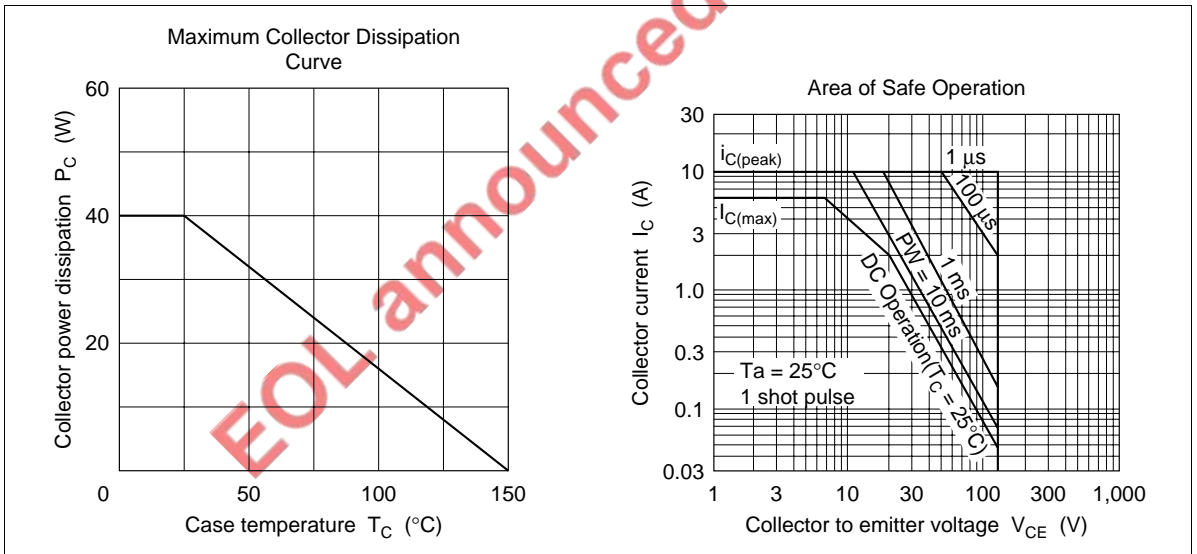
Item	Symbol	Ratings	Unit
Collector to base voltage	V _{CBO}	120	V
Collector to emitter voltage	V _{CEO}	120	V
Emitter to base voltage	V _{EBO}	7	V
Collector current	I _C	6	A
Collector peak current	I _{C(peak)}	10	A
Collector power dissipation	P _C ^{*1}	40	W
Junction temperature	T _j	150	°C
Storage temperature	T _{stg}	-55 to +150	°C

Note: 1. Value at T_c = 25°C.

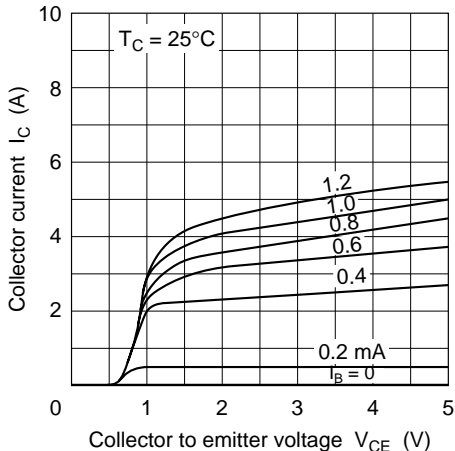
Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	120	—	—	V	$I_C = 25 \text{ mA}$, $R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	7	—	—	V	$I_E = 50 \text{ mA}$, $I_C = 0$
Collector cutoff current	I_{CBO}	—	—	100	μA	$V_{CB} = 120 \text{ V}$, $I_E = 0$
	I_{CEO}	—	—	10	μA	$V_{CE} = 100 \text{ V}$, $R_{BE} = \infty$
DC current transfer ratio	h_{FE}	1000	—	20000		$V_{CE} = 3 \text{ V}$, $I_C = 3 \text{ A}^{*1}$
Collector to emitter saturation voltage	$V_{CE(sat)1}$	—	—	1.5	V	$I_C = 3 \text{ A}$, $I_B = 6 \text{ mA}^{*1}$
	$V_{CE(sat)2}$	—	—	3	V	$I_C = 6 \text{ A}$, $I_B = 60 \text{ mA}^{*1}$
Base to emitter saturation voltage	$V_{BE(sat)1}$	—	—	2	V	$I_C = 3 \text{ A}$, $I_B = 6 \text{ mA}^{*1}$
	$V_{BE(sat)2}$	—	—	3.5	V	$I_C = 6 \text{ A}$, $I_B = 60 \text{ mA}^{*1}$
Turn on time	t_{on}	—	1.0	—	μs	$I_C = 3 \text{ A}$, $I_{B1} = -I_{B2} = 6 \text{ mA}$
Turn off time	t_{off}	—	3.0	—	μs	$I_C = 3 \text{ A}$, $I_{B1} = -I_{B2} = 6 \text{ mA}$

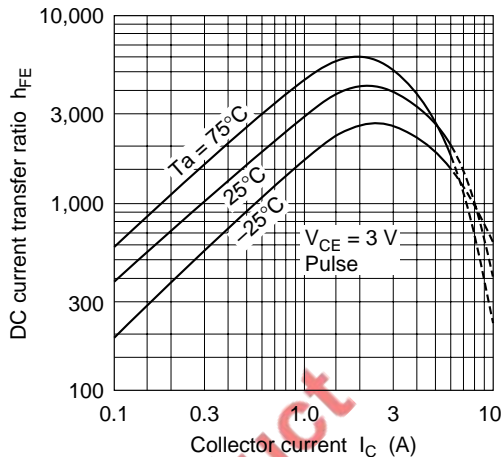
Note: 1. Pulse test.



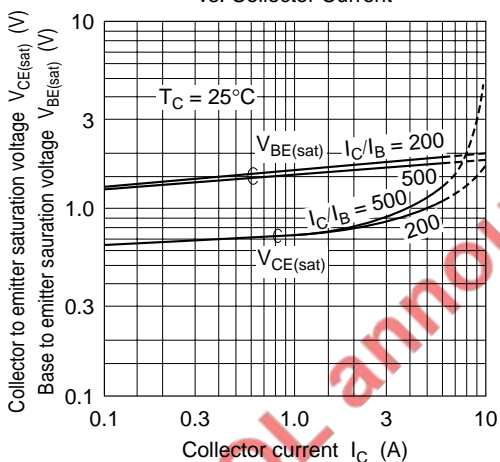
Typical Output Characteristics



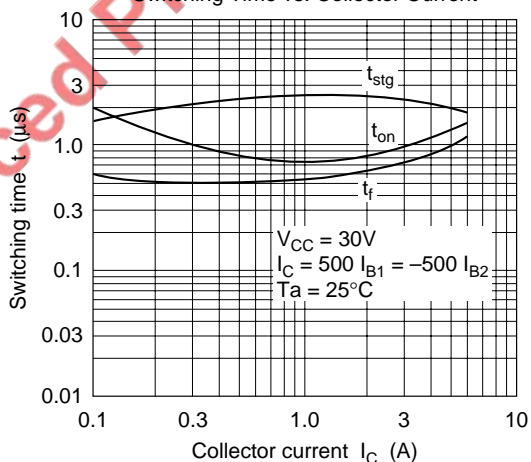
DC Current Transfer Ratio vs. Collector Current

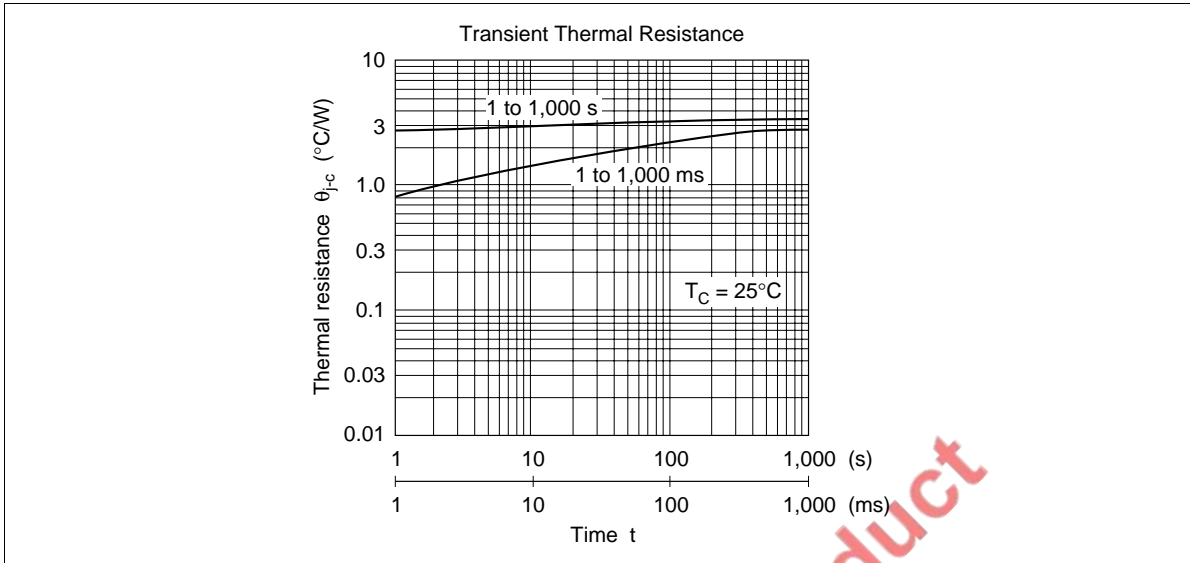


Saturation Voltage vs. Collector Current



Switching Time vs. Collector Current





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