

2SD768(K)

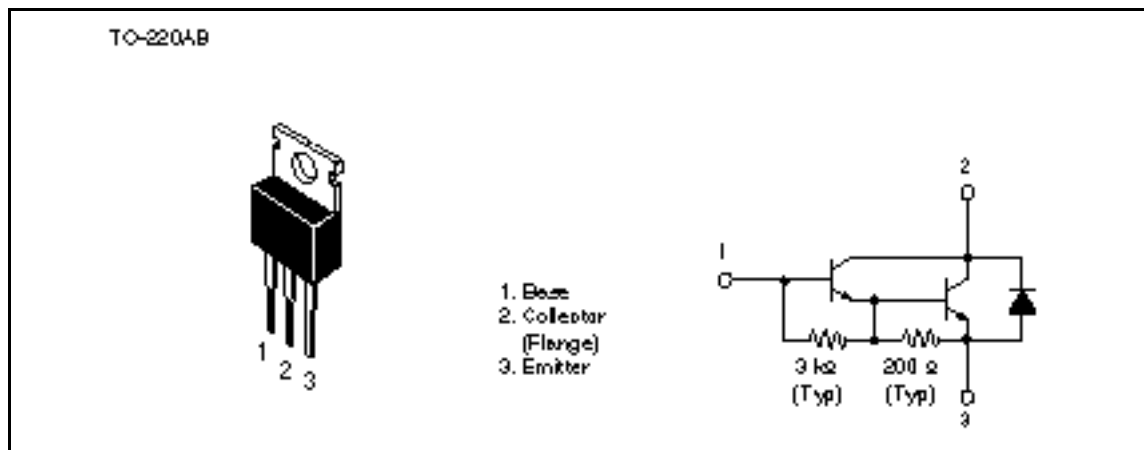
Silicon NPN Epitaxial

HITACHI

Application

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

Outline



Absolute Maximum Ratings (Ta = 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

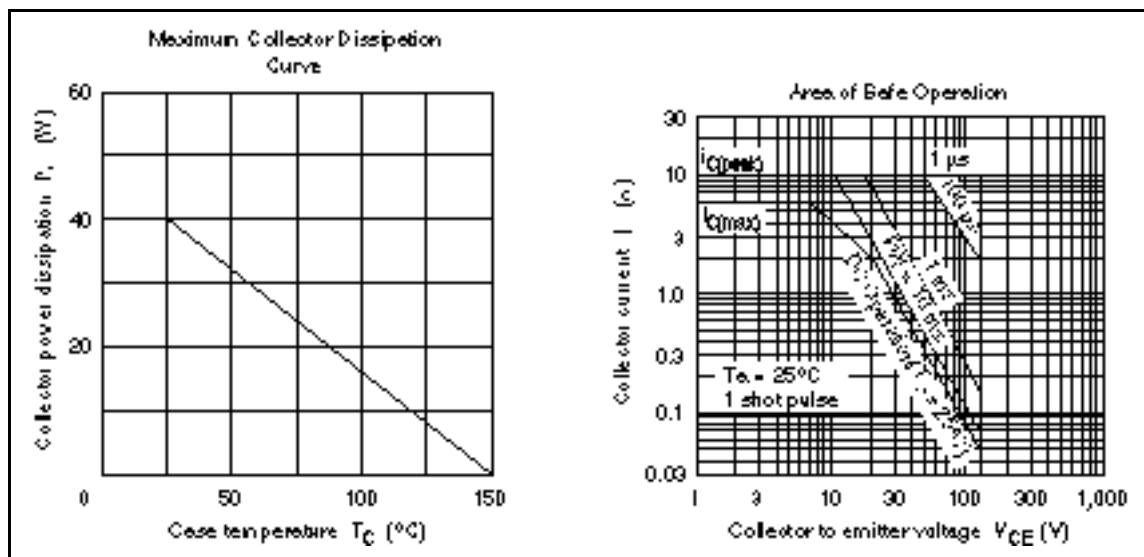
Note: 1. Value at $T_c = 25^\circ\text{C}$.

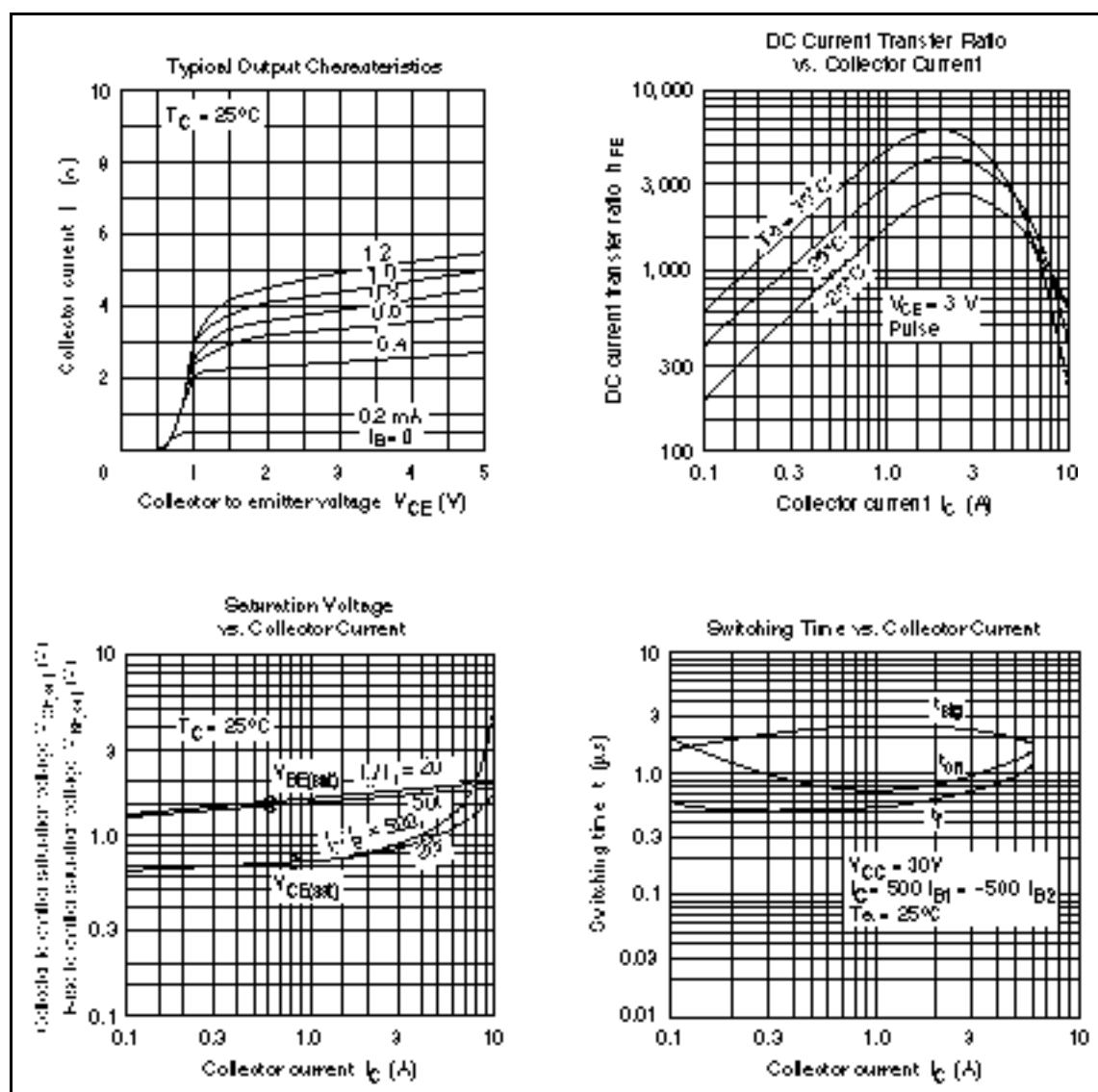
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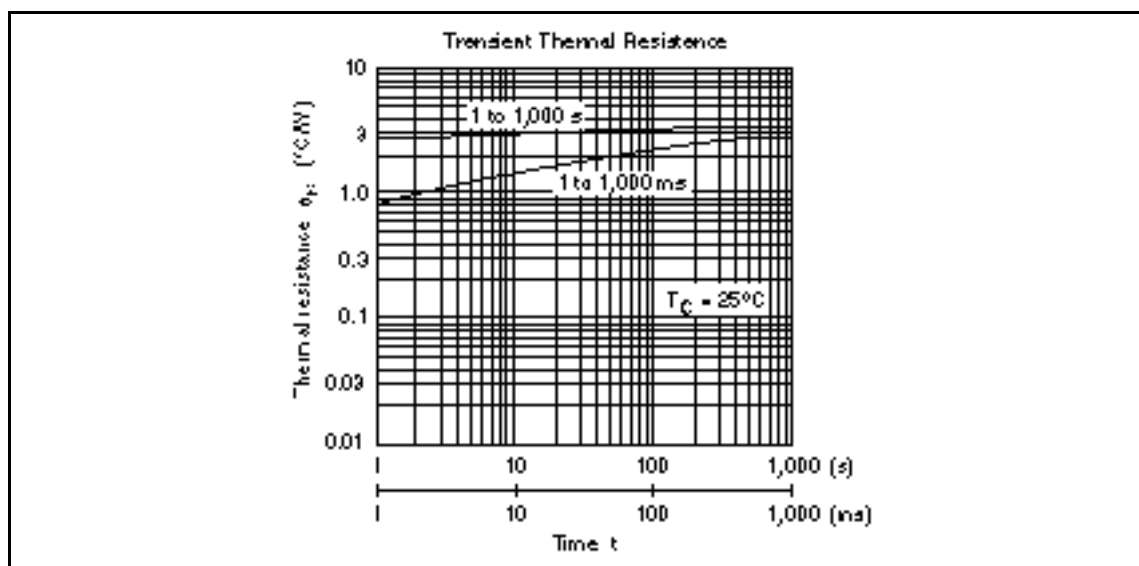
Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	120	—	—	V	$I_C = 25 \text{ mA}$, $R_{BE} = \bullet$
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	$V_{CE} = 100 \text{ V}$, $R_{BE} = \bullet$
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.







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HITACHI

Hitachi, Ltd.

Semiconductor & IC Div.

Nippon Bldg., 2-6-2, Ohite-machi, Chiyoda-ku, Tokyo 100, Japan

Tel Tokyo (03) 3270-2111

Fax (03) 3270-5109

For further information write to:

Hitachi America, Ltd.

Semiconductor & IC Div.

2000 Sierra Point Parkway

Berkeley, CA. 94705-1835

U.S.A.

Tel 415-589-8300

Fax 415-583-4207

Hitachi Europe GmbH

Electronic Components Group

Continental Europe

Danrecker Straße 3

D-85622 Feldkirchen

München

Tel 089-9 91 80-0

Fax 089-9 29 30 00

Hitachi Europe Ltd.

Electronic Components Div.

Northern Europe Headquarters

Whitebrook Park

Lower Cookham Road

High Wycombe

Berkshire SL6 8YA

United Kingdom

Tel 0628-885000

Fax 0628-778322

Hitachi Asia Pte. Ltd.

45 Collyer Quay #20-00

Hitachi Tower

Singapore 0404

Tel 535-2100

Fax 535-1533

Hitachi Asia (Hong Kong) Ltd.

Unit 705, North Tower,

World Finance Centre

Harbour City, Canton Road

Tsim Sha Tsui, Kowloon

Hong Kong

Tel 27359218

Fax 27308074