

2SD1376(K)

Silicon NPN Epitaxial

HITACHI

Application

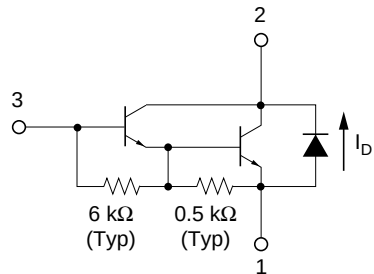
Low frequency power amplifier complementary pair with 2SB1012(K)

Outline

TO-126 MOD



- 1. Emitter
- 2. Collector
- 3. Base



Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Rating	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	1.5	A
Collector peak current	$I_{C\ (peak)}$	3.0	A
Collector power dissipation	P_C^{*1}	20	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	−55 to +150	°C
C to E diode forward current	I_D^{*1}	1.5	A

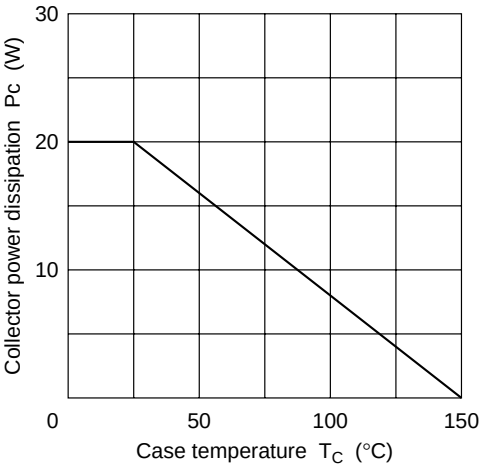
Note: 1. Value at $T_C = 25^\circ\text{C}$.

Electrical Characteristics (Ta = 25°C)

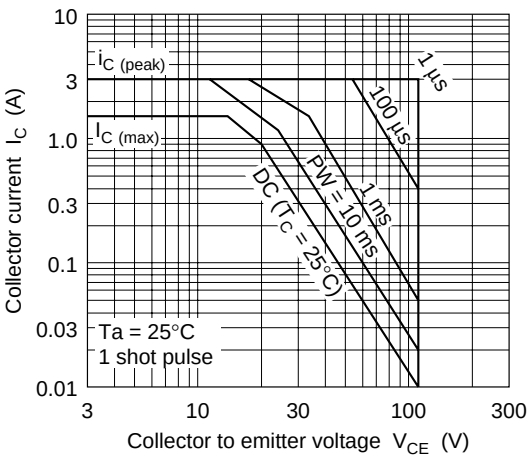
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	120	—	—	V	$I_C = 10\text{ mA}$, $R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	7	—	—	V	$I_E = 50\text{ mA}$, $I_C = 0$
Collector cutoff current	I_{CBO}	—	—	100	μA	$V_{CB} = 120\text{ V}$, $I_E = 0$
	I_{CEO}	—	—	10	μA	$V_{CE} = 100\text{ V}$, $R_{BE} = \infty$
DC current transfer ratio	h_{FE}	2000	—	30000		$V_{CE} = 3\text{ V}$, $I_C = 1\text{ A}^{*1}$
Collector to emitter saturation voltage	$V_{CE\ (sat)1}$	—	—	1.5	V	$I_C = 1\text{ A}$, $I_B = 1\text{ mA}^{*1}$
	$V_{CE\ (sat)2}$	—	—	2.0	V	$I_C = 1.5\text{ A}$, $I_B = 1.5\text{ mA}^{*1}$
Base to emitter saturation voltage	$V_{BE\ (sat)1}$	—	—	2.0	V	$I_C = 1\text{ A}$, $I_B = 1\text{ mA}^{*1}$
	$V_{BE\ (sat)2}$	—	—	2.5	V	$I_C = 1.5\text{ A}$, $I_B = 1.5\text{ mA}^{*1}$
C to E diode forward voltage	V_D	—	—	3.0	V	$I_D = 1.5\text{ A}^{*1}$
Turn on time	T_{on}	—	0.5	—	μs	$I_C = 1\text{ A}$, $I_{B1} = -I_{B2} = 1\text{ mA}$
Turn off time	T_{off}	—	2.0	—	μs	

Note: 1. Pulse test.

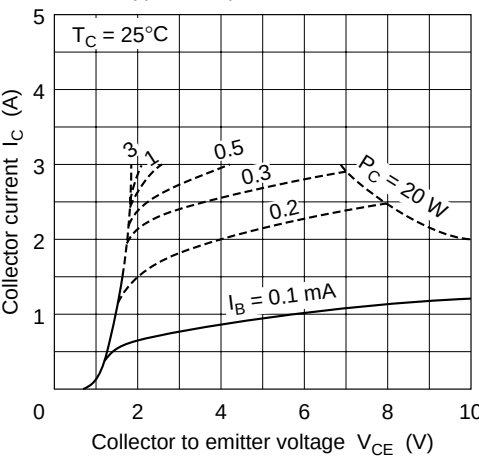
Maximum Collector Dissipation Curve



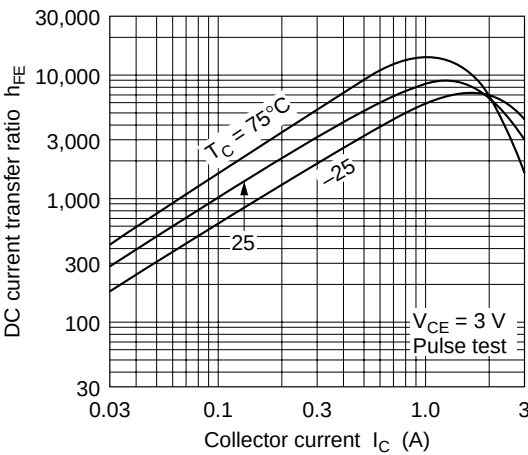
Area of Safe Operation

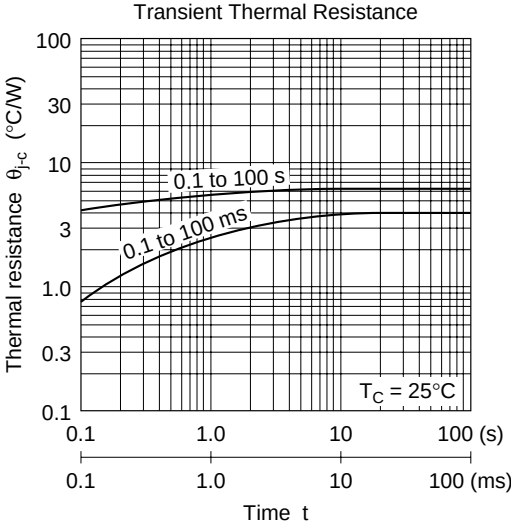
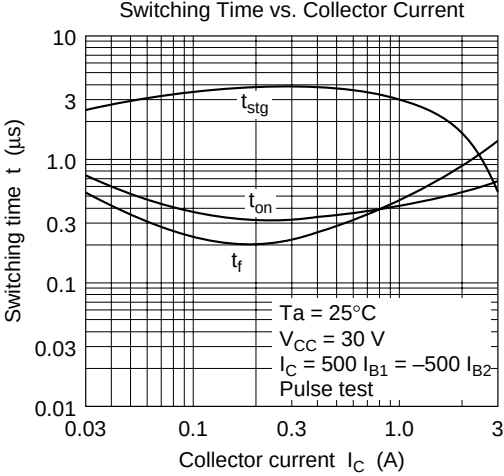
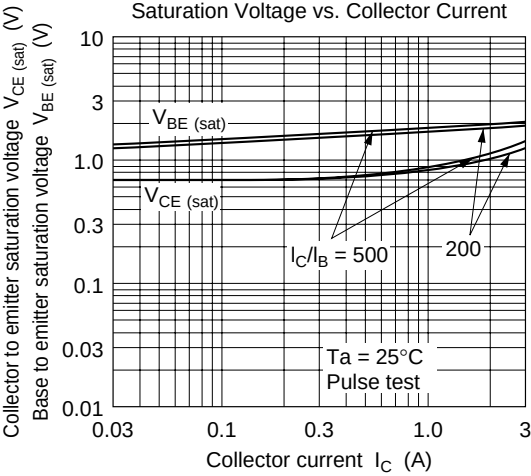


Typical Output Characteristics



DC Current Transfer Ratio vs. Collector Current





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Hitachi, Ltd.

Semiconductor & Integrated Circuits.
Nippon Bldg., 2-6-2, Ohte-machi, Chiyoda-ku, Tokyo 100-0004, Japan
Tel: Tokyo (03) 3270-2111 Fax: (03) 3270-5109

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For further information write to:

Hitachi Semiconductor (America) Inc. 179 East Tasman Drive, San Jose, CA 95134 Tel: <1> (408) 433-1990 Fax: <1> (408) 433-0223	Hitachi Europe GmbH Electronic components Group Dornacher Straße 3 D-85622 Feldkirchen, Munich Germany Tel: <49> (89) 9 9180-0 Fax: <49> (89) 9 29 30 00 Hitachi Europe Ltd. Electronic Components Group. Whitebrook Park Lower Cookham Road Maidenhead Berkshire SL6 8YA, United Kingdom Tel: <44> (1628) 585000 Fax: <44> (1628) 778322
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Hitachi Asia Pte. Ltd. 16 Collyer Quay #20-00 Hitachi Tower Singapore 049318 Tel: 535-2100 Fax: 535-1533 Hitachi Asia Ltd. Taipei Branch Office 3F, Hung Kuo Building. No.167, Tun-Hwa North Road, Taipei (105) Tel: <886> (2) 2718-3666 Fax: <886> (2) 2718-8180
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Hitachi Asia (Hong Kong) Ltd. Group III (Electronic Components) 7/F., North Tower, World Finance Centre, Harbour City, Canton Road, Tsim Sha Tsui, Kowloon, Hong Kong Tel: <852> (2) 735 9218 Fax: <852> (2) 730 0281 Telex: 40815 HITEC HX
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