

# 2SD1376(K)

Silicon NPN Epitaxial

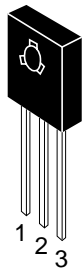
# HITACHI

## Application

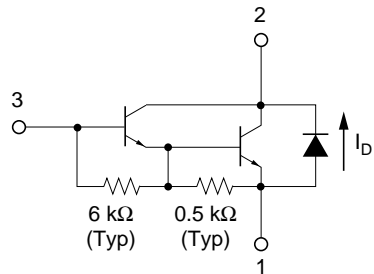
Low frequency power amplifier complementary pair with 2SB1012(K)

## Outline

TO-126 MOD



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



# 2SD1376(K)

## 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	$I_{C(\text{peak})}$	3.0	A
Collector power dissipation	$P_C^{*1}$	20	W
Junction temperature	Tj	150	°C
Storage temperature	Tstg	-55 to +150	°C
C to E diode forward current	$I_D^{*1}$	1.5	A

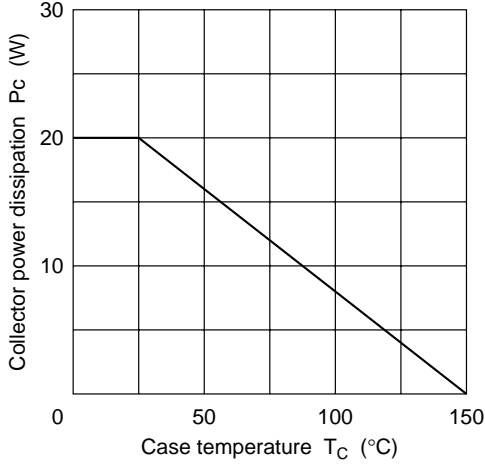
Note: 1. Value at  $T_C = 25^\circ\text{C}$ .

## Electrical Characteristics (Ta = 25°C)

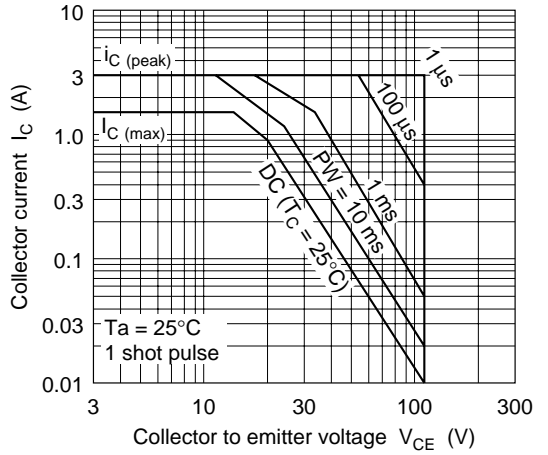
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	120	—	—	V	$I_C = 10\text{ mA}$ , $R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	7	—	—	V	$I_E = 50\text{ mA}$ , $I_C = 0$
Collector cutoff current	$I_{CBO}$	—	—	100	$\mu\text{A}$	$V_{CB}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

Note: 1. Pulse test.

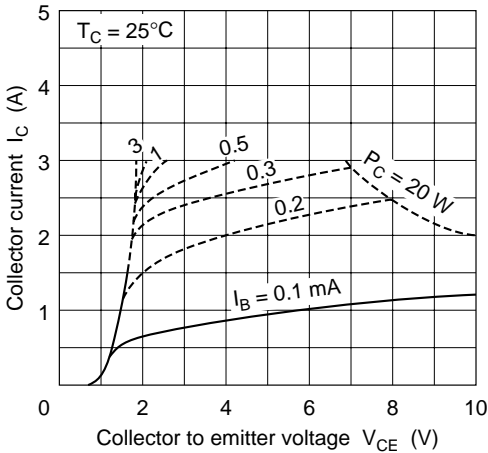
Maximum Collector Dissipation Curve



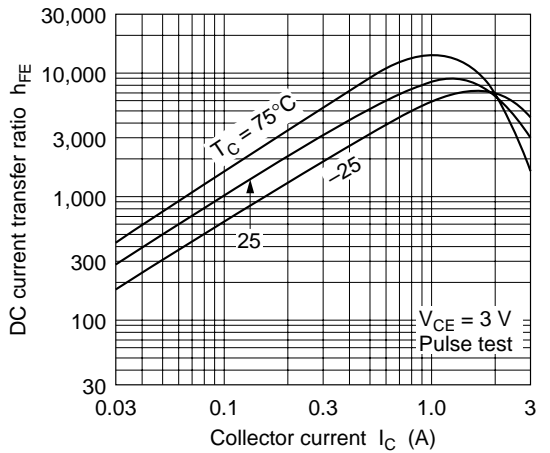
Area of Safe Operation

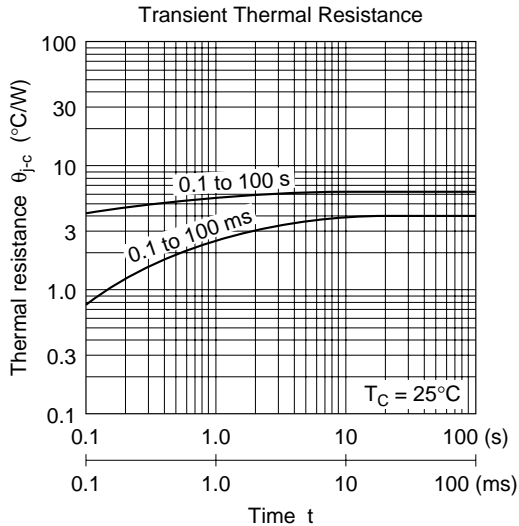
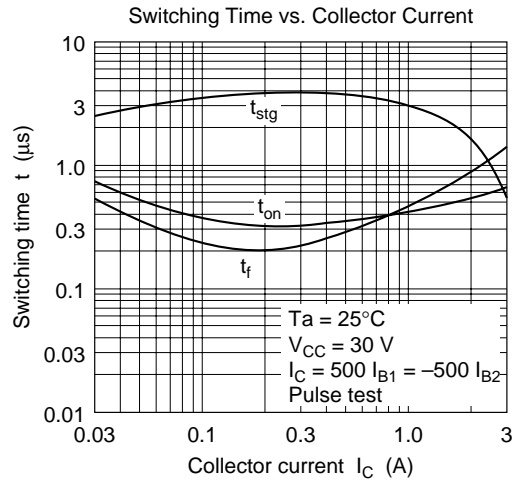
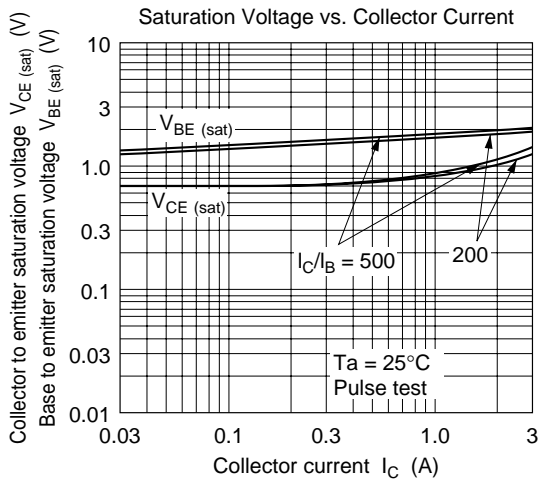


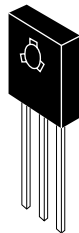
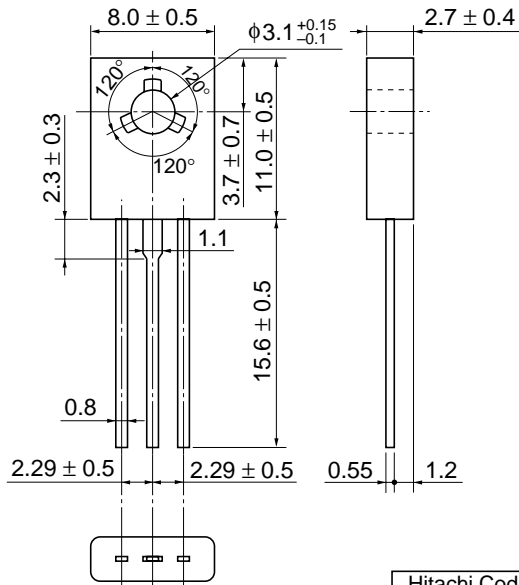
Typical Output Characteristics



DC Current Transfer Ratio vs. Collector Current







Hitachi Code	TO-126 Mod
JEDEC	—
EIAJ	—
Weight (reference value)	0.67 g

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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

URL      North America      : <http://semiconductor.hitachi.com/>  
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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

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

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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