

2SB566(K), 2SB566A(K)

Silicon PNP Triple Diffused

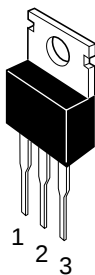
HITACHI

Application

Low frequency power amplifier power switching complementary pair with 2SD476(K) and 2SD476A(K)

Outline

TO-220AB



- 1. Base
- 2. Collector (Flange)
- 3. Emitter

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings		Unit
		2SB566(K)	2SB566A(K)	
Collector to base voltage	V_{CBO}	-70	-70	V
Collector to emitter voltage	V_{CEO}	-50	-60	V
Emitter to base voltage	V_{EBO}	-5	-5	V
Collector current	I_C	-4	-4	A
Collector peak current	$I_{C(peak)}$	-8	-8	A
Collector power dissipation	P_C^{*1}	40	40	W
Junction temperature	T_j	150	150	°C
Storage temperature	T_{stg}	-55 to +150	-55 to +150	°C

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

2SB566(K), 2SB566A(K)

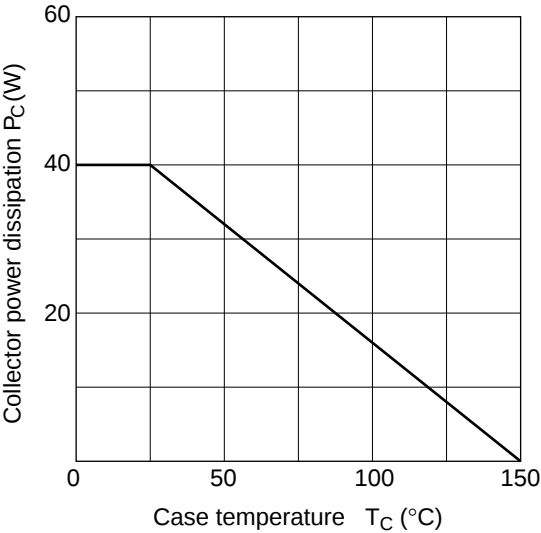
Electrical Characteristics (Ta = 25°C)

Item	Symbol	2SB566(K)			2SB566A(K)			Unit	Test conditions
		Min	Typ	Max	Min	Typ	Max		
Collector to base breakdown voltage	$V_{(BR)CBO}$	-70	—	—	-70	—	—	V	$I_C = -10\text{ }\mu\text{A}$, $I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	-50	—	—	-60	—	—	V	$I_C = -50\text{ mA}$, $R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	-5	—	—	-5	—	—	V	$I_E = -10\text{ }\mu\text{A}$, $I_C = 0$
Collector cutoff current	I_{CBO}	—	—	-1	—	—	-1	μA	$V_{CB} = -50\text{ V}$, $I_E = 0$
DC current tarnsfer ratio	h_{FE1}^{*1}	60	—	200	60	—	200	$V_{CE} = -4\text{ V}$, $I_C = -1\text{ A}$	
	h_{FE2}	35	—	—	35	—	—	$V_{CE} = -4\text{ V}$, $I_C = -0.1\text{ A}$	
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	-1.0	—	—	-1.0	V	$I_C = -2\text{ A}$, $I_B = -0.2\text{ A}$
Base to emitter saturation voltage	$V_{BE(sat)}$	—	—	-1.2	—	—	-1.2	V	$I_C = -2\text{ A}$, $I_B = -0.2\text{ A}$
Gain bandwidth product	f_T	—	15	—	—	15	—	MHz	$V_{CE} = -4\text{ V}$, $I_C = -0.5\text{ A}$
Turn on time	t_{on}	—	0.3	—	—	0.3	—	μs	$V_{CC} = -10.5\text{ V}$
Turn off time	t_{off}	—	3.0	—	—	3.0	—	μs	$I_C = 10I_{B1} = -10I_{B2} =$
Storage time	t_{stg}	—	2.5	—	—	2.5	—	μs	-0.5 A

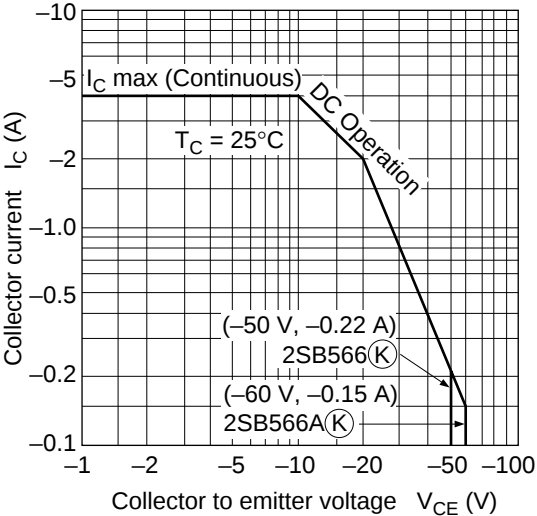
Note: 1. The 2SB566(K) and 2SB566A(K) are grouped by h_{FE1} as follows.

B	C
60 to 120	100 to 200

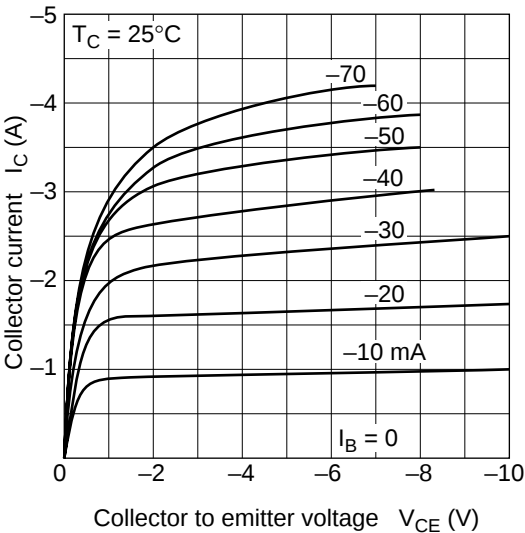
Maximum Collector Dissipation Curve



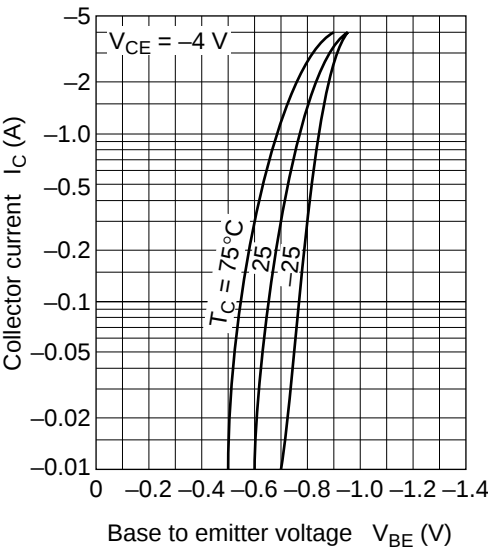
Area Safe Operation



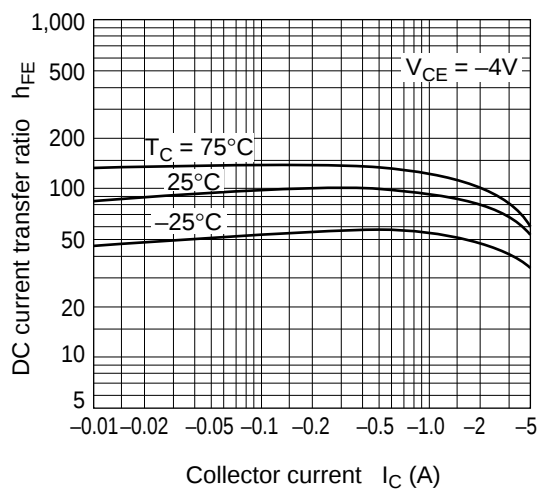
Typical Output Characteristics



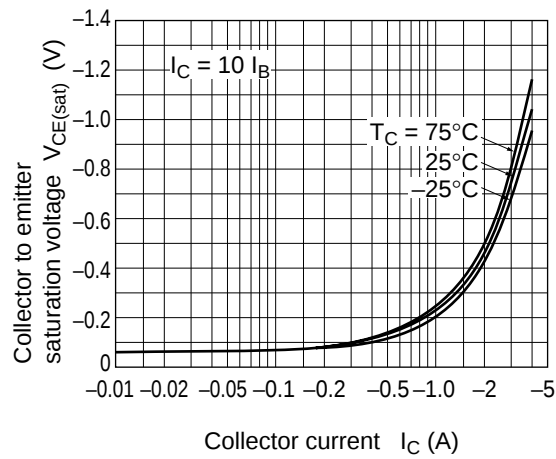
Typical Transfer Characteristics

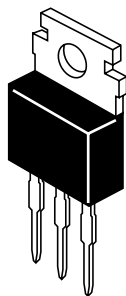
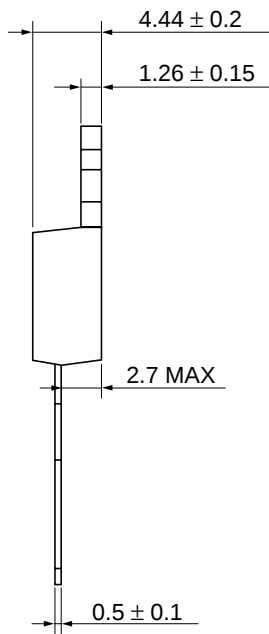
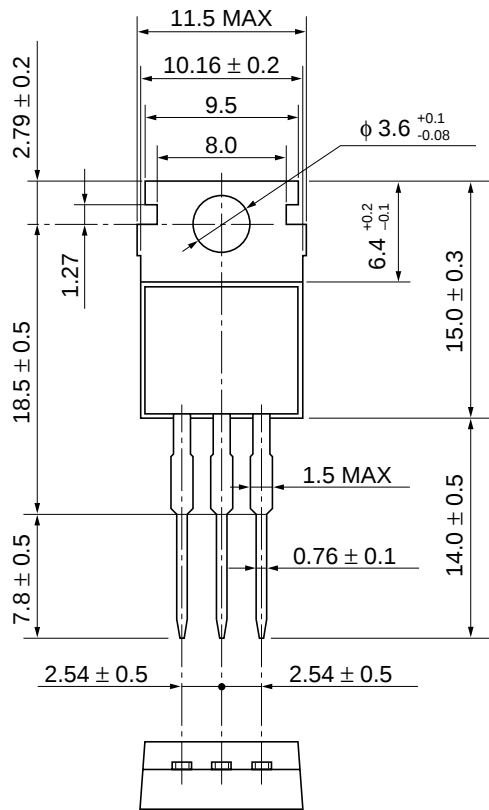


DC Current Transfer Ratio
vs. Collector Current



Collector to Emitter Saturation Voltage
vs. Collector Current





Hitachi Code	TO-220AB
JEDEC	Conforms
EIAJ	Conforms
Weight (reference value)	1.8 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

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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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