2SD476(K), 2SD476A(K)

Silicon NPN Triple Diffused

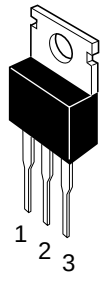
HITACHI

Application

Power switching complementary pair with 2SB566(K) and 2SB566A(K)

Outline

TO-220AB



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

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings		Unit
		2SD476(K)	2SD476A(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	Tj	150	150	°C
Storage temperature	Tstg	–55 to +150	–55 to +150	°C

Note: 1. Value at T_C = 25°C

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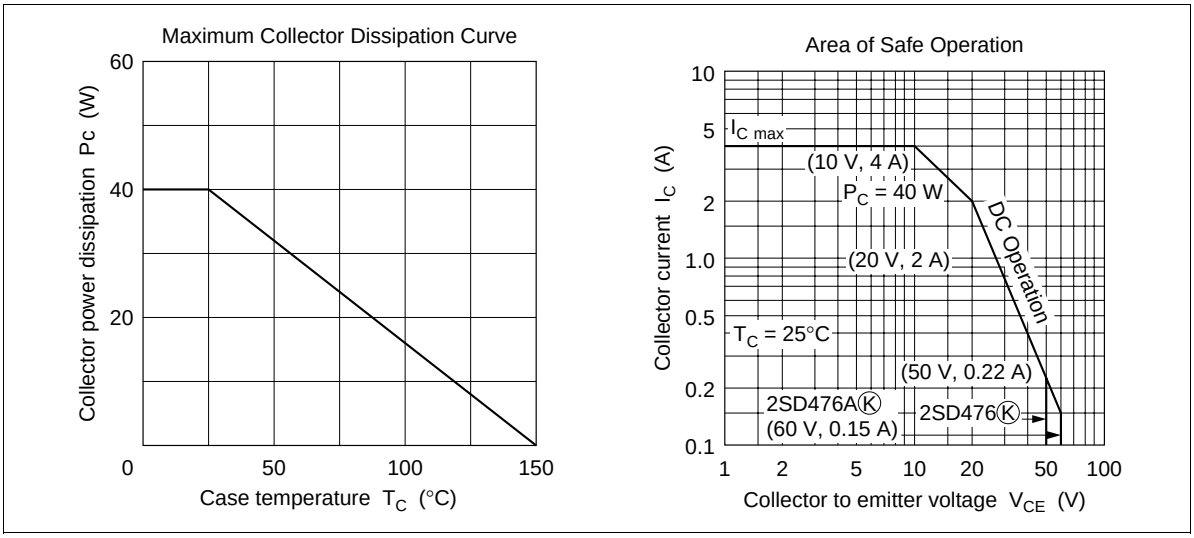
Electrical Characteristics (Ta = 25°C)

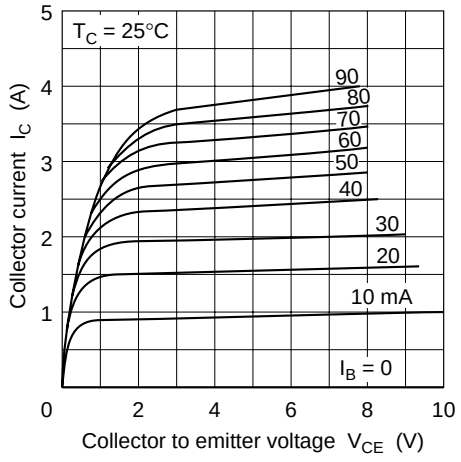
Item	Symbol	2SD476(K) Min	2SD476(K) Typ	2SD476(K) Max	2SD476A(K) Min	2SD476A(K) Typ	2SD476A(K) Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	70	—	—	70	—	—	V	I_C = 10 µA, I_E = 0
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	50	—	—	60	—	—	V	I_C = 50 mA, R_{BE} = ∞
Emitter to base breakdown voltage	$V_{(BR)EBO}$	5	—	—	5	—	—	V	I_E = 10 µA, I_C = 0
Collector cutoff current	I_{CBO}	—	—	1	—	—	1	µA	V_{CB} = 50 V, I_E = 0
DC current transfer ratio	h_{FE1}	60	—	200	60	—	200		V_{CE} = 4 V, I_C = 1 A (Pulse test)
	h_{FE2}	35	—	—	35	—	—		V_{CE} = 4 V, I_C = 0.1 A
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	1.0	—	—	1.0	V	I_C = 2 A, I_B = 0.2 A
Base to emitter saturation voltage	$V_{BE(sat)}$	—	—	1.2	—	—	1.2	V	
Gain bandwidth product	f_T	—	7	—	—	7	—	MHz	V_{CE} = 4 V, I_C = 0.5 A
Turn on time	t_{on}	—	0.3	—	—	0.3	—	µs	V_{CC} = 10.5 V
Turn off time	t_{off}	—	3.0	—	—	3.0	—	µs	I_C = 10 I_{B1} = –10 I_{B2} =
Storage time	t_{stg}	—	2.5	—	—	2.5	—	µs	0.5 A

Note: 1. The 2SD476(K) and 2SD476A(K) are grouped by h_{FE1} as follows.

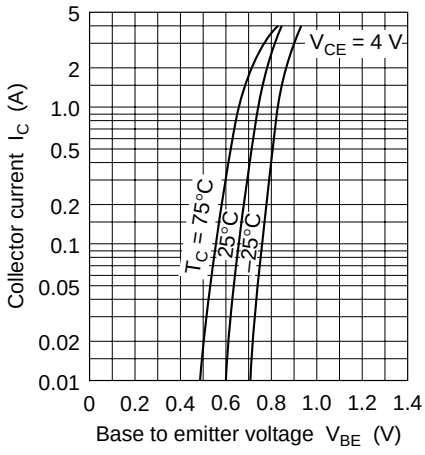
B	C
60 to 120	100 to 200



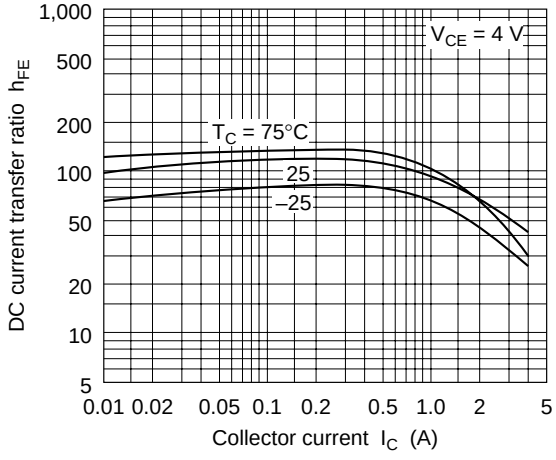
Typical Output Characteristics



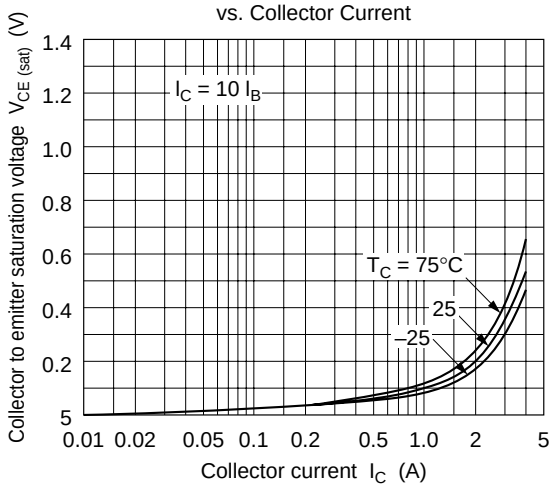
Typical Transfer Characteristics



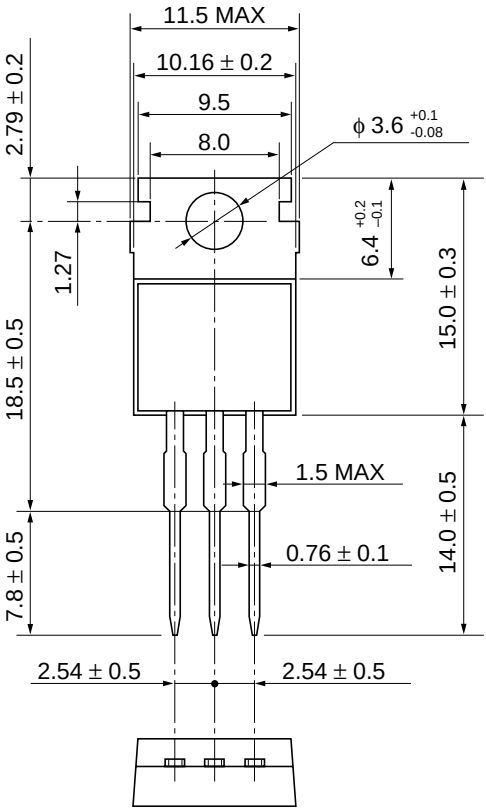
DC Current Transfer Ratio vs. Collector Current

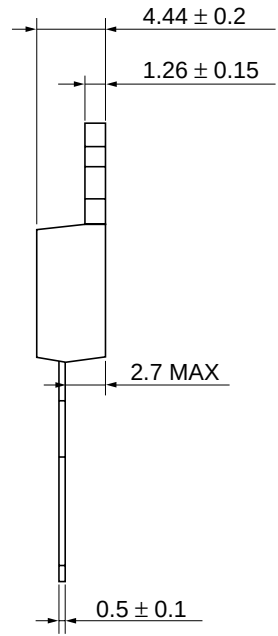


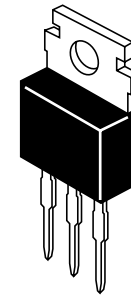
Collector to Emitter Saturation Voltage vs. Collector Current



Unit: mm







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

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HITACHI

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
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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