

2SD1126(K)

Silicon NPN Triple Diffused

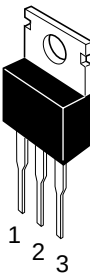
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Application

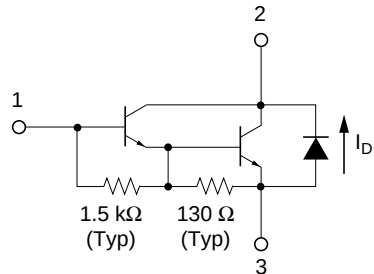
Power switching

Outline

TO-220AB



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



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	10	A
Collector peak current	$I_{C(peak)}$	15	A
Collector power dissipation	P_C^{*1}	50	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	−55 to +150	°C
C to E diode forward current	I_D	10	A

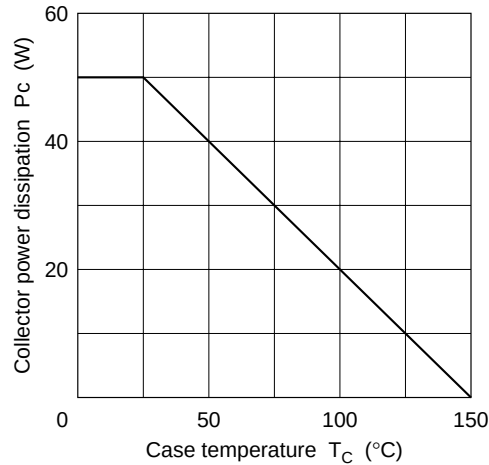
Note: 1. Value at $T_C = 25^\circ\text{C}$.

Electrical Characteristics (Ta = 25°C)

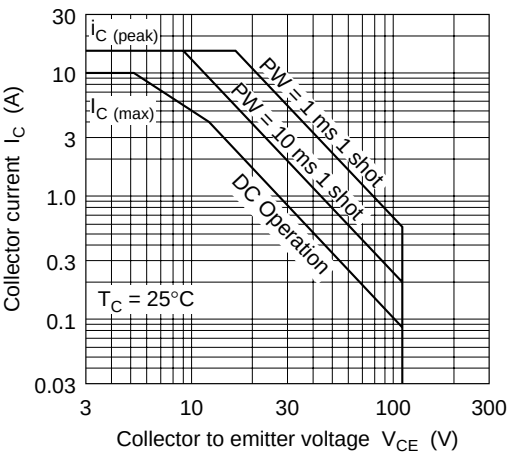
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	120	—	—	V	$I_C = 25\text{ mA}$, $R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	7	—	—	V	$I_E = 200\text{ mA}$, $I_C = 0$
Collector cutoff current	I_{CBO}	—	—	100	μA	$V_{CB} = 120\text{ V}$, $I_E = 0$
	I_{CEO}	—	—	10	μA	$V_{CE} = 100\text{ V}$, $R_{BE} = \infty$
DC current transfer ratio	h_{FE}	1000	—	2000		$V_{CE} = 3\text{ V}$, $I_C = 5\text{ A}^{*1}$
Collector to emitter saturation voltage	$V_{CE(sat)1}$	—	—	1.5	V	$I_C = 5\text{ A}$, $I_B = 10\text{ mA}^{*1}$
	$V_{CE(sat)2}$	—	—	3.0	V	$I_C = 10\text{ A}$, $I_B = 0.1\text{ A}^{*1}$
Base to emitter saturation voltage	$V_{BE(sat)1}$	—	—	2.0	V	$I_C = 5\text{ A}$, $I_B = 10\text{ mA}^{*1}$
	$V_{BE(sat)2}$	—	—	3.5	V	$I_C = 10\text{ A}$, $I_B = 0.1\text{ A}^{*1}$
C to E diode forward voltage	V_D	—	—	3.0	V	$I_D = 10\text{ A}^{*1}$
Turn on time	t_{on}	—	0.8	—	μs	$I_C = 5\text{ A}$, $I_{B1} = -I_{B2} = 10\text{ mA}$
Turn off time	t_{off}	—	8.0	—	μs	

Note: 1. Pulse test.

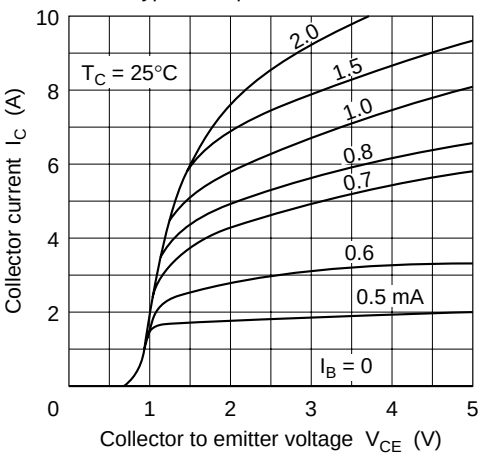
Maximum Collector Dissipation Curve



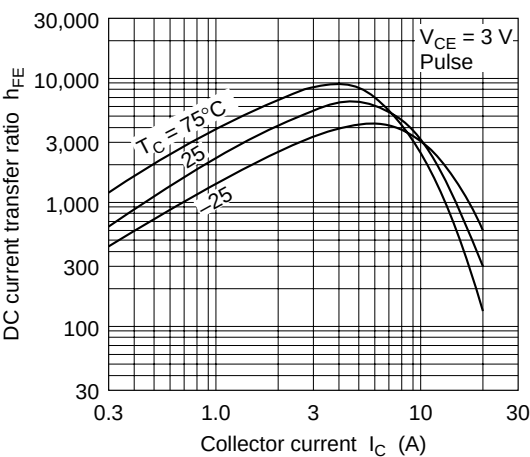
Area of Safe Operation

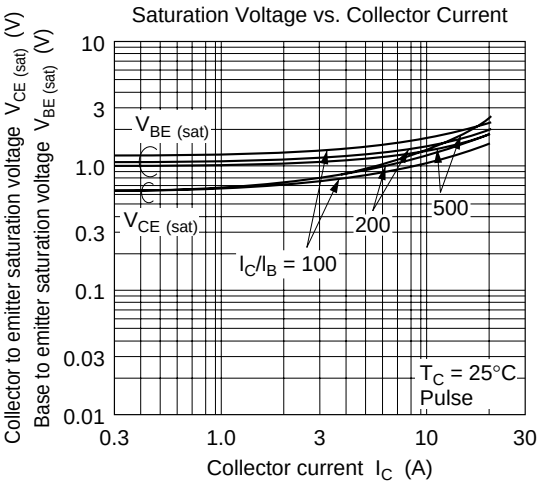


Typical Output Characteristics



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

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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