
2SD1163, 2SD1163A

Silicon NPN Triple Diffused

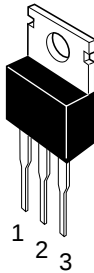
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Application

TV horizontal deflection output

Outline

TO-220AB



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

2SD1163, 2SD1163A

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Rating		Unit
		2SD1163	2SD1163A	
Collector to base voltage	V _{CBO}	300	350	V
Collector to emitter voltage	V _{CEO}	120	150	V
Emitter to base voltage	V _{EBO}	6	6	V
Collector current	I _C	7	7	A
Collector peak current	I _{C (peak)}	10	10	A
Collector surge current	I _{C (surge)}	20	20	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

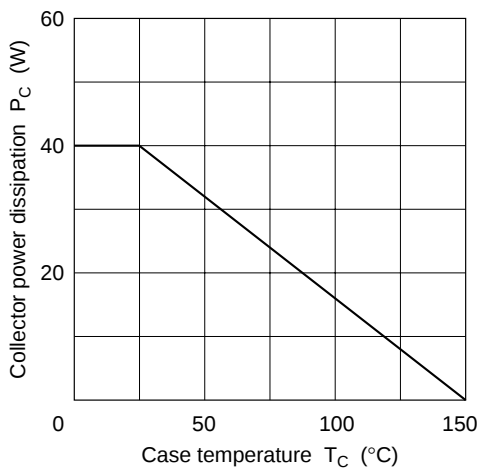
Note: 1. Value at T_C = 25°C.

Electrical Characteristics (Ta = 25°C)

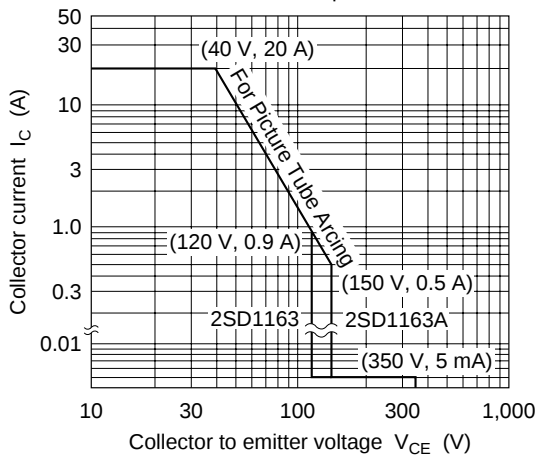
Item	Symbol	2SD1163			2SD1163A			Unit	Test conditions
		Min	Typ	Max	Min	Typ	Max		
Collector cutoff current	I _{CBO}	—	—	5	—	—	—	mA	V _{CB} = 300 V, I _E = 0
		—	—	—	—	—	5	mA	V _{CB} = 350 V, I _E = 0
Collector to emitter breakdown voltage	V _{(BR)CEO}	120	—	—	150	—	—	V	I _C = 10 mA, R _{BE} = ∞
Emitter to base breakdown voltage	V _{(BR)EBO}	6	—	—	6	—	—	V	I _E = 10 mA, I _C = 0
DC current transfer ratio	h _{FE}	25	—	—	25	—	—		V _{CE} = 5 V, I _C = 5 A ^{*1}
Collector to emitter saturation voltage	V _{CE (sat)}	—	—	2.0	—	—	1.0	V	I _C = 5 A, I _B = 0.5 A ^{*1}
Base to emitter saturation voltage	V _{BE (sat)}	—	—	1.2	—	—	1.2	V	I _C = 5 A, I _B = 0.5 A ^{*1}
Fall time	t _f	—	—	0.5	—	—	0.5	μs	I _{CP} = 3.5 A, I _{B1} = 0.45 A

Note: 1. Pulse test.

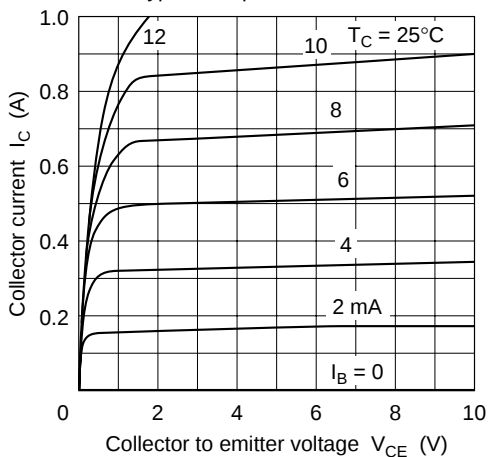
Maximum Collector Dissipation Curve



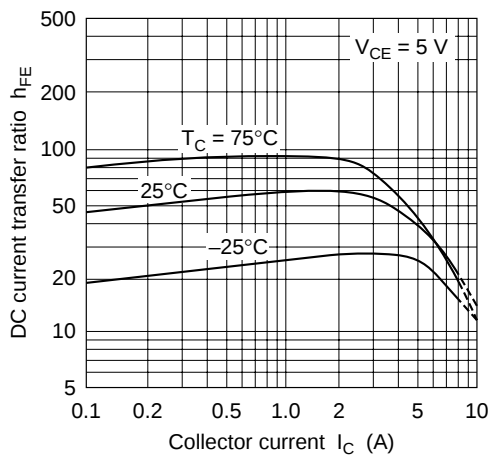
Area of Safe Operation

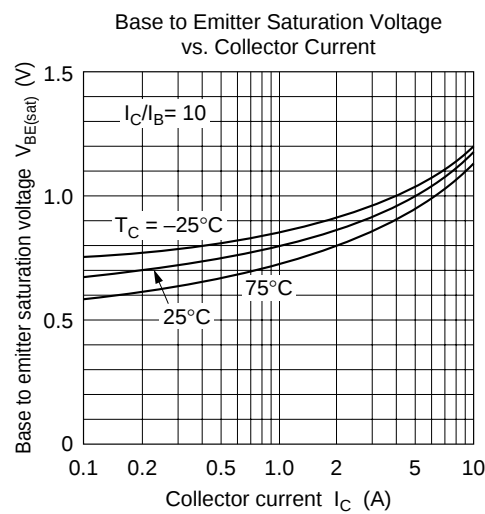
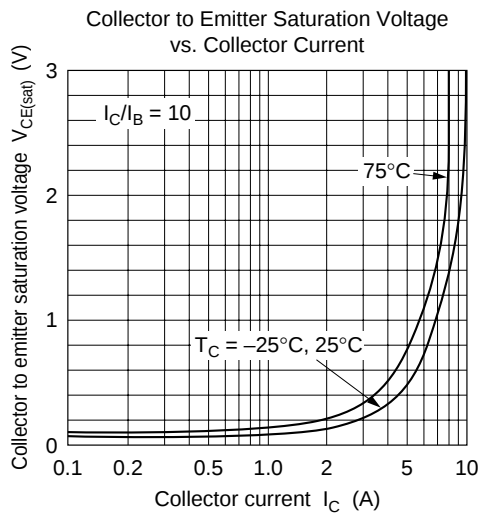


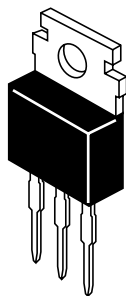
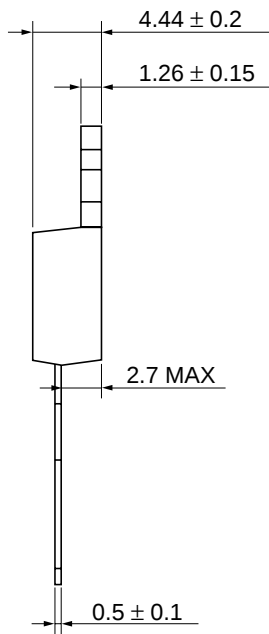
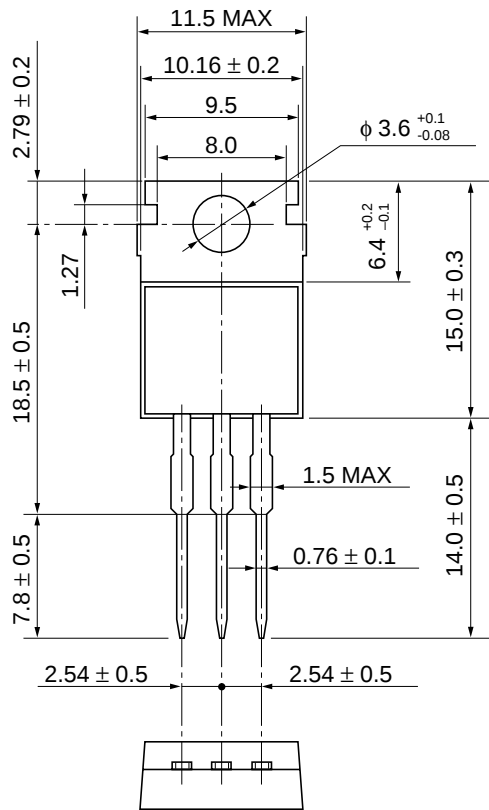
Typical Output Characteristics



DC Current Transfer Ratio vs. Collector Current







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

Cautions

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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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