
2SD1163, 2SD1163A

Silicon NPN Triple Diffused

HITACHI

ADE-208-909 (Z)

1st. Edition

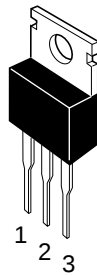
Sep. 2000

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

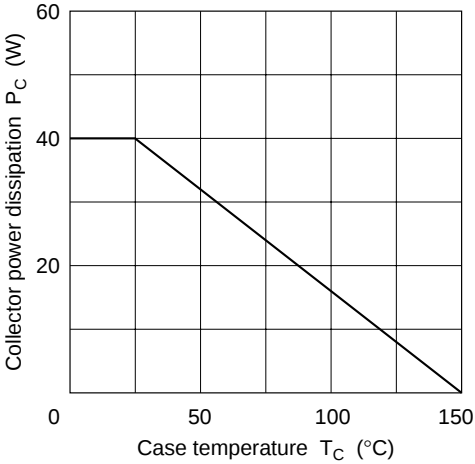
Note: 1. Value at $T_C = 25^{\circ}C$.

Electrical Characteristics (Ta = 25°C)

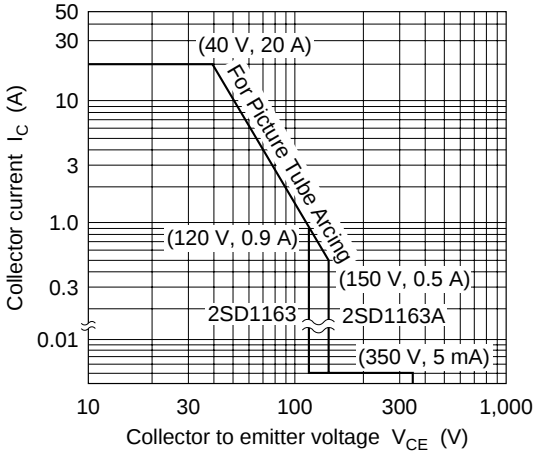
Item	Symbol	2SD1163			2SD1163A			Unit	Test conditions
		Min	Typ	Max	Min	Typ	Max		
Collector cutoff current	I_{CBO}	—	—	5	—	—	—	mA	$V_{CB} = 300\ V, I_E = 0$
		—	—	—	—	—	5	mA	$V_{CB} = 350\ V, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	120	—	—	150	—	—	V	$I_C = 10\ mA, R_{BE} = \infty$
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.

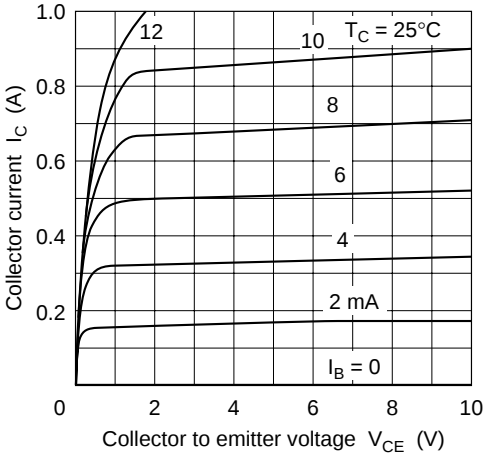
Maximum Collector Dissipation
Curve



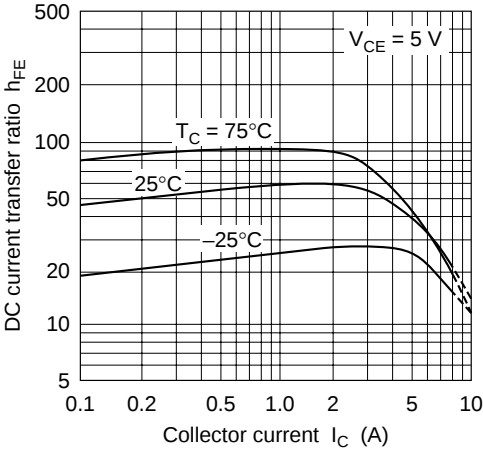
Area of Safe Operation

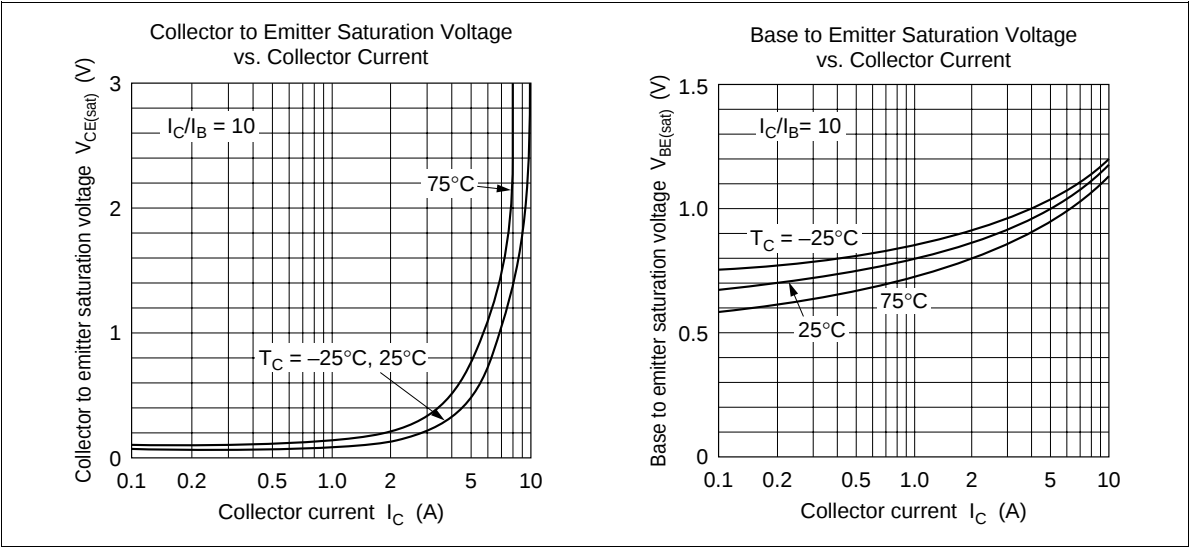


Typical Output Characteristics



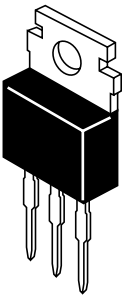
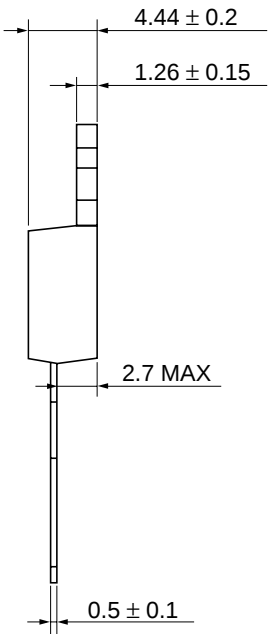
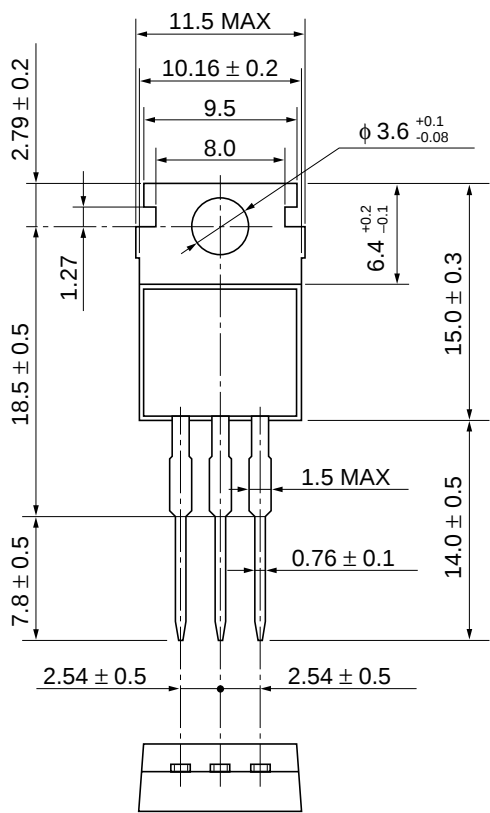
DC Current Transfer Ratio
vs. Collector Current





Package Dimensions

Unit: mm



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

Cautions

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