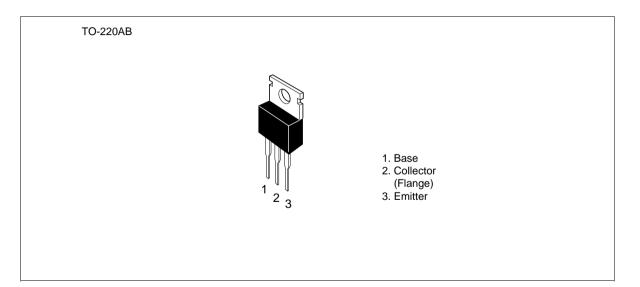
Silicon NPN Triple Diffused

# HITACHI

#### Application

TV horizontal deflection output

#### Outline





#### **Absolute Maximum Ratings** (Ta = 25°C)

		Rating			
Item	Symbol	2SD1163	2SD1163A	Unit	
Collector to base voltage	V <sub>CBO</sub>	300	350	V	
Collector to emitter voltage	V <sub>CEO</sub>	120	150	V	
Emitter to base voltage	V <sub>EBO</sub>	6	6	V	
Collector current	Ι <sub>c</sub>	7	7	А	
Collector peak current	C (peak)	10	10	А	
Collector surge current	C (surge)	20	20	А	
Collector power dissipation	P <sub>c</sub> * <sup>1</sup>	40	40	W	
Junction temperature	Tj	150	150	°C	
Storage temperature	Tstg	-55 to +150	-55 to +150	°C	

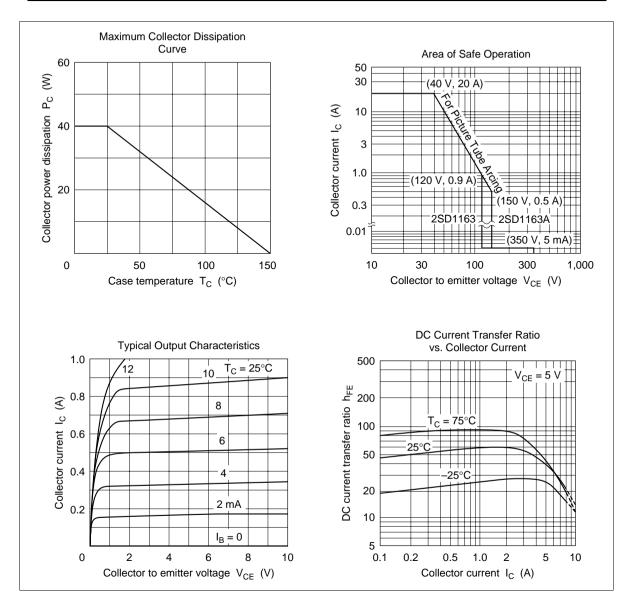
Note: 1. Value at  $T_c = 25^{\circ}C$ .

#### **Electrical Characteristics** (Ta = 25°C)

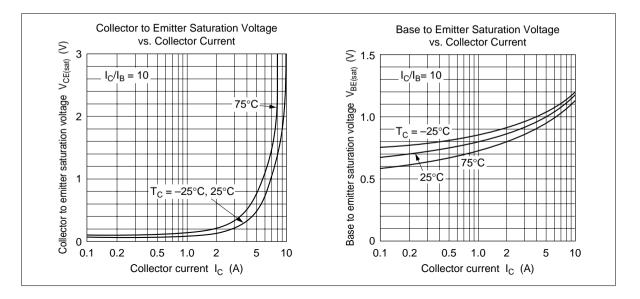
		2SD1	163		2SD1163A				
ltem	Symbol	Min	Тур	Max	Min	Тур	Max	Unit	Test conditions
Collector cutoff current	I <sub>CBO</sub>	_	_	5	_	_	_	mA	$V_{_{CB}} = 300 \text{ V}, \text{ I}_{_{E}} = 0$
		—	—	—	—		5	mA	$V_{_{CB}} = 350 \text{ V}, \text{ I}_{_{E}} = 0$
Collector to emitter breakdown voltage	$V_{(\text{BR})\text{CEO}}$	120	_	_	150	_	_	V	$I_{c}$ = 10 mA, $R_{BE}$ = $\infty$
Emitter to base breakdown voltage	$V_{(\text{BR})\text{EBO}}$	6		_	6	_	_	V	$I_{\rm E} = 10$ mA, $I_{\rm C} = 0$
DC current transfer ratio	h <sub>FE</sub>	25	_	_	25	_	_		$V_{ce} = 5 \text{ V}, \text{ I}_{c} = 5 \text{ A}^{*1}$
Collector to emitter saturation voltage	$V_{\text{CE (sat)}}$	—	_	2.0	_	_	1.0	V	$I_{\rm c} = 5$ A, $I_{\rm B} = 0.5$ A <sup>*1</sup>
Base to emitter saturation voltage	$V_{\text{BE (sat)}}$	_	—	1.2	_	_	1.2	V	$I_{\rm C} = 5$ A, $I_{\rm B} = 0.5$ A <sup>*1</sup>
Fall time	t <sub>f</sub>	—	—	0.5	—	—	0.5	μs	I <sub>CP</sub> = 3.5 A, I <sub>B1</sub> = 0.45 A

Note: 1. Pulse test.

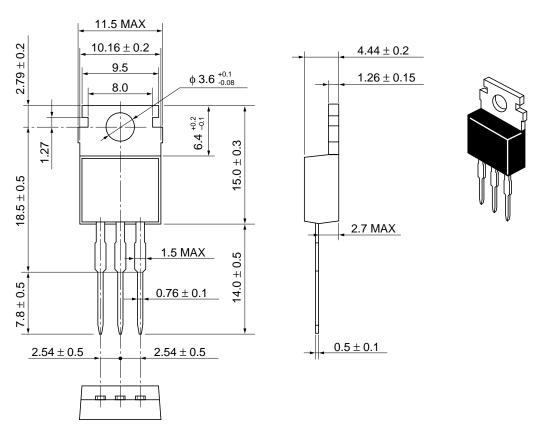
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Hitachi Code	TO-220AB
JEDEC	Conforms
EIAJ	Conforms
Weight (reference value)	1.8 g

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