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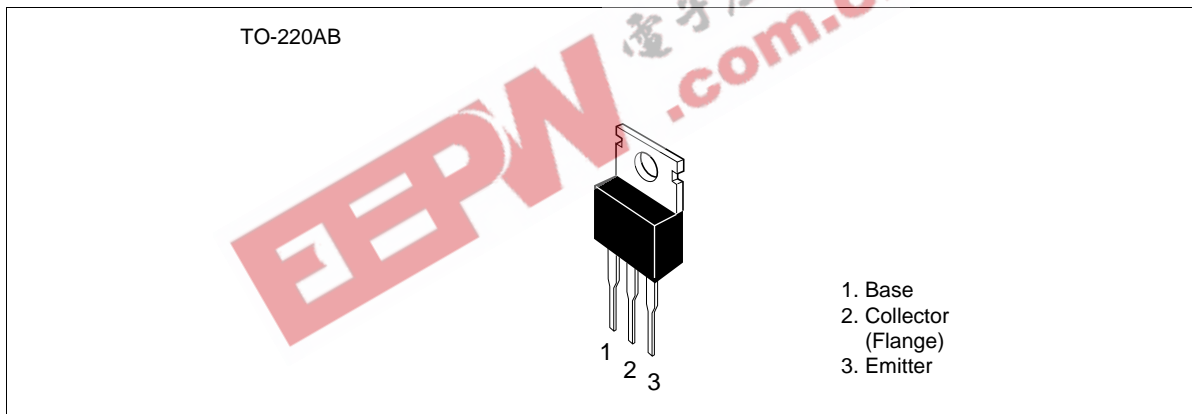
Silicon NPN Triple Diffused

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Application

High voltage power amplifier

Outline



Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

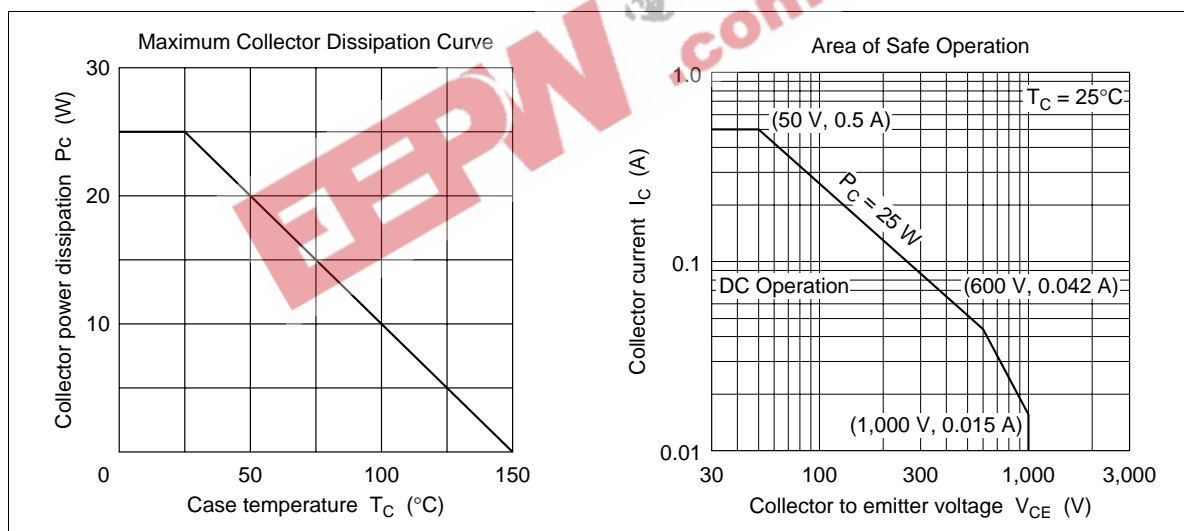
Item	Symbol	Rating	Unit
Collector to base voltage	V_{CBO}	1000	V
Collector to emitter voltage	V_{CEO}	1000	V
Emitter to base voltage	V_{EBO}	5	V
Collector current	I_{C}	0.5	A
Collector power dissipation	P_{C}	1.8	W
	P_{C}^{*1}	25	W
Junction temperature	T_{j}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

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

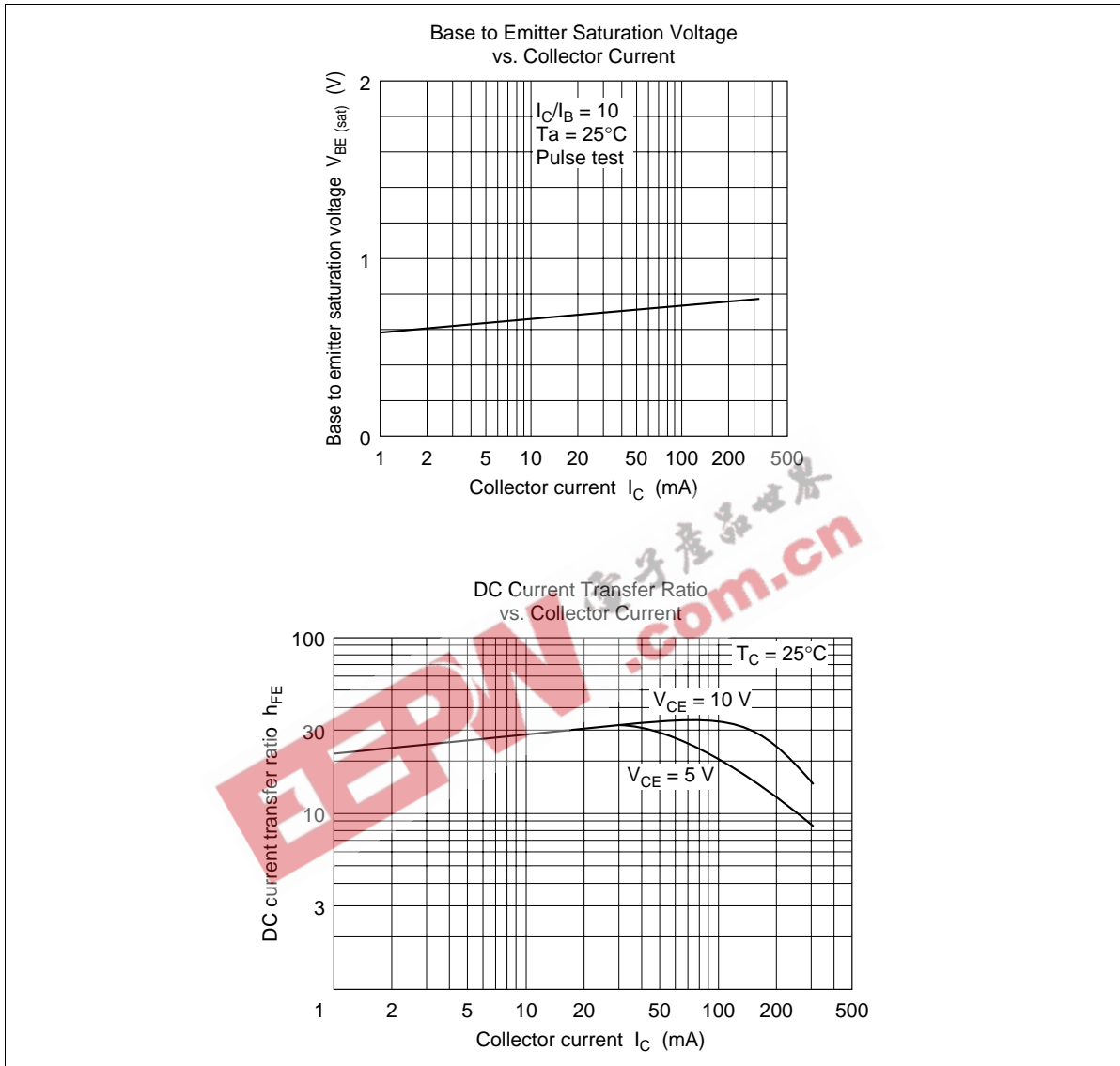
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Electrical Characteristics (T_a = 25°C)

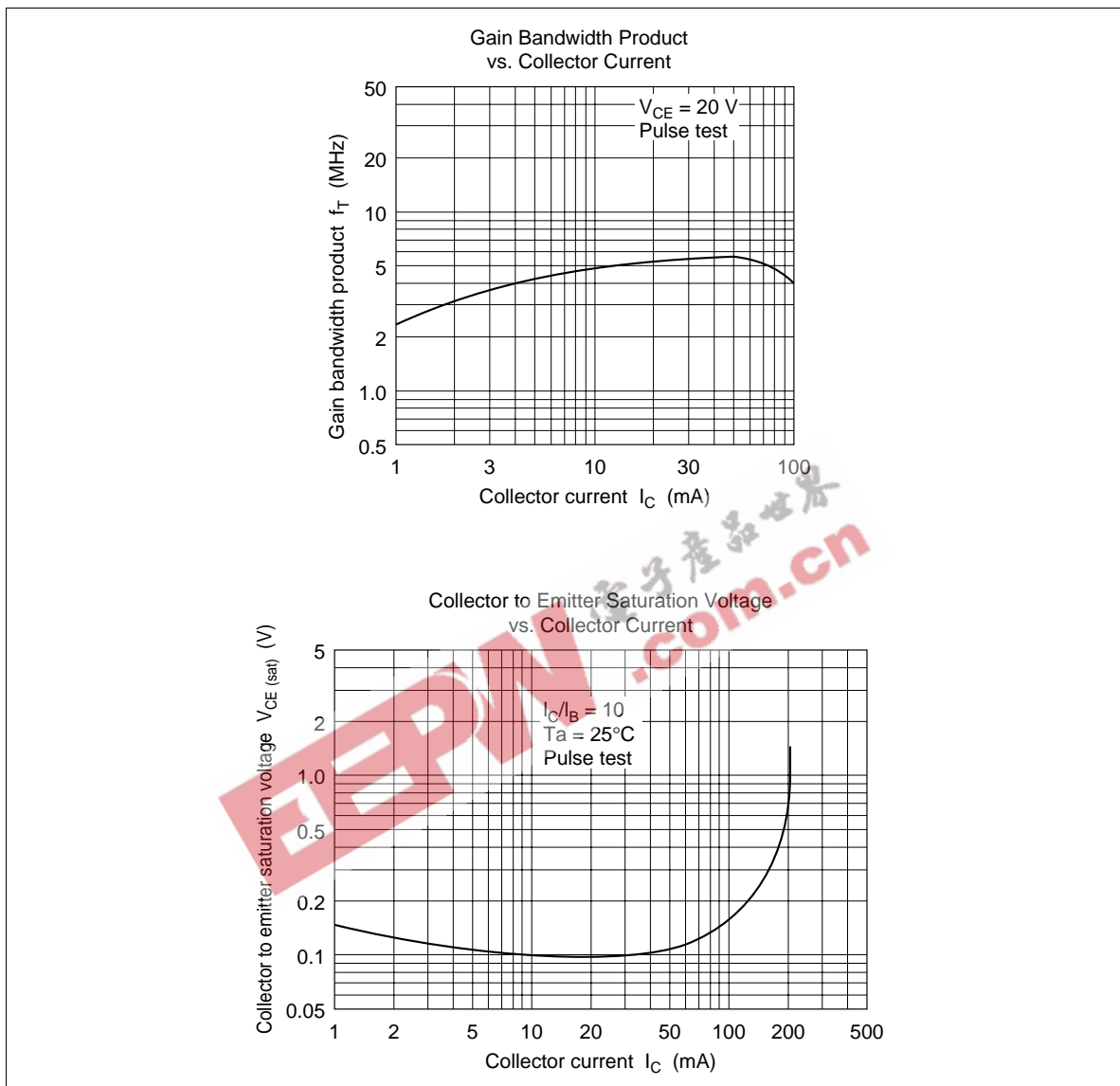
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	1000	—	—	V	$I_C = 1 \text{ mA}, R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	5	—	—	V	$I_E = 1 \text{ mA}, I_C = 0$
Collector cutoff current	I_{CBO}	—	—	10	μA	$V_{CB} = 800 \text{ V}, I_E = 0$
DC current transfer ratio	h_{FE1}	10	—	—		$V_{CE} = 5 \text{ V}, I_C = 10 \text{ mA}$
	h_{FE2}	10	—	—		$V_{CE} = 5 \text{ V}, I_C = 100 \text{ mA}$
Base to emitter voltage	V_{BE}	—	—	1.2	V	$V_{CE} = 5 \text{ V}, I_C = 100 \text{ mA}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	5	V	$I_C = 300 \text{ mA}, I_B = 60 \text{ mA}$
Gain bandwidth product	f_T	—	5	—	MHz	$V_{CE} = 20 \text{ V}, I_C = 50 \text{ mA}$
Collector output capacitance	Cob	—	5	—	pF	$V_{CB} = 100 \text{ V}, I_E = 0, f = 1 \text{ MHz}$



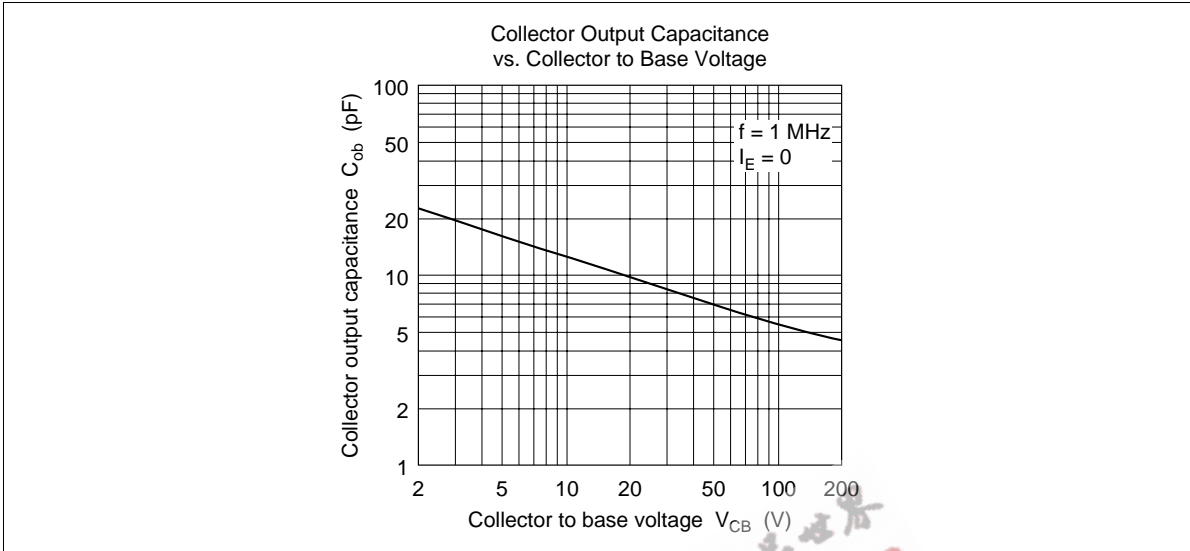
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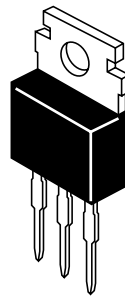
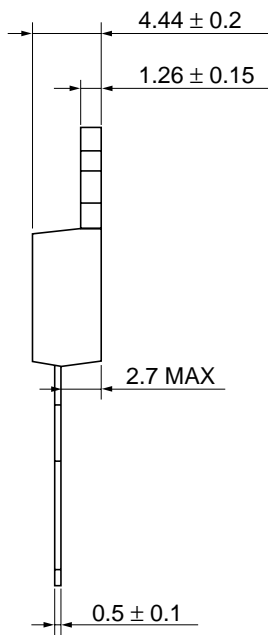
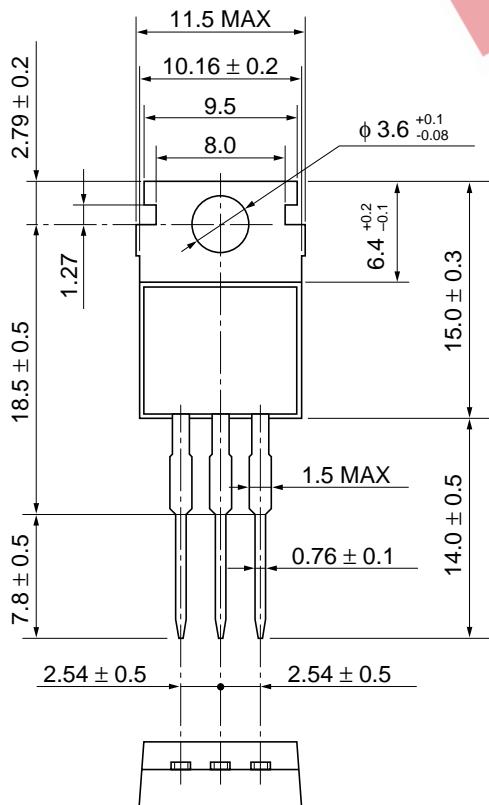


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Unit: mm



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

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