TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT process)

# 2SA1150

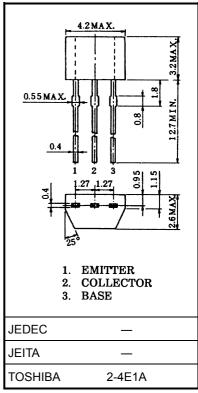
### Low Frequency Amplifier Applications

Unit: mm

High hFE: hFE = 100~320Complementary to 2SC2710.

### **Maximum Ratings (Ta = 25°C)**

Characteristics	Symbol	Rating	Unit
Collector-base voltage	$V_{CBO}$	-35	V
Collector-emitter voltage	V <sub>CEO</sub>	-30	V
Emitter-base voltage	V <sub>EBO</sub>	-5	V
Collector current	Ic	-800	mA
Base current	Ι <sub>Β</sub>	-160	mA
Collector power dissipation	PC	300	mW
Junction temperature	Tj	150	°C
Storage temperature range	T <sub>stg</sub>	-55~150	°C



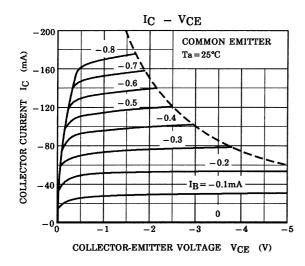
Weight: 0.13 g (typ.)

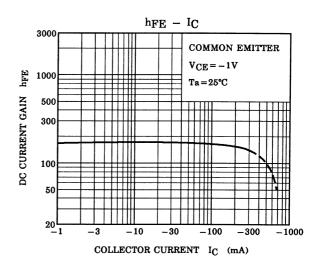
## **Electrical Characteristics (Ta = 25°C)**

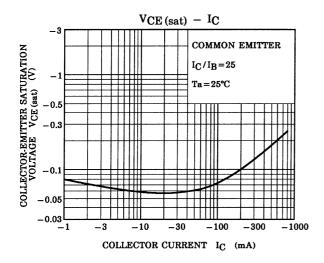
Characteristics	Symbol	Test Condition	Min	Тур.	Max	Unit
Collector cut-off current	I <sub>CBO</sub>	$V_{CB} = -30 \text{ V}, I_E = 0$	_	_	-0.1	μА
Emitter cut-off current	I <sub>EBO</sub>	$V_{EB} = -5 \text{ V}, I_{C} = 0$	_	_	-0.1	μΑ
Collector-emitter breakdown voltage	V <sub>(BR)</sub> CEO	$I_C = -10 \text{ mA}, I_B = 0$	-30	_	_	V
DC current gain	h <sub>FE (1)</sub> (Note)	V <sub>CE</sub> = -1 V, I <sub>C</sub> = -100 mA	100	_	320	
	h <sub>FE (2)</sub>	$V_{CE} = -1 \text{ V, } I_{C} = -700 \text{ mA}$	35	_	_	
Collector-emitter saturation voltage	V <sub>CE</sub> (sat)	$I_C = -500 \text{ mA}, I_B = -20 \text{ mA}$	_	_	-0.7	V
Base-emitter voltage	$V_{BE}$	$V_{CE} = -1 \text{ V, } I_{C} = -10 \text{ mA}$	-0.5	_	-0.8	V
Transition frequency	f <sub>T</sub>	$V_{CE} = -5 \text{ V}, I_{C} = -10 \text{ mA}$	_	120	_	MHz
Collector output capacitance	C <sub>ob</sub>	$V_{CB} = -10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$	_	19	_	pF

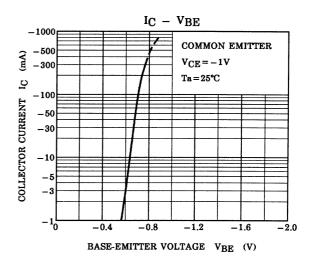
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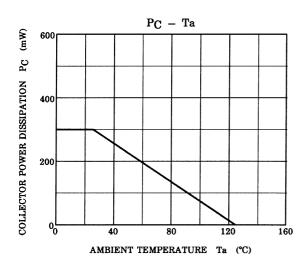
Note: h<sub>FE (1)</sub> classification O: 100~200, Y: 160~320











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