TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT process)

## 2SA1242

# Strobe Flash Applications Medium Power Amplifier Applications

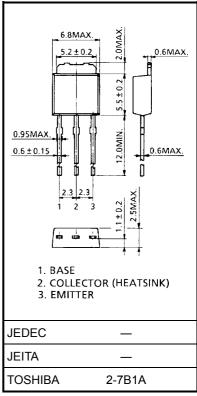
- Excellent hFE linearity
  - :  $h_{FE}(1) = 100 \text{ to } 320 \text{ (V}_{CE} = -2 \text{ V}, I_{C} = -0.5 \text{ A)}$
  - $: h_{FE}(2) = 70 \text{ (min) } (V_{CE} = -2 \text{ V}, I_{C} = -4 \text{ A})$
- Low collector saturation voltage
  - :  $V_{CE}$  (sat) = -1.0 V (max) ( $I_{C}$  = -4 A,  $I_{B}$  = -0.1 A)
- High power dissipation
  - $: P_C = 10 \text{ W (Tc} = 25^{\circ}\text{C)}, P_C = 1.0 \text{ W (Ta} = 25^{\circ}\text{C)}$

#### **Maximum Ratings (Ta = 25°C)**

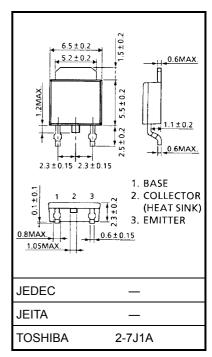
Characteristics		Symbol	Rating	Unit	
Collector-base voltage		$V_{CBO}$	-35	V	
Collector-emitter voltage		$V_{CEO}$	-20	V	
Emitter-base voltage		$V_{EBO}$	-8	V	
Collector current	DC	IC	-5	А	
	Pulsed (Note 1)	I <sub>CP</sub>	-8		
Base current		ΙΒ	-0.5	Α	
Collector power dissipation	Ta = 25°C	Pc	1.0	W	
	Tc = 25°C	FC	10		
Junction temperature		Tj	150	°C	
Storage temperature range		T <sub>stg</sub>	−55 to 150	°C	

Note 1: Pulse test: Pulse width = 10 ms (max), duty cycle = 30% (max)

Unit: mm



Weight: 0.36 g (typ.)



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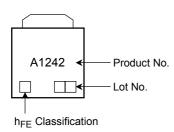


#### **Electrical Characteristics (Ta = 25°C)**

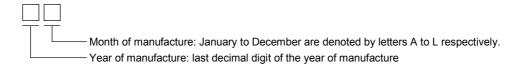
Characteristics	Symbol	Test Condition	Min	Тур.	Max	Unit
Collector cut-off current	I <sub>CBO</sub>	$V_{CB} = -35 \text{ V}, I_{E} = 0$	_	_	-100	nA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> = -8 V, I <sub>C</sub> = 0	_	_	-100	nA
Collector-emitter breakdown voltage	$V_{CEO}$	$I_C = -10 \text{ mA}, I_B = 0$	-20	_	_	٧
Emitter-base breakdown voltage	V <sub>EBO</sub>	$I_E = -1 \text{ mA}, I_C = 0$	-8	_	_	V
DC current gain	h <sub>FE (1)</sub> (Note2)	$V_{CE} = -2 \text{ V, I}_{C} = -0.5 \text{ A}$	100	_	320	
	h <sub>FE (2)</sub>	V <sub>CE</sub> = -2 V, I <sub>C</sub> = -4 A	70	_	_	
Collector-emitter saturation voltage	V <sub>CE (sat)</sub>	I <sub>C</sub> = -4 A, I <sub>B</sub> = -0.1 A	_	_	-1.0	V
Base-emitter voltage	$V_{BE}$	V <sub>CE</sub> = -2 V, I <sub>C</sub> = -4 A	_	_	-1.5	V
Transition frequency	f <sub>T</sub>	$V_{CE} = -2 \text{ V}, I_{C} = -0.5 \text{ A}$	_	170	_	MHz
Collector output capacitance	C <sub>ob</sub>	$V_{CB} = -10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$	_	62	_	pF

Note 2:  $h_{FE(1)}$  classification O: 100 to 200, Y: 160 to 320

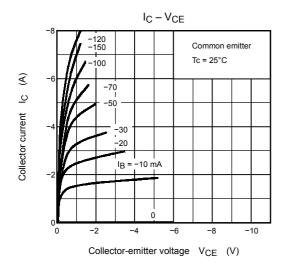
#### Marking

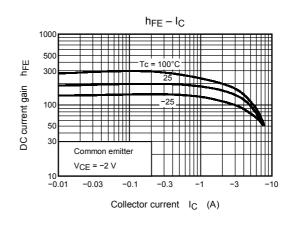


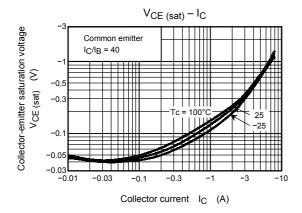
### **Explanation of Lot No.**

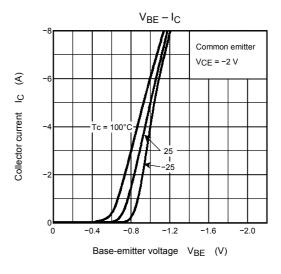


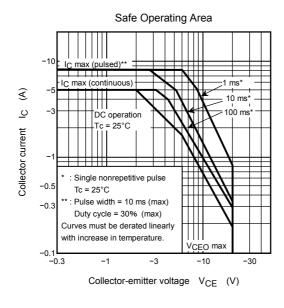
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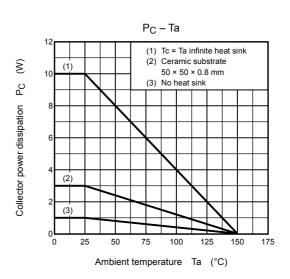












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