TOSHIBA Transistor Silicon NPN Epitaxial Type

## 2SC4684

# Strobe Flash Applications Medium Power Amplifier Applications

• High DC current gain

:  $h_{FE}$  (1) = 800 to 3200 ( $V_{CE}$  = 2 V,  $I_{C}$  = 0.5 A)

 $h_{FE}(2) = 250 \text{ (VCE} = 2 \text{ V, IC} = 4 \text{ A)}$ 

• Low collector saturation voltage

 $: V_{CE (sat)} = 0.5 \text{ V (max) (IC} = 4 \text{ A, IB} = 40 \text{ mA)}$ 

• High power dissipation

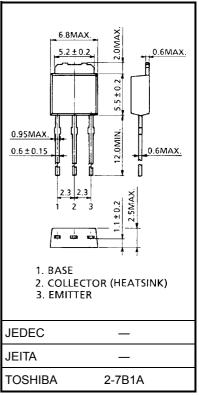
:  $P_C = 10 \text{ W (Tc} = 25^{\circ}\text{C}), P_C = 1.0 \text{ W (Ta} = 25^{\circ}\text{C})$ 

#### **Maximum Ratings (Ta = 25°C)**

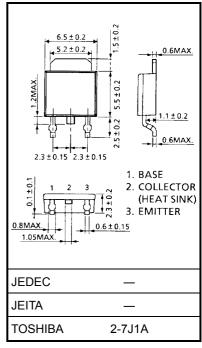
Characteristics		Symbol	Rating	Unit	
Collector-base voltage		$V_{CBO}$	50	٧	
Collector-emitter voltage		V <sub>CES</sub>	40	V	
		$V_{CEO}$	20	V	
Emitter-base voltage		V <sub>EBO</sub>	8	V	
Collector current	DC	Ic	5	Α	
	Pulse (Note)	I <sub>CP</sub>	8		
Base current		ΙΒ	0.5	Α	
Collector power dissipation	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: Pulse test: Pulse width = 10 ms (max), duty cycle = 30% (max)

Unit: mm



Weight: 0.36 g (typ.)

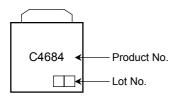


Weight: 0.36 g (typ.)

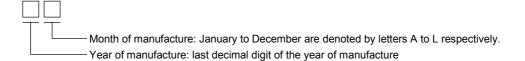
## Electrical Characteristics (Ta = 25°C)

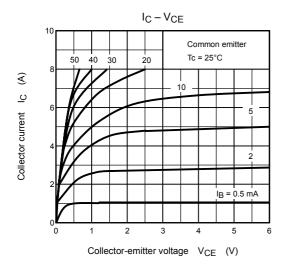
Characteristics	Symbol	Test Condition	Min	Тур.	Max	Unit
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> = 50 V, I <sub>E</sub> = 0	_	_	100	nA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> = 8 V, I <sub>C</sub> = 0	_	_	100	nA
Collector-emitter breakdown voltage	V <sub>CEO</sub>	I <sub>C</sub> = 10 mA, I <sub>B</sub> = 0	20	_	_	V
DC current gain	h <sub>FE (1)</sub>	V <sub>CE</sub> = 2 V, I <sub>C</sub> = 0.5 A	800	_	3200	
	h <sub>FE (2)</sub>	V <sub>CE</sub> = 2 V, I <sub>C</sub> = 4 A	250	_	_	
Collector-emitter saturation voltage	V <sub>CE</sub> (sat)	I <sub>C</sub> = 4 A, I <sub>B</sub> = 40 mA	_	_	0.5	V
Base-emitter voltage	V <sub>BE</sub>	V <sub>CE</sub> = 2 V, I <sub>C</sub> = 4 A	_	_	1.2	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> = 2 V, I <sub>C</sub> = 0.5 A	_	150	_	MHz
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> = 10 V, I <sub>E</sub> = 0, f = 1 MHz	_	45	_	pF

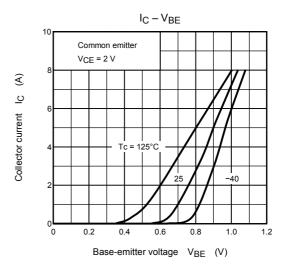
#### Marking

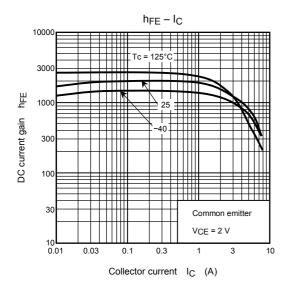


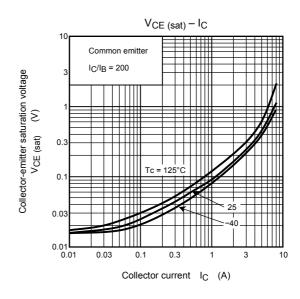
## **Explanation of Lot No.**

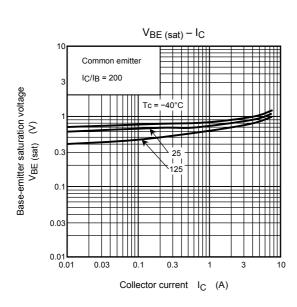


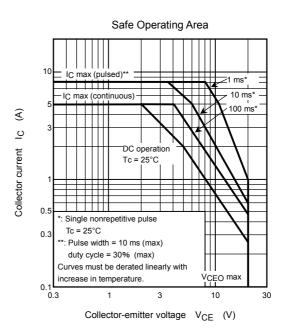












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