

TOSHIBA Transistor Silicon NPN Epitaxial Type (PCT Process)

# 2SC4682

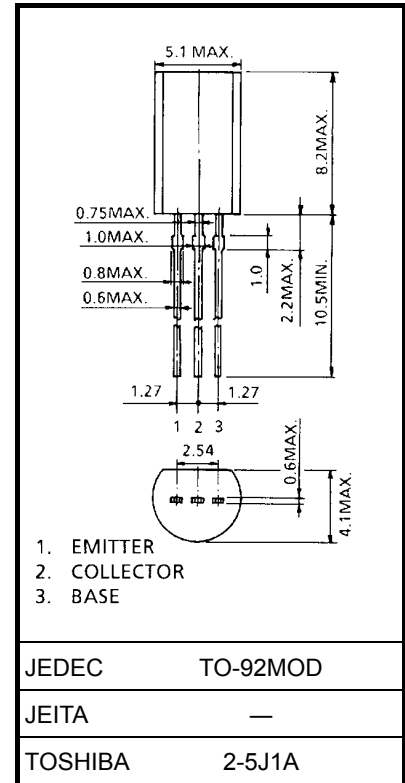
Strobe Flash Applications  
Medium Power Amplifier Applications

Unit: mm

- Excellent hFE linearity: hFE (1) = 800 to 3200 ( $V_{CE} = 1\text{ V}$ ,  $I_C = 0.5\text{ A}$ )  
: hFE (2) = 500 (typ.) ( $V_{CE} = 1\text{ V}$ ,  $I_C = 3\text{ A}$ )
- Low saturation voltage:  $V_{CE(sat)} = 0.5\text{ V (max)}$   
( $I_C = 3\text{ A}$ ,  $I_B = 30\text{ mA}$ )

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

Characteristics		Symbol	Rating	Unit
Collector-base voltage		$V_{CBO}$	30	V
Collector-emitter voltage		$V_{CES}$	30	V
		$V_{(BR)CEO}$	15	
Emitter-base voltage		$V_{EBO}$	6	V
Collector current	DC	$I_C$	3	A
	Pulse	$I_{CP}$	6	
Base current		$I_B$	0.8	A
Collector power dissipation		$P_C$	900	mW
Junction temperature		$T_j$	150	$^\circ\text{C}$
Storage temperature range		$T_{stg}$	-55 to 150	$^\circ\text{C}$



Weight: 0.36 g (typ.)

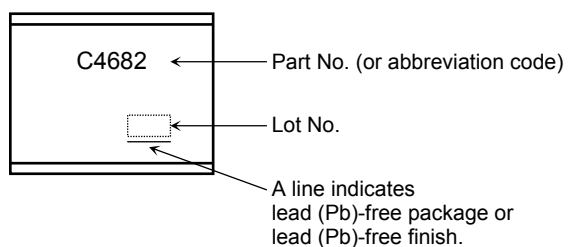
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.

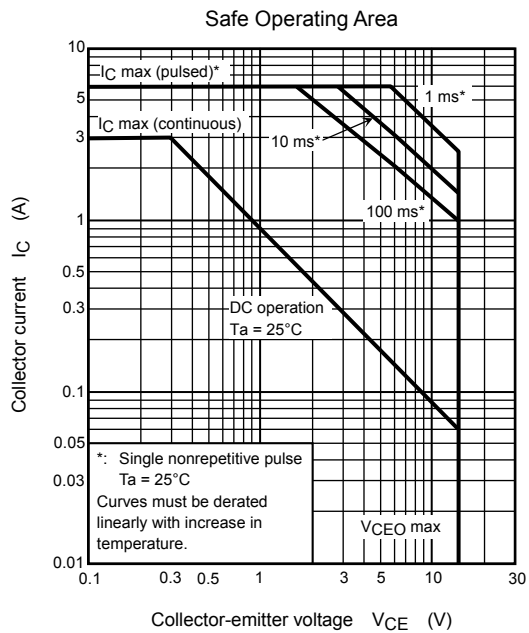
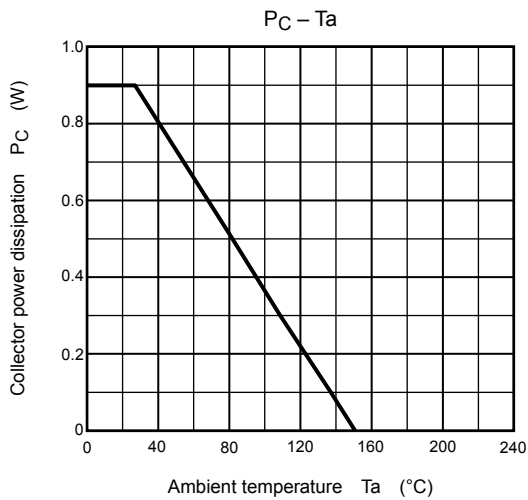
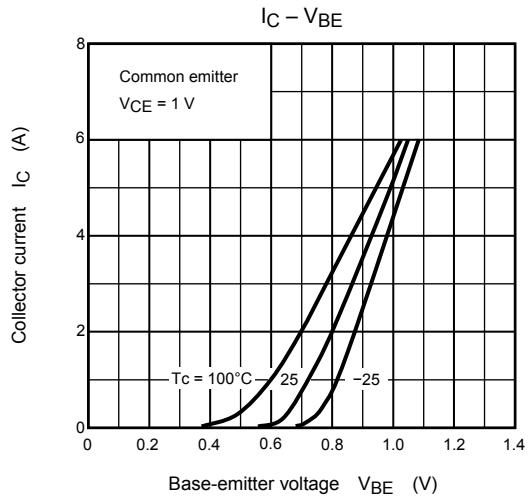
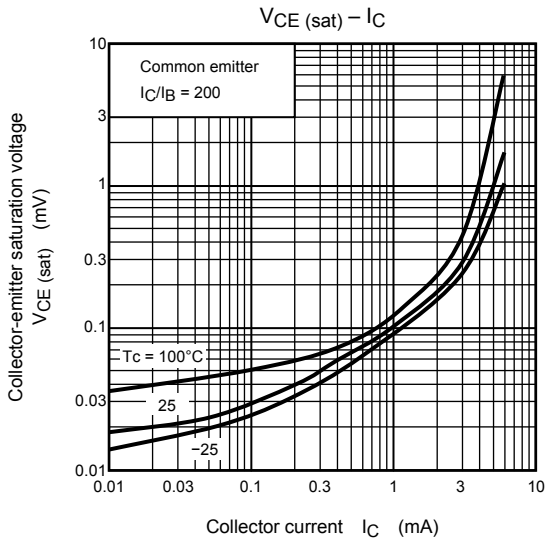
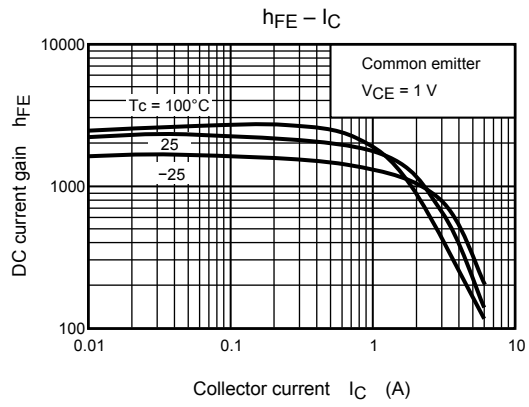
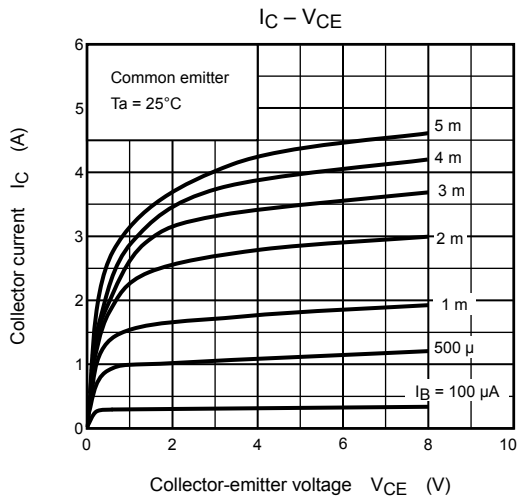
Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/Derating Concept and Methods) and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

## Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	$I_{CBO}$	$V_{CB} = 30\text{ V}, I_E = 0$	—	—	1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 6\text{ V}, I_C = 0$	—	—	10	$\mu\text{A}$
Collector-emitter breakdown voltage	$V_{(BR) CEO}$	$I_C = 10\text{ mA}, I_B = 0$	15	—	—	V
DC current gain	$h_{FE} (1)$	$V_{CE} = 1\text{ V}, I_C = 0.5\text{ A}$	800	—	3200	
	$h_{FE} (2)$	$V_{CE} = 1\text{ V}, I_C = 3\text{ A}$	300	500	—	
Collector-emitter saturation voltage	$V_{CE (sat)}$	$I_C = 3\text{ A}, I_B = 30\text{ mA}$	—	0.25	0.5	V
Base-emitter voltage	$V_{BE}$	$V_{CE} = 1\text{ V}, I_C = 3\text{ A}$	—	0.85	1.2	V
Transition frequency	$f_T$	$V_{CE} = 1\text{ V}, I_C = 0.5\text{ A}$	—	150	—	MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$	—	30	—	pF

## Marking





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