

# 2SC1846

## Silicon NPN epitaxial planar type

For midium output power amplification

Complementary to 2SA0885

### ■ Features

- Low collector to emitter saturation voltage  $V_{CE(sat)}$
- Output of 3 W can be obtained by a complementary pair with 2SA0885
- TO-126B package which requires no insulation plate for installation to the heat sink

### ■ Absolute Maximum Ratings $T_C = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector to base voltage	$V_{CBO}$	45	V
Collector to emitter voltage	$V_{CEO}$	35	V
Emitter to base voltage	$V_{EBO}$	5	V
Peak collector current	$I_{CP}$	1.5	A
Collector current	$I_C$	1	A
Collector power dissipation	$P_C$	1.2 *1	W
		5 *2	
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

Note) \*1: Without heat sink

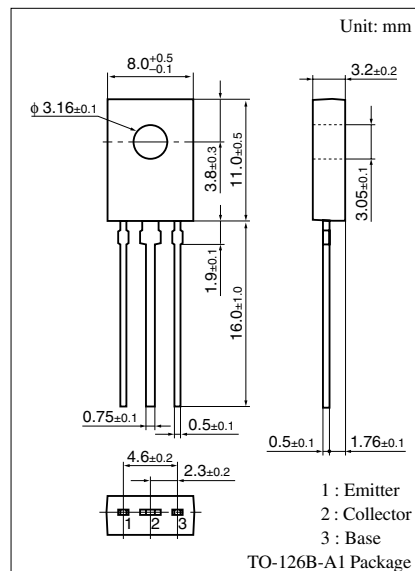
\*2: With a  $100 \times 100 \times 2$  mm Al heat sink

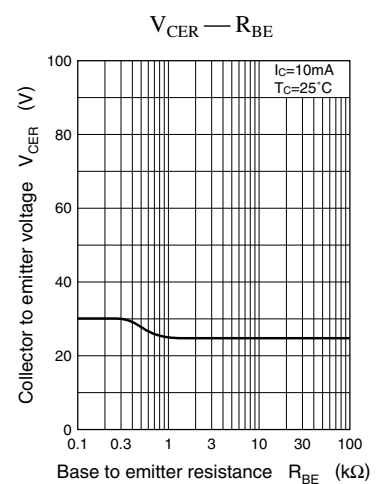
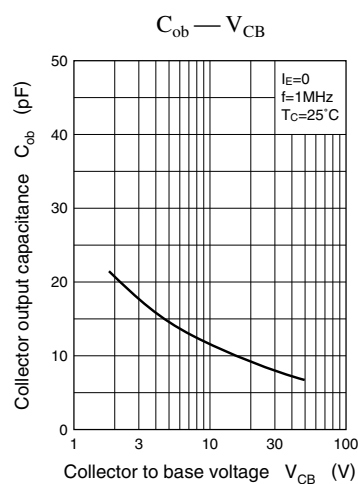
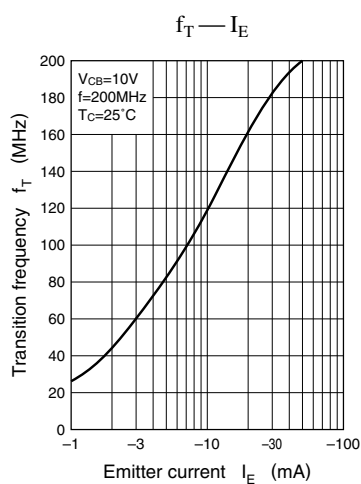
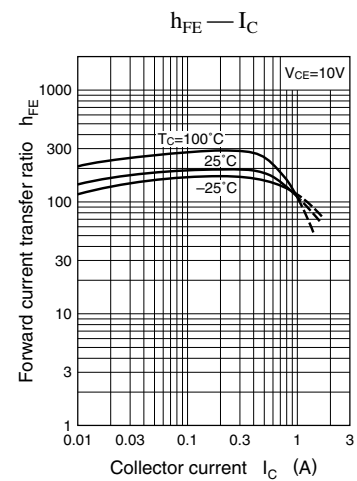
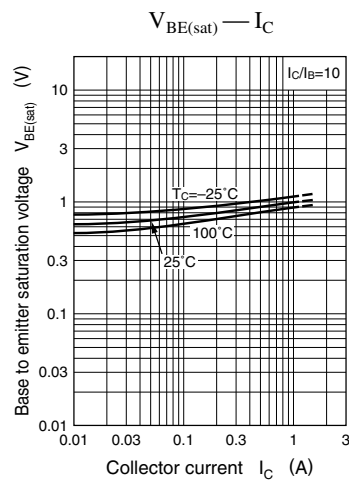
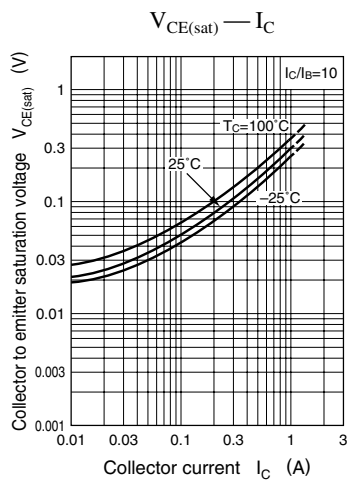
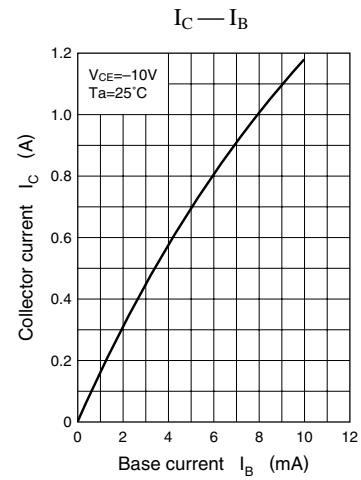
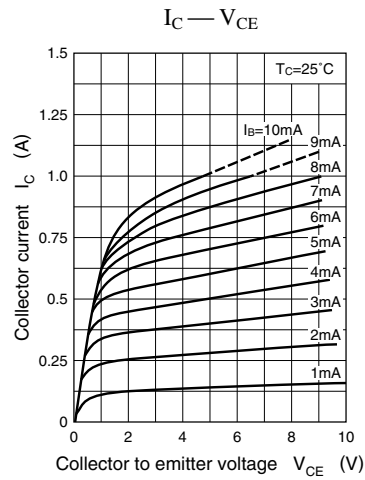
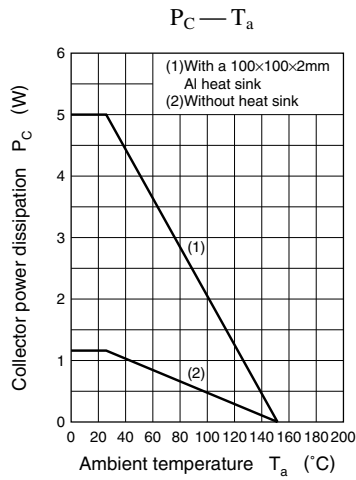
### ■ Electrical Characteristics $T_C = 25^\circ\text{C}$

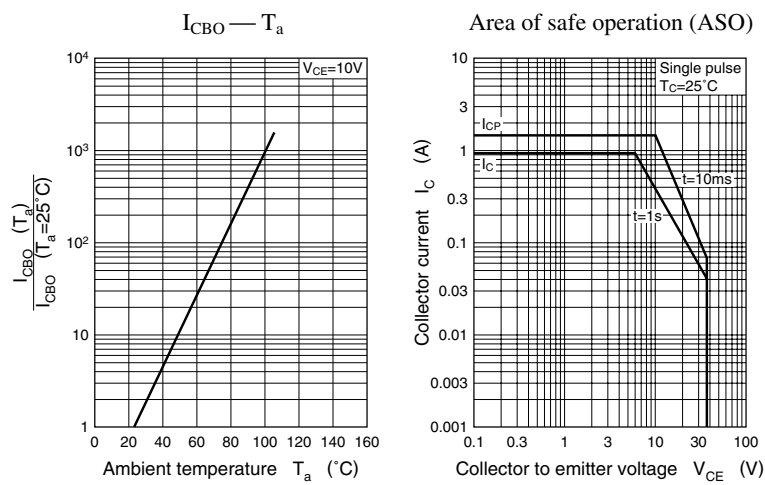
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = 20 \text{ V}, I_E = 0$			0.1	$\mu\text{A}$
	$I_{CEO}$	$V_{CE} = 20 \text{ V}, I_B = 0$			100	$\mu\text{A}$
Emitter cutoff current	$I_{EBO}$	$V_{EB} = 5 \text{ V}, I_C = 0$			10	$\mu\text{A}$
Collector to base voltage	$V_{CBO}$	$I_C = 1 \text{ mA}, I_E = 0$	45			V
Collector to emitter voltage	$V_{CEO}$	$I_C = 2 \text{ mA}, I_B = 0$	35			V
Forward current transfer ratio	$h_{FE1}^*$	$V_{CE} = 10 \text{ V}, I_C = 500 \text{ mA}$	85	160	340	
	$h_{FE2}$	$V_{CE} = 5 \text{ V}, I_C = 1 \text{ A}$	50			
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 500 \text{ mA}, I_B = 50 \text{ mA}$			0.5	V
Transition frequency	$f_T$	$V_{CB} = 10 \text{ V}, I_E = -50 \text{ mA}, f = 200 \text{ MHz}$		200		MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$			20	pF

Note) \*: Rank classification

Rank	Q	R	S
$h_{FE1}$	85 to 170	120 to 240	170 to 340







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