

2SC1846

Silicon NPN epitaxial planar type

For medium output power amplification

Complementary to 2SA0885 (2SA885)

■ 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

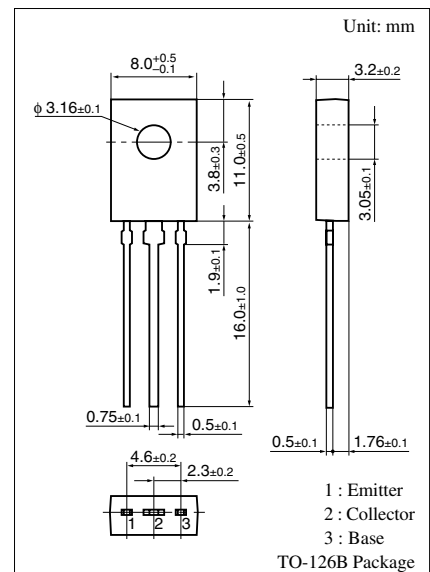
■ Electrical Characteristics $T_C = 25^\circ\text{C}$

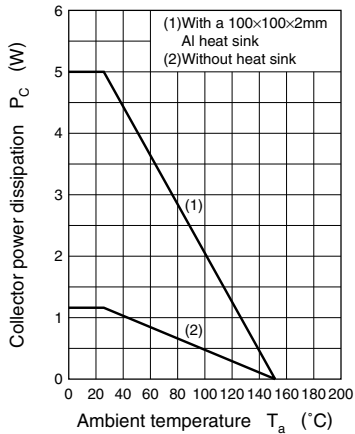
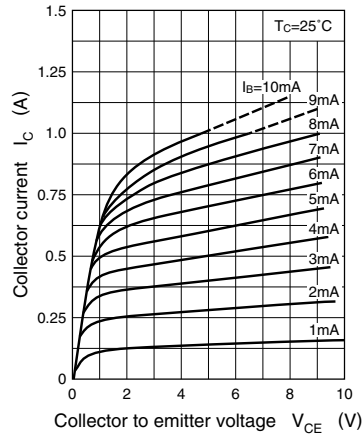
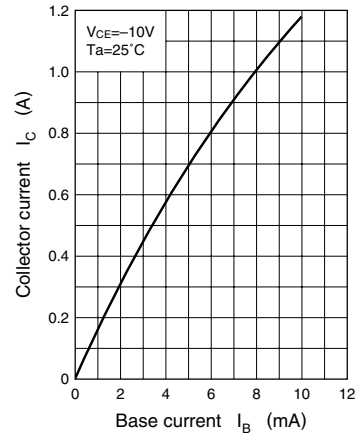
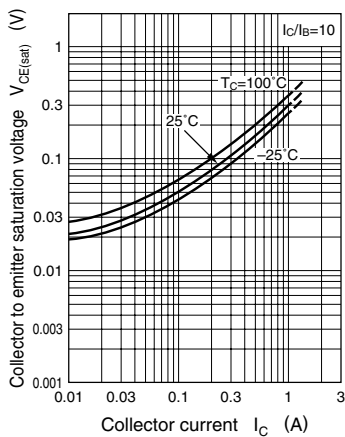
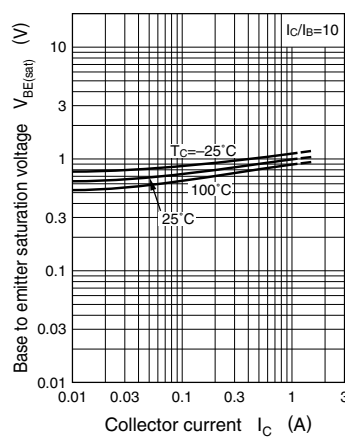
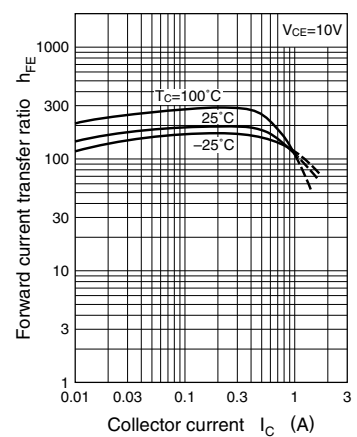
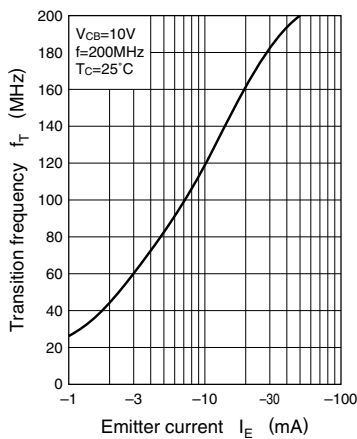
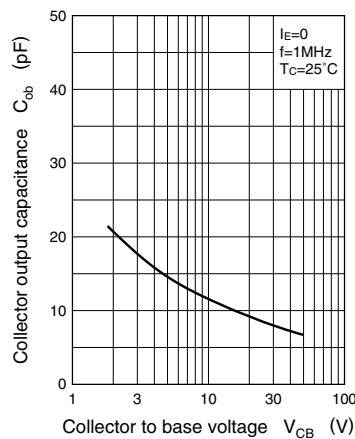
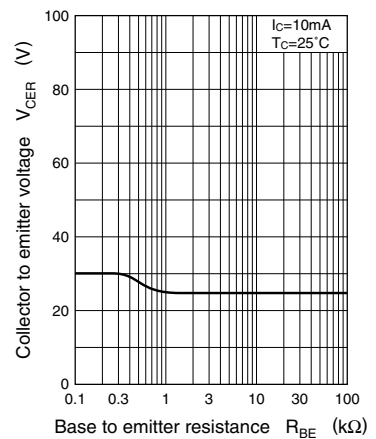
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = 20 \text{ V}, I_E = 0$			0.1	μA
	I_{CEO}	$V_{CE} = 20 \text{ V}, I_B = 0$			100	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = 5 \text{ V}, I_C = 0$			10	μA
Collector to base voltage	V_{CBO}	$I_C = 1 \text{ mA}, I_E = 0$	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

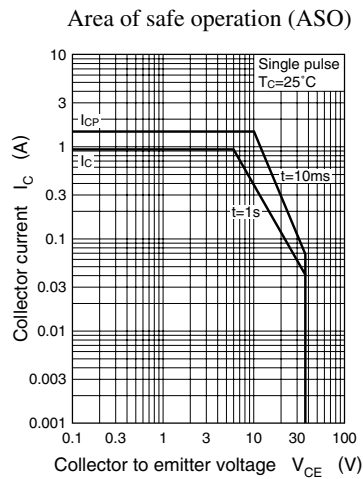
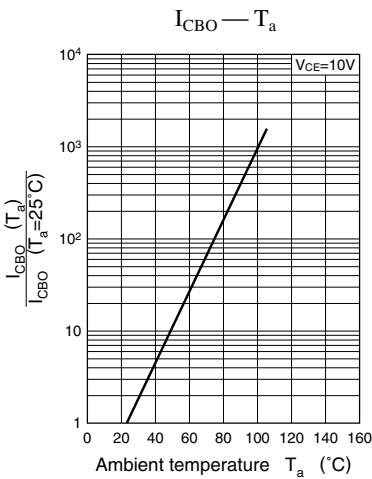
Note) *: Rank classification

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

Note) The part number in the parenthesis shows conventional part number.



$P_C - T_a$  $I_C - V_{CE}$  $I_C - I_B$  $V_{CE(sat)} - I_C$  $V_{BE(sat)} - I_C$  $h_{FE} - I_C$  $f_T - I_E$  $C_{ob} - V_{CB}$  $V_{CER} - R_{BE}$ 



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