

# 2SC1847

## Silicon NPN epitaxial planar type

For medium output power amplification  
Complementary to 2SA0886 (2SA886)

### ■ Features

- Output of 4 W can be obtained by a complementary pair with 2SA0886
- 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	$V_{CBO}$	50	V
Collector to emitter voltage	$V_{CEO}$	40	V
Emitter to base voltage	$V_{EBO}$	5	V
Peak collector current	$I_{CP}$	3	A
Collector current	$I_C$	1.5	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

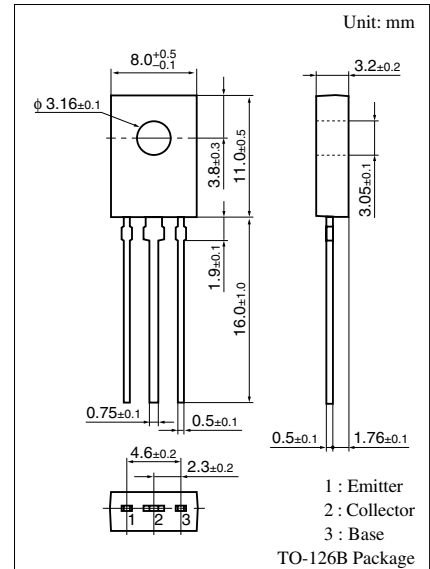
\*2: With a  $100 \times 100 \times 2$  mm A1 heat sink

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

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = 20 \text{ V}, I_E = 0$			1	$\mu\text{A}$
	$I_{CEO}$	$V_{CE} = 10 \text{ V}, I_B = 0$			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	$V_{CBO}$	$I_C = 1 \text{ mA}, I_E = 0$	50			V
Collector to emitter voltage	$V_{CEO}$	$I_C = 2 \text{ mA}, I_B = 0$	40			V
Forward current transfer ratio *	$h_{FE}$	$V_{CE} = 5 \text{ V}, I_C = 1 \text{ A}$	80		220	
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 2 \text{ A}, I_B = 0.2 \text{ A}$			1	V
Base to emitter saturation voltage	$V_{BE(sat)}$	$I_C = 2 \text{ A}, I_B = 0.2 \text{ A}$			1.5	V
Transition frequency	$f_T$	$V_{CB} = 5 \text{ V}, I_E = -0.5 \text{ A}, f = 200 \text{ MHz}$		150		MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = 20 \text{ V}, I_E = 0, f = 1 \text{ MHz}$		35		pF

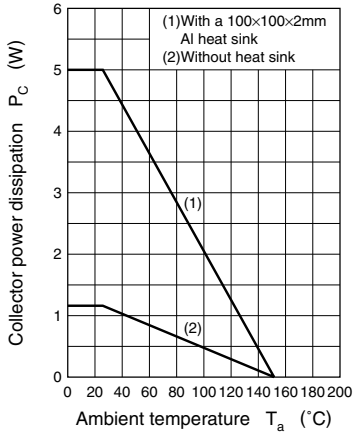
Note) \*: Rank classification

Rank	Q	R
$h_{FE}$	80 to 160	120 to 220

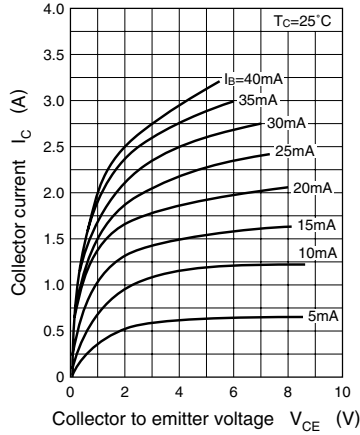


Note) The part number in the parenthesis shows conventional part number.

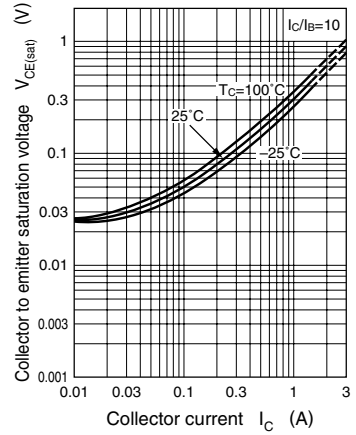
$P_C - T_a$



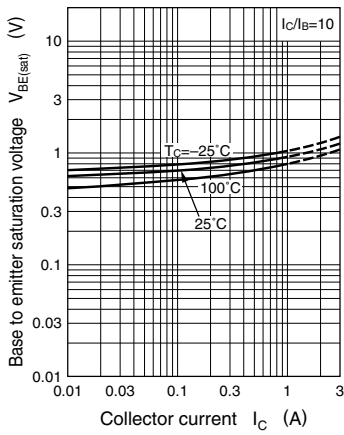
$I_C - V_{CE}$



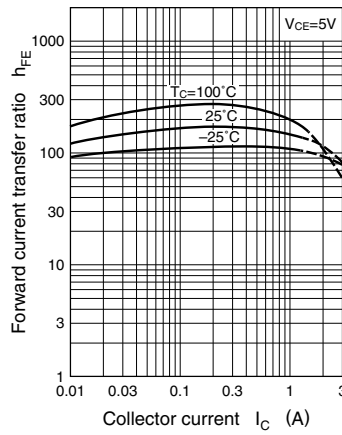
$V_{CE(sat)} - I_C$



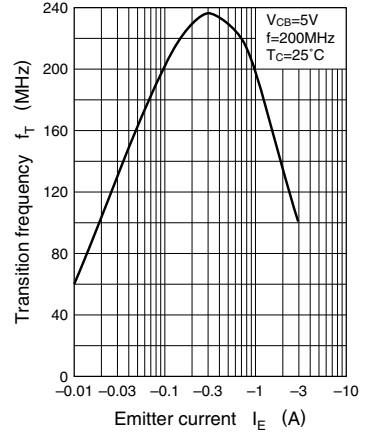
$V_{BE(sat)} - I_C$



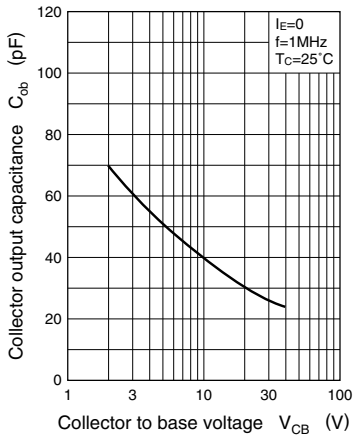
$h_{FE} - I_C$



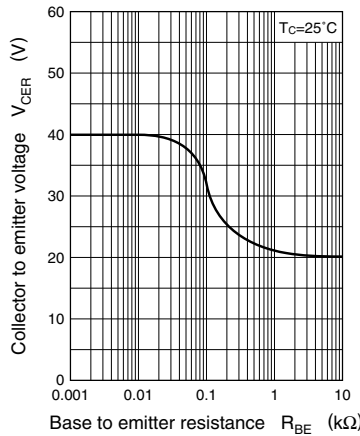
$f_T - I_E$



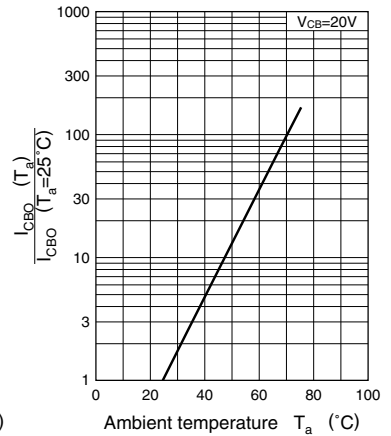
$C_{ob} - V_{CB}$



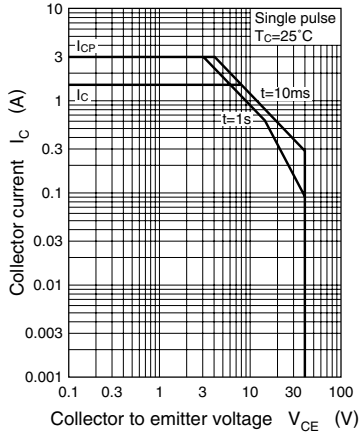
$V_{CER} - R_{BE}$



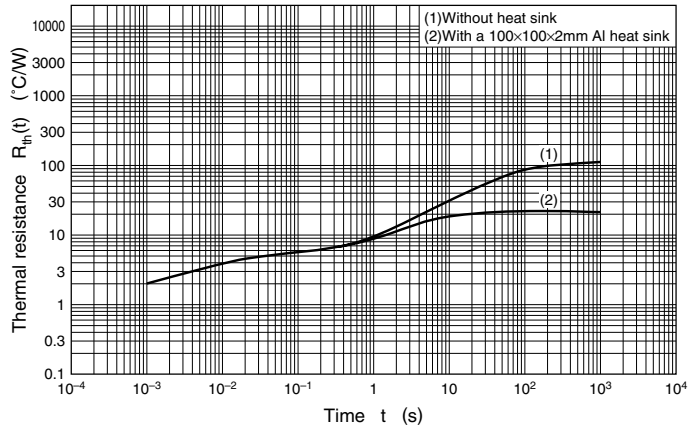
$I_{CBO} - T_a$



Area of safe operation (ASO)



$R_{th(t)} - t$



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