

2SC1847

Silicon NPN epitaxial planar type

For medium output power amplification

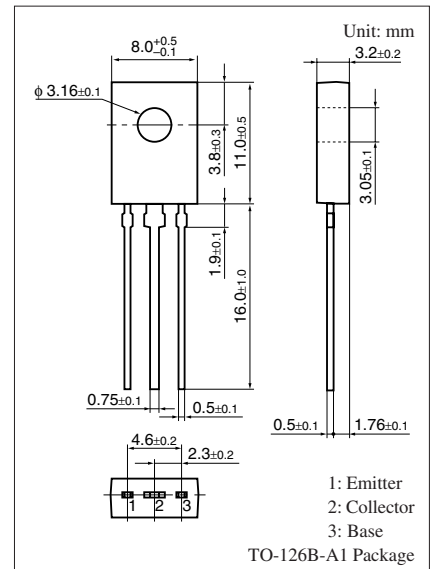
Complementary to 2SA0886

■ 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 $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	50	V
Collector-emitter voltage (Base open)	V_{CEO}	40	V
Emitter-base voltage (Collector open)	V_{EBO}	5	V
Collector current	I_{C}	1.5	A
Peak collector current	I_{CP}	3	A
Collector power dissipation	P_{C}	1.2	W
Junction temperature	T_{j}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$



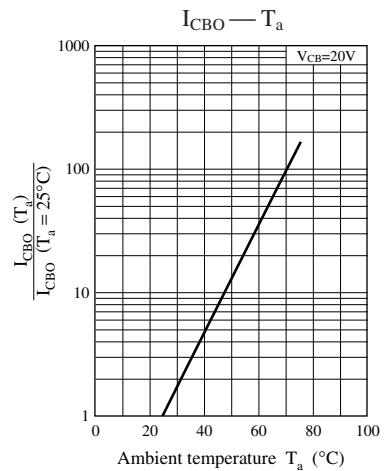
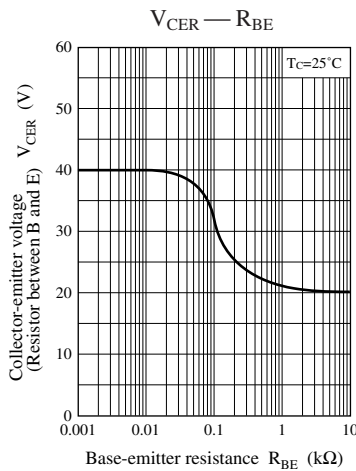
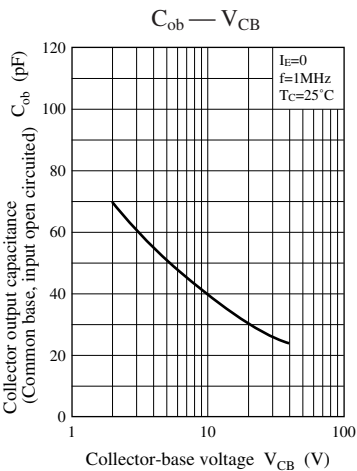
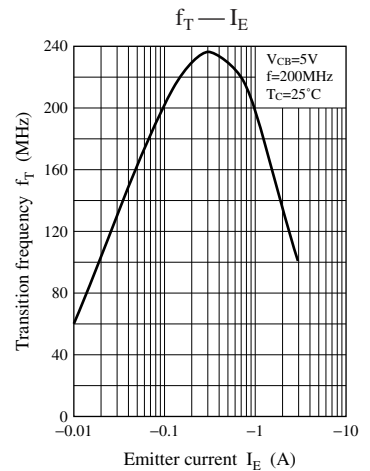
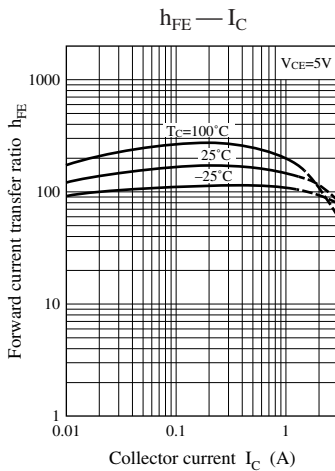
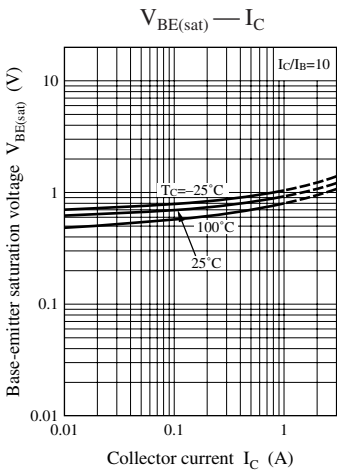
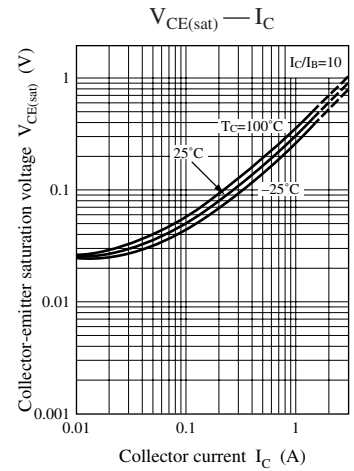
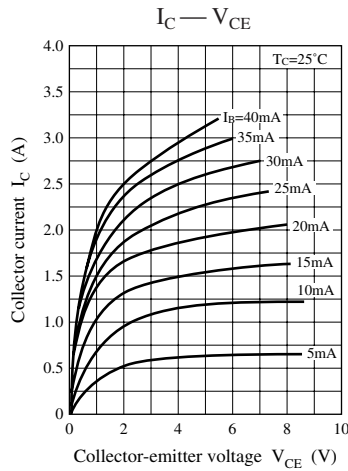
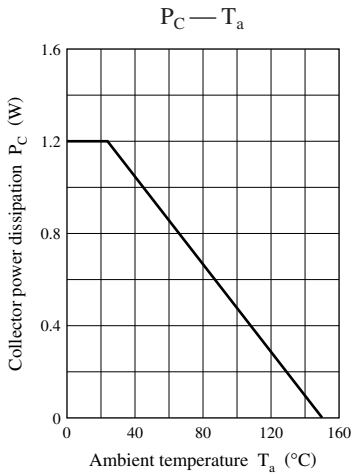
■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V_{CBO}	$I_{\text{C}} = 1 \text{ mA}, I_{\text{E}} = 0$	50			V
Collector-emitter voltage (Base open)	V_{CEO}	$I_{\text{C}} = 2 \text{ mA}, I_{\text{B}} = 0$	40			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{\text{CB}} = 20 \text{ V}, I_{\text{E}} = 0$			1	μA
Collector-emitter cutoff current (Base open)	I_{CEO}	$V_{\text{CE}} = 10 \text{ V}, I_{\text{B}} = 0$			100	μA
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{\text{EB}} = 5 \text{ V}, I_{\text{C}} = 0$			10	μA
Forward current transfer ratio *	h_{FE}	$V_{\text{CE}} = 5 \text{ V}, I_{\text{C}} = 1 \text{ A}$	80		220	—
Collector-emitter saturation voltage	$V_{\text{CE(sat)}}$	$I_{\text{C}} = 2 \text{ A}, I_{\text{B}} = 0.2 \text{ A}$			1	V
Base-emitter saturation voltage	$V_{\text{BE(sat)}}$	$I_{\text{C}} = 2 \text{ A}, I_{\text{B}} = 0.2 \text{ A}$			1.5	V
Transition frequency	f_{T}	$V_{\text{CB}} = 5 \text{ V}, I_{\text{E}} = -0.5 \text{ A}, f = 200 \text{ MHz}$		150		MHz
Collector output capacitance (Common base, input open circuited)	C_{ob}	$V_{\text{CB}} = 20 \text{ V}, I_{\text{E}} = 0, f = 1 \text{ MHz}$		35		pF

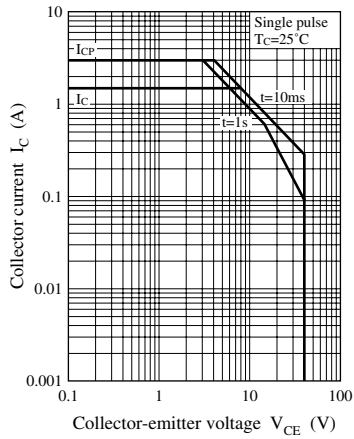
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. *: Rank classification

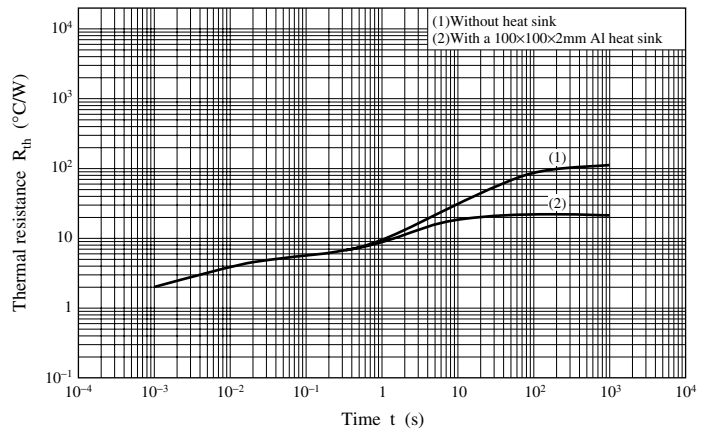
Rank	Q	R
h_{FE}	80 to 160	120 to 220



Safe operation area



R_{th} — t



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