



SANYO Semiconductors

## DATA SHEET

# 2SB1230 / 2SD1840 — High-Current Switching Applications

PNP / NPN Epitaxial Planar Silicon Transistors

## Applications

- Motor drivers, relay drivers, converters and other general high-current switching applications.

## Features

- Large current capacity and wide ASO.
- Low saturation voltage.

## Specifications ( ) : 2SB1230

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V <sub>CB0</sub>		(-)110	V
Collector-to-Emitter Voltage	V <sub>CEO</sub>		(-)100	V
Emitter-to-Base Voltage	V <sub>EBO</sub>		(-)6	V
Collector Current	I <sub>C</sub>		(-)15	A
Collector Current (Pulse)	I <sub>CP</sub>		(-)25	A
Base Current	I <sub>B</sub>		(-)5	A
Collector Dissipation	P <sub>C</sub>		3.0	W
		T <sub>C</sub> =25°C	100	W
Junction Temperature	T <sub>J</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-55 to +150	°C

## Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I <sub>CB0</sub>	V <sub>CB</sub> =(-)100V, I <sub>E</sub> =0A			(-)0.1	mA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> =(-)5V, I <sub>C</sub> =0A			(-)0.1	mA
DC Current Gain	h <sub>FE1</sub>	V <sub>CE</sub> =(-)2V, I <sub>C</sub> =(-)1.5A	50*		140*	
	h <sub>FE2</sub>	V <sub>CE</sub> =(-)2V, I <sub>C</sub> =(-)6A	20			
Collector-to-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =(-)6A, I <sub>B</sub> =(-)0.6A			(-)0.8	V
Base-to-Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =(-)6A, I <sub>B</sub> =(-)0.6A			(-)1.5	V

Continued on next page.

\* : For the h<sub>FE1</sub> of the 2SB1230 / 2SD1840, specify two ranks or more in principle.

Rank	P	Q
h <sub>FE</sub>	50 to 100	70 to 140

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# 2SB1230 / 2SD1840

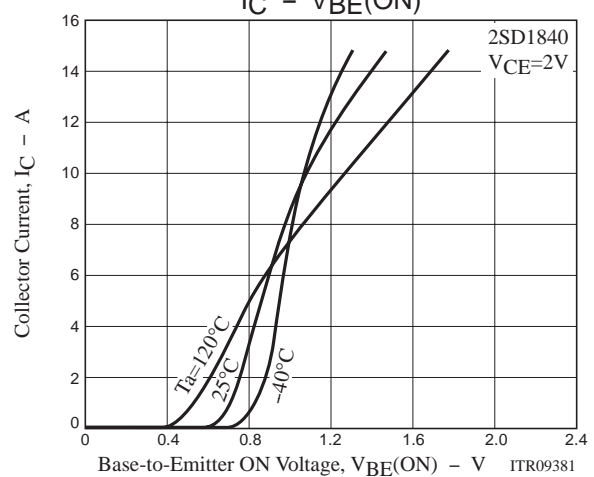
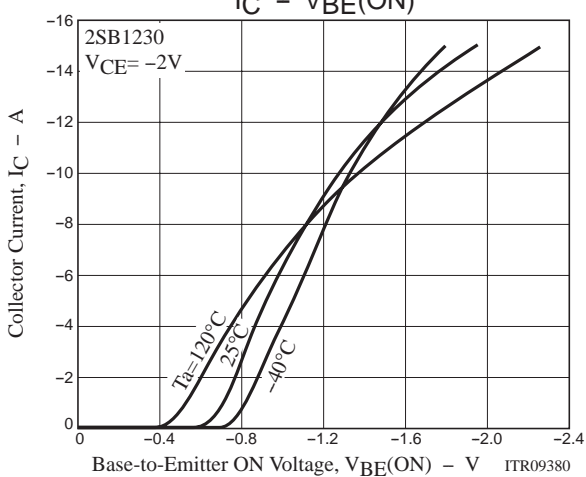
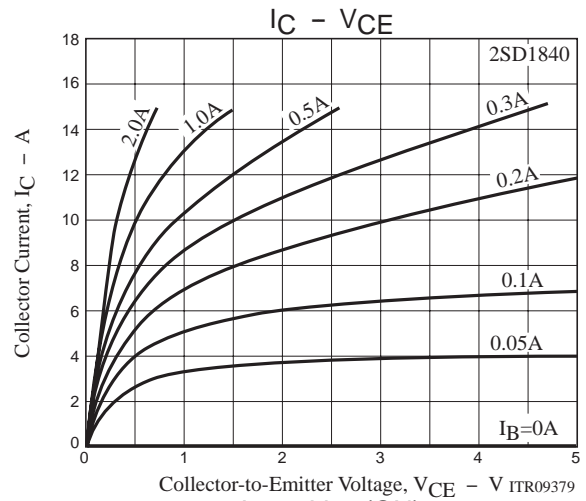
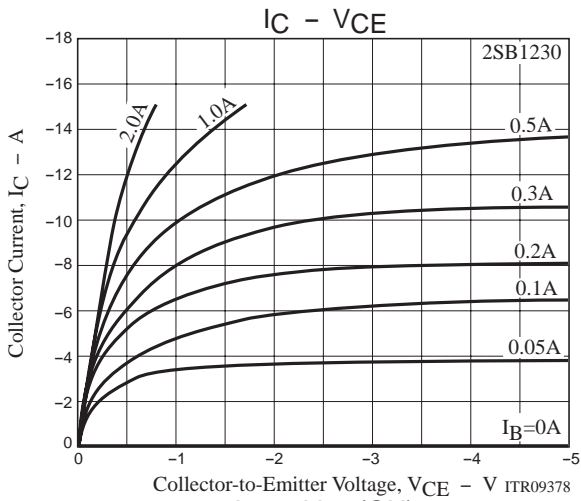
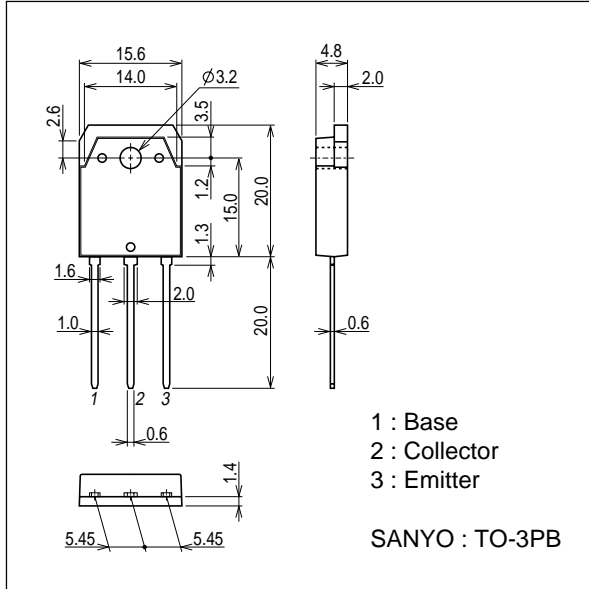
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)1mA, I_E = 0A$	(-)110			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)5mA, R_{BE} = \infty$	(-)100			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = (-)1mA, I_C = 0A$	(-)6			V

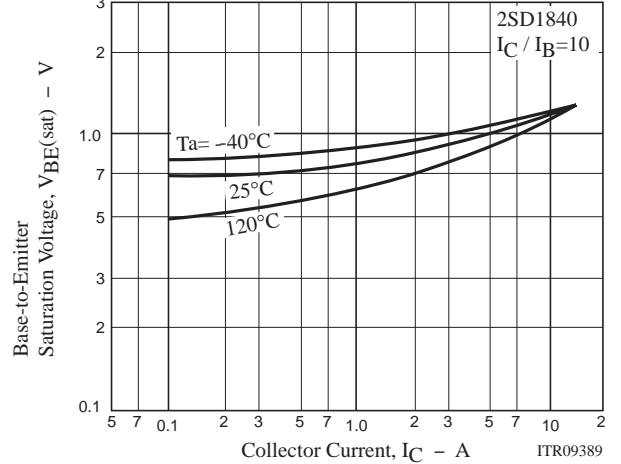
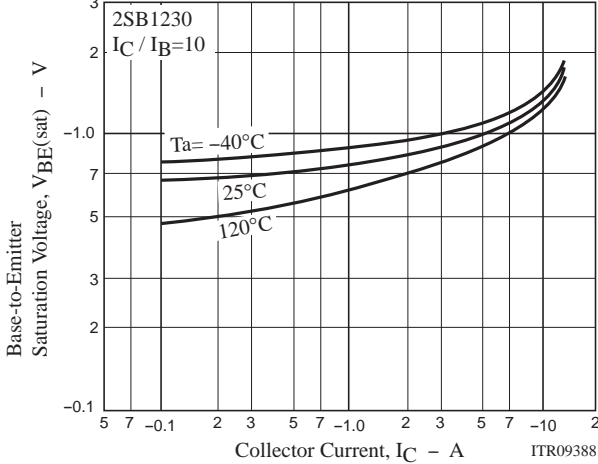
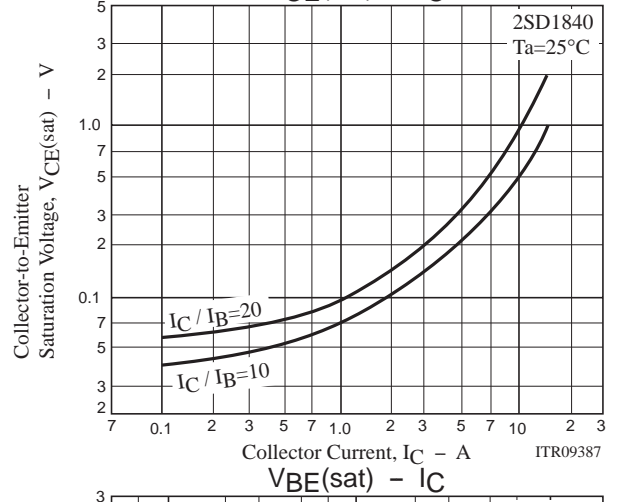
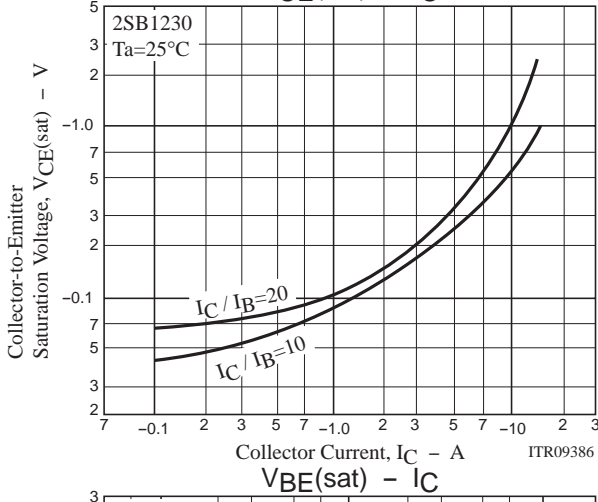
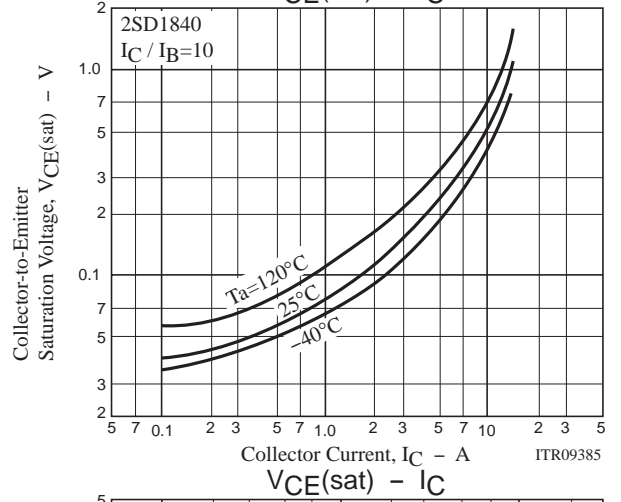
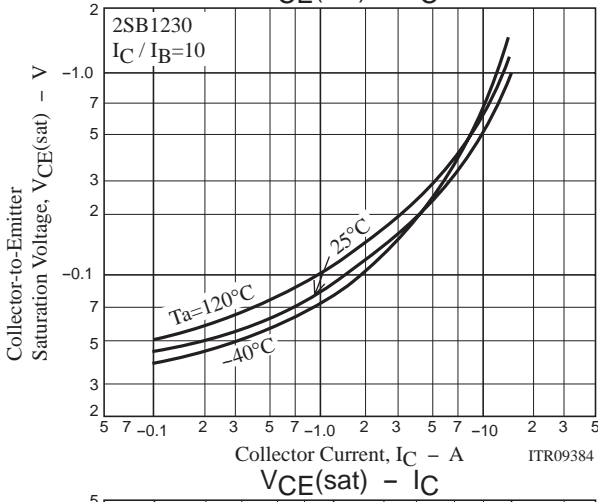
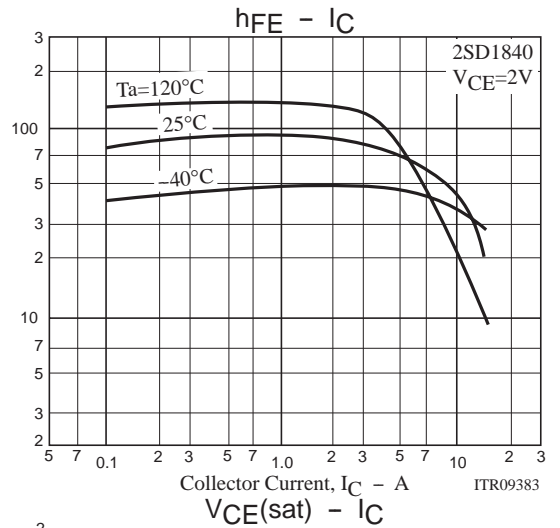
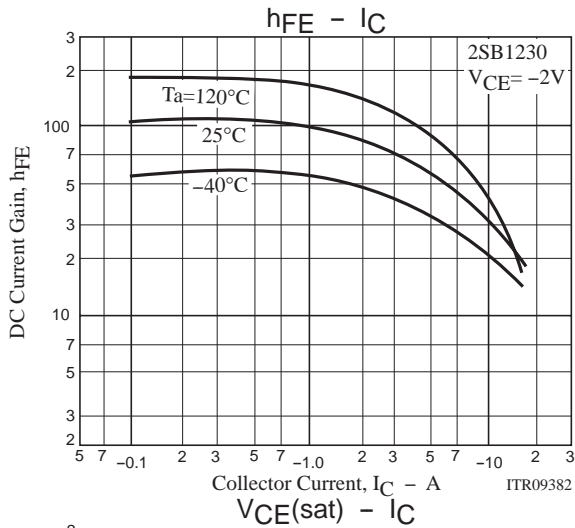
## Package Dimensions

unit : mm

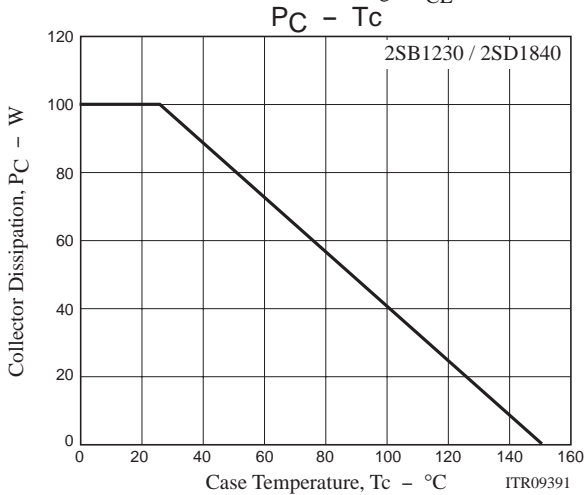
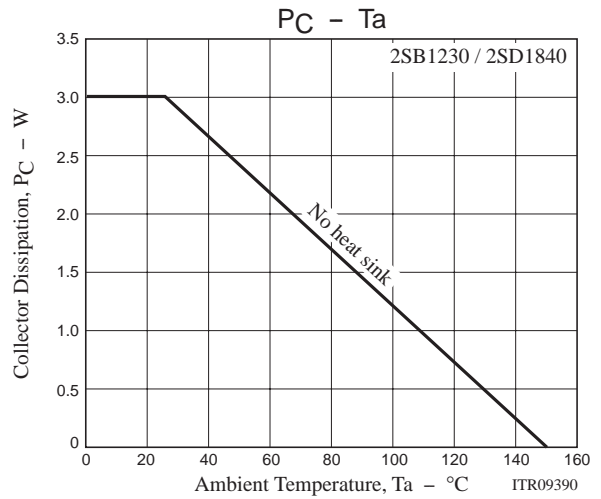
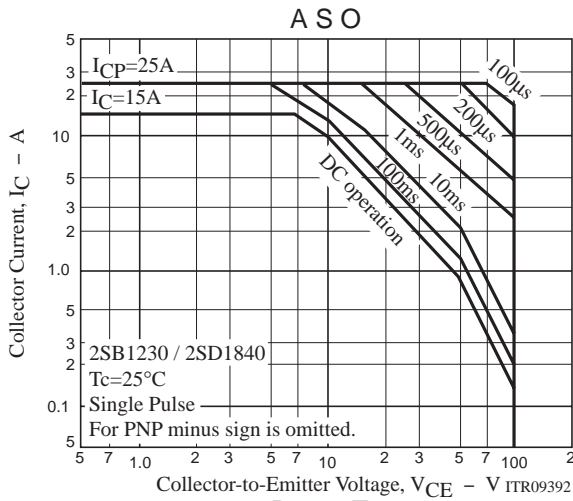
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# 2SB1230 / 2SD1840



## 2SB1230 / 2SD1840



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