



# 2SB1231/2SD1841

## 100V/25A Switching Applications

### Applications

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

### Features

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

( ) : 2SB1231

### Specifications

#### Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CB0}$		(-110)	V
Collector-to-Emitter Voltage	$V_{CE0}$		(-100)	V
Emitter-to-Base Voltage	$V_{EBO}$		(-6)	V
Collector Current	$I_C$		(-25)	A
Collector Current (Pulse)	$I_{CP}$		(-40)	A
Base Current	$I_B$		(-8)	A
Collector Dissipation	$P_C$		3.0	W
		$T_c=25^\circ\text{C}$	120	W
Junction Temperature	$T_j$		150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$		-55 to +150	$^\circ\text{C}$

#### Electrical Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = (-)100\text{V}, I_E = 0$			(-0.1)	mA
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = (-)5\text{V}, I_C = 0$			(-0.1)	mA
DC Current Gain	$h_{FE1}$	$V_{CE} = (-)2\text{V}, I_C = (-)2.5\text{A}$	50*		140*	
	$h_{FE2}$	$V_{CE} = (-)2\text{V}, I_C = (-)10\text{A}$	20			
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)10\text{A}, I_B = (-)1\text{A}$			(-0.8)	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = (-)10\text{A}, I_B = (-)1\text{A}$			(-1.5)	V

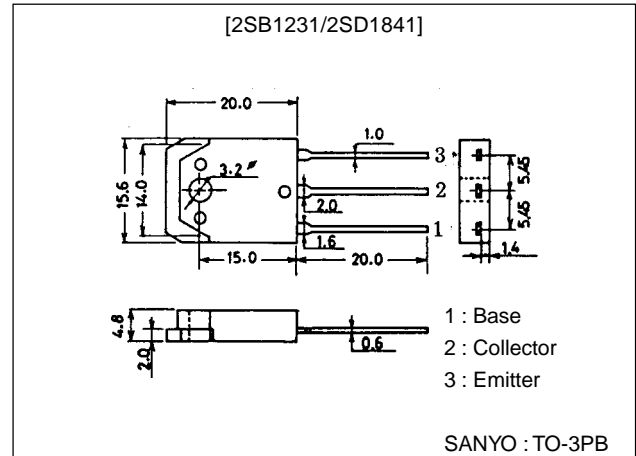
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### Package Dimensions

unit:mm

2022A

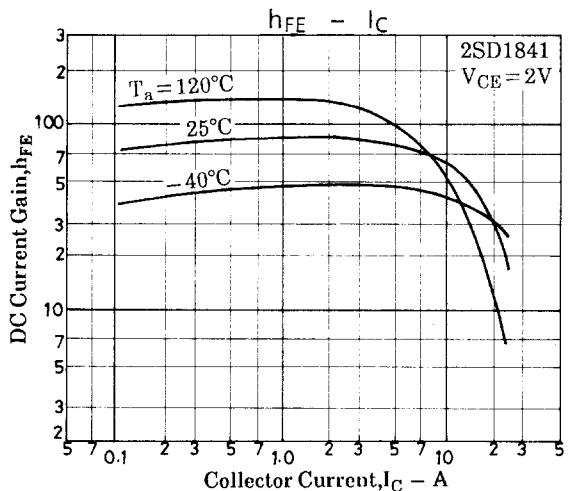
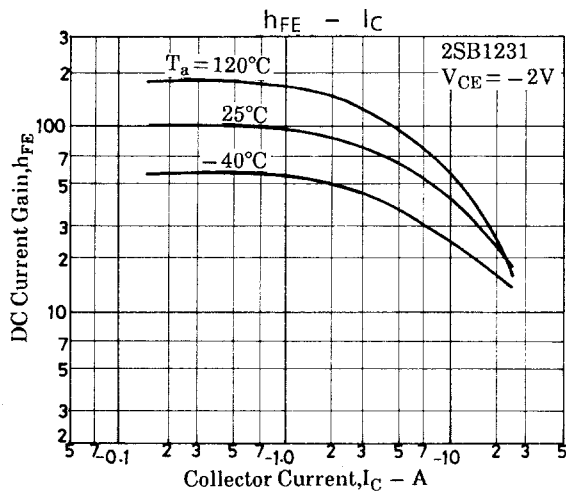
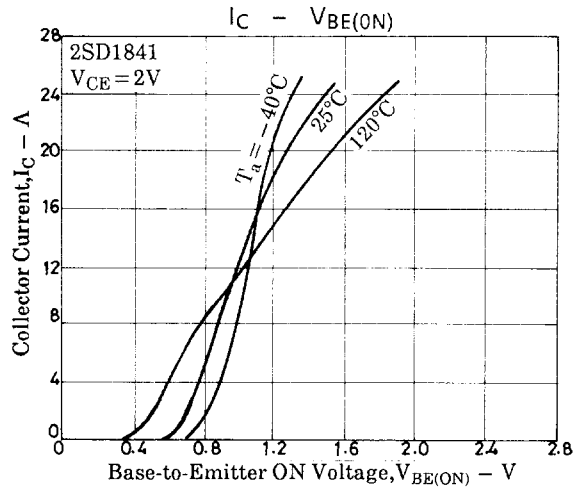
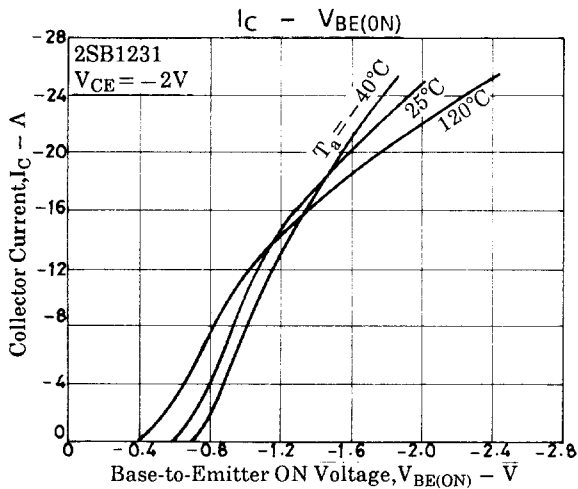
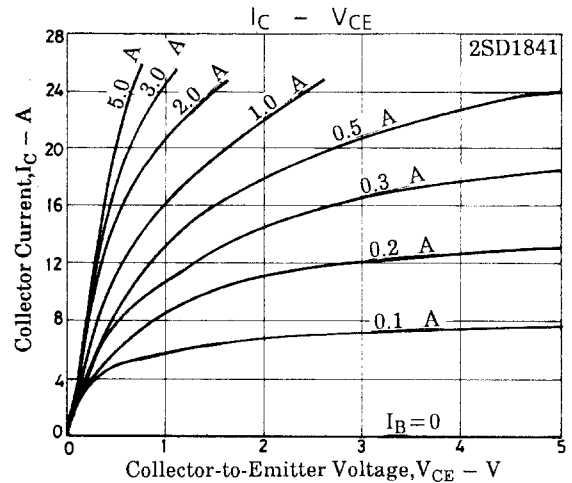
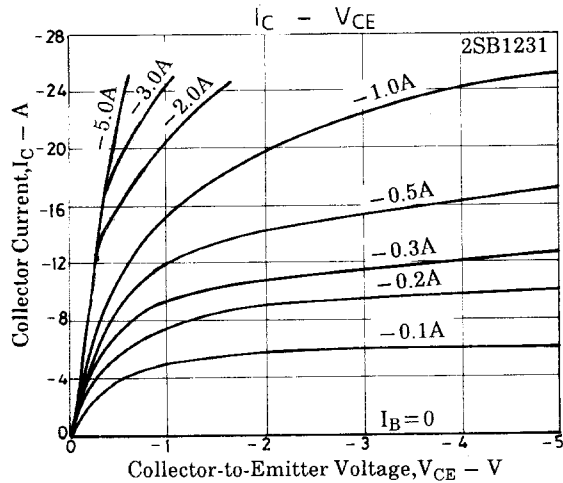


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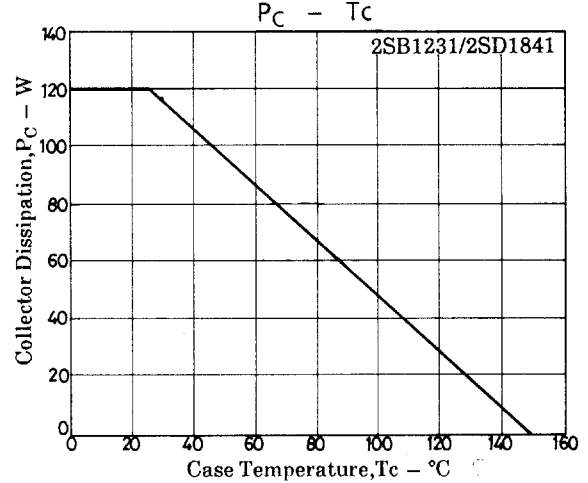
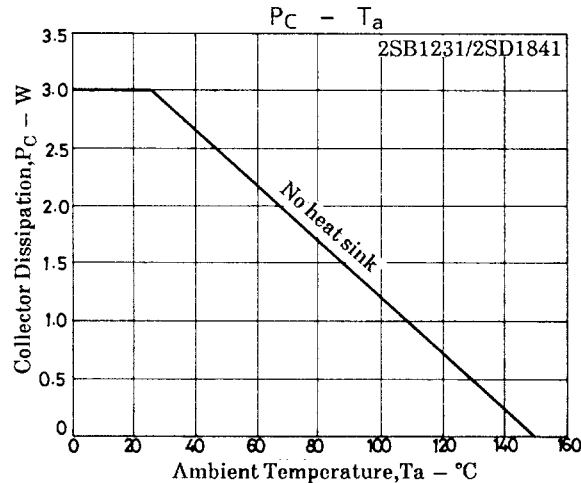
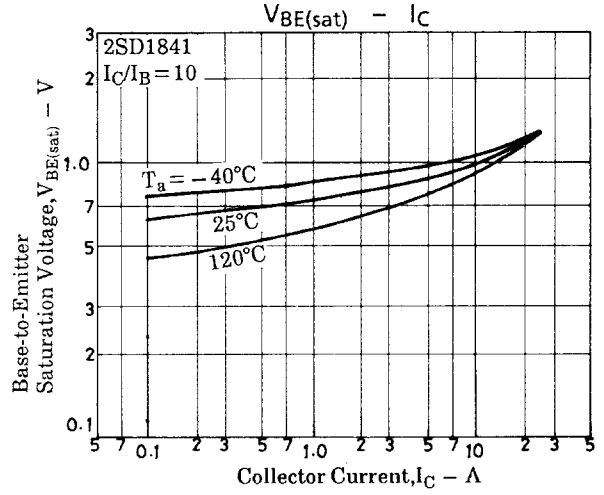
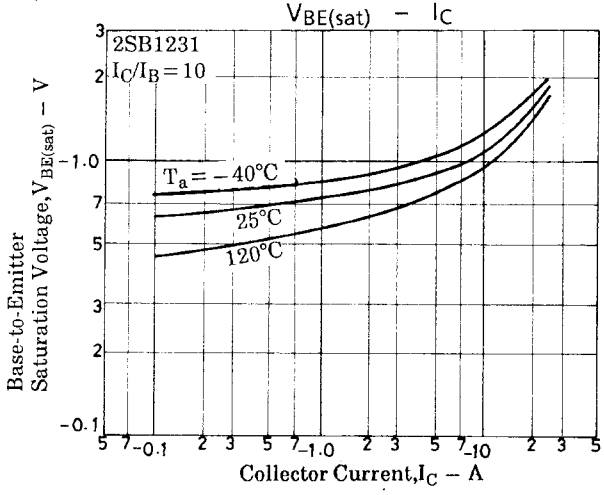
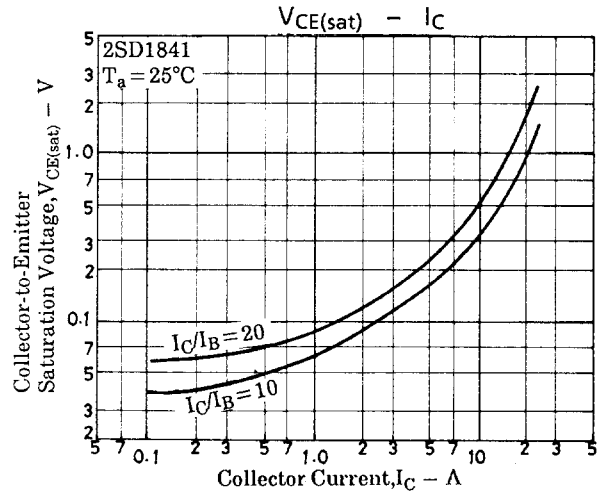
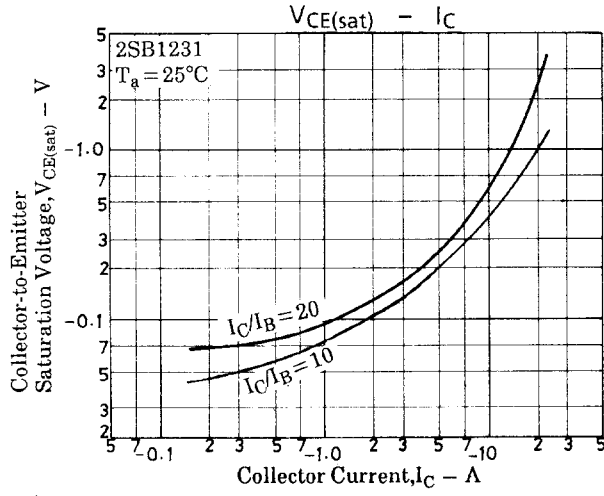
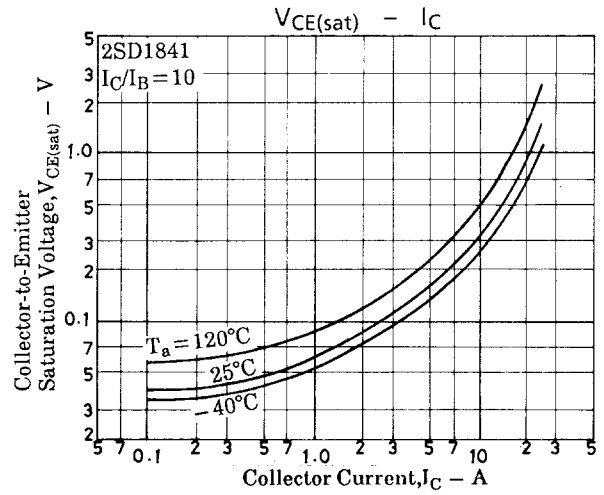
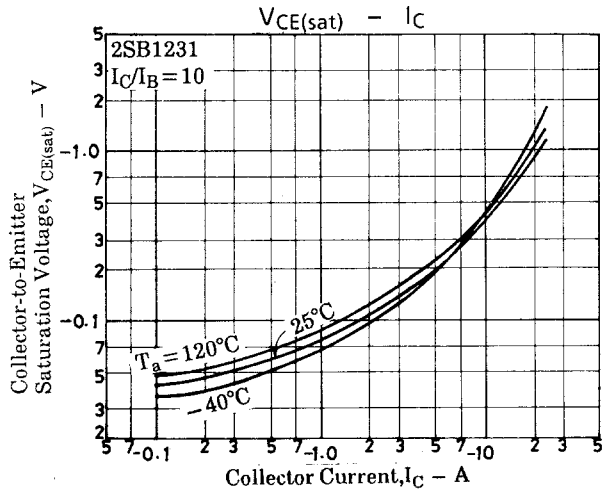
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)1mA, I_E=0$	(-)110			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)5mA, R_{BE}=\infty$	(-)100			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_C=(-)1mA, I_C=0$	(-)6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

\* : For the  $h_{FE1}$  of the 2SB1231/2SD1841, specify at least two ranks in principle.

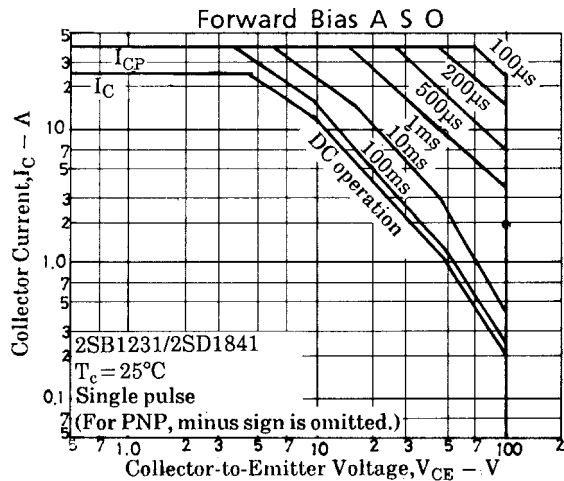
50	P	100	70	Q	140
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