



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_{CBO}		(-) 110	V
Collector-to-Emitter Voltage	V_{CEO}		(-) 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

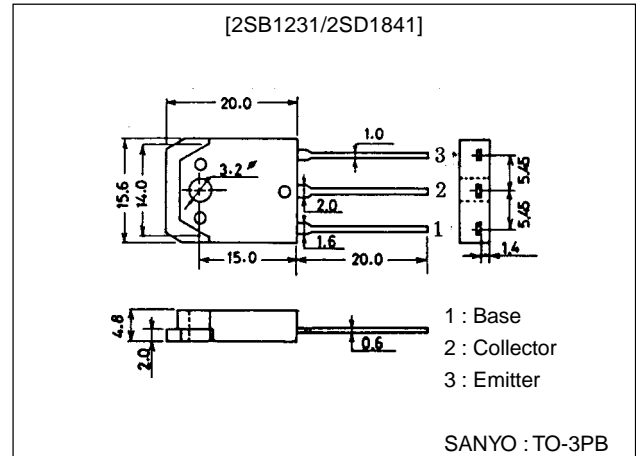
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Package Dimensions

unit:mm

2022A

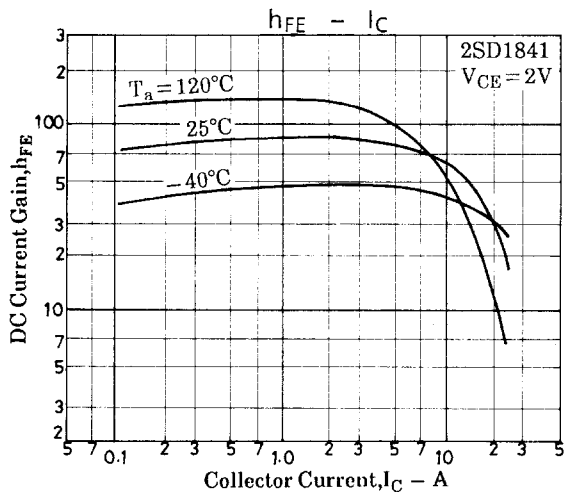
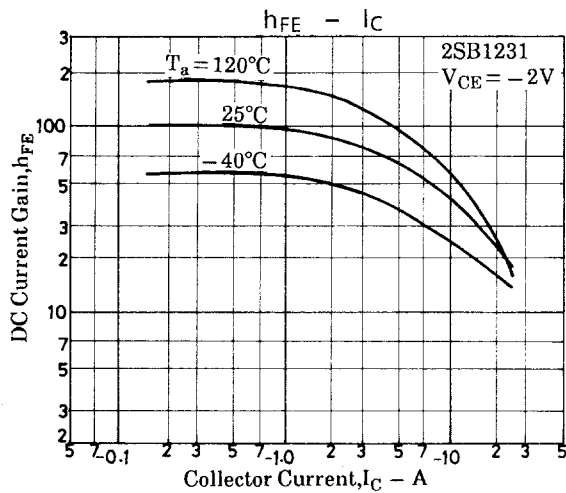
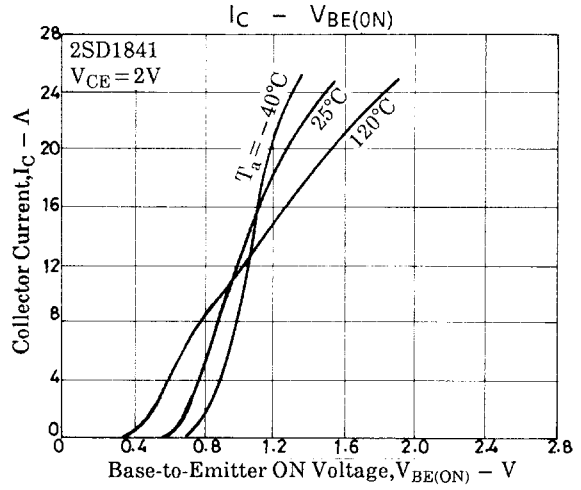
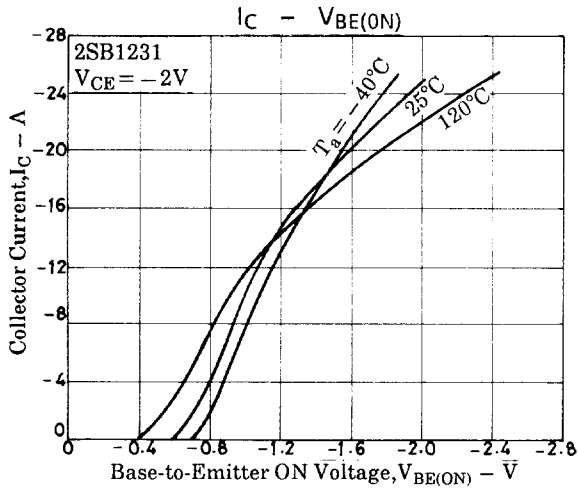
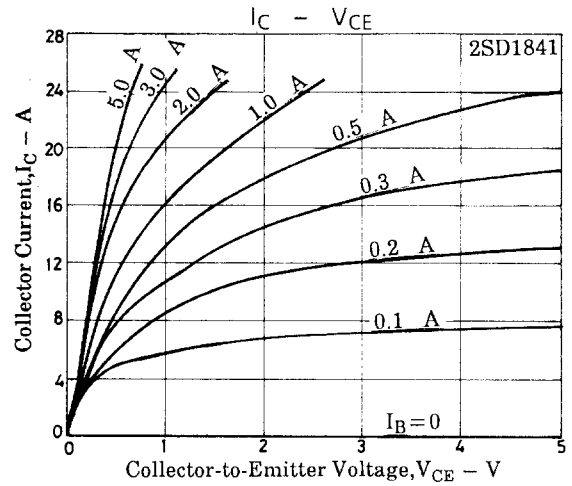
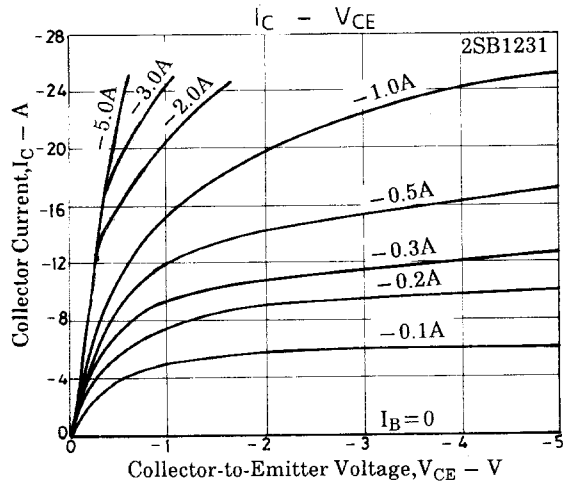


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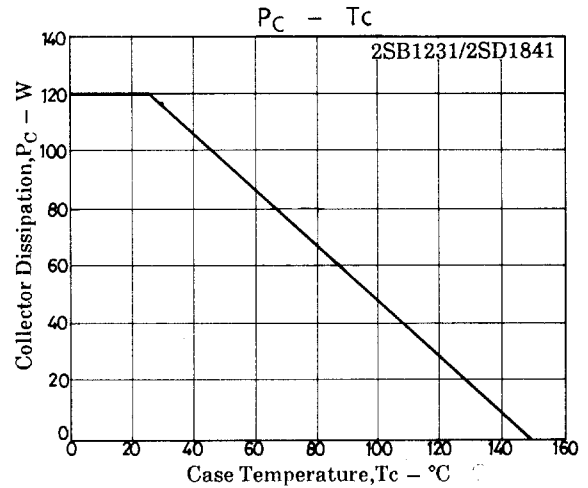
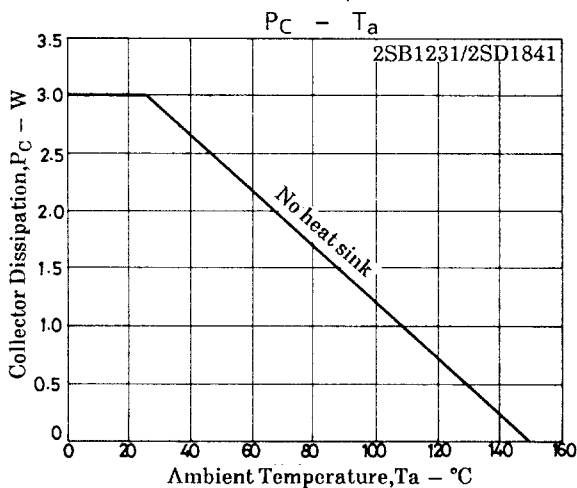
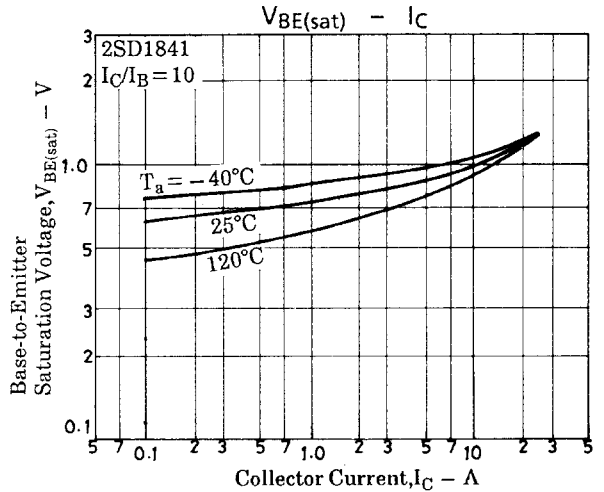
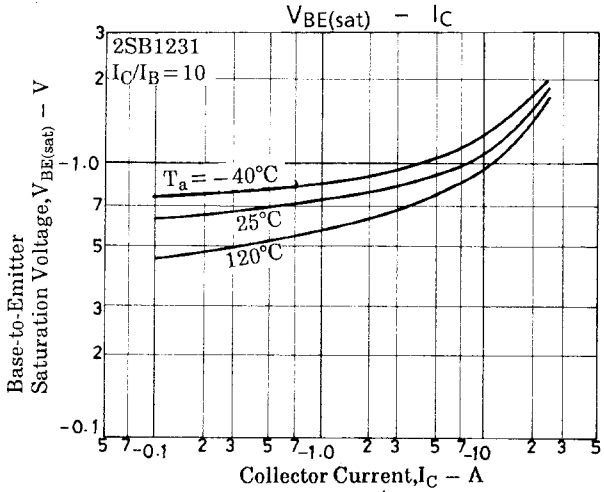
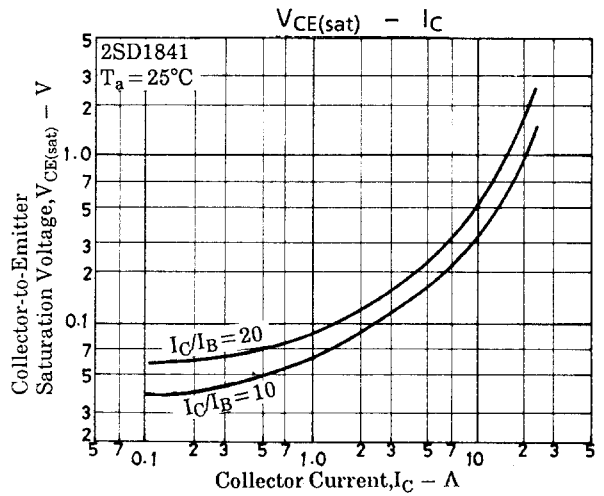
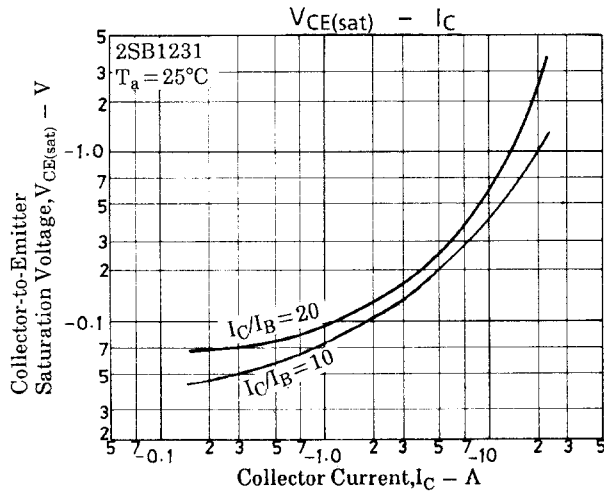
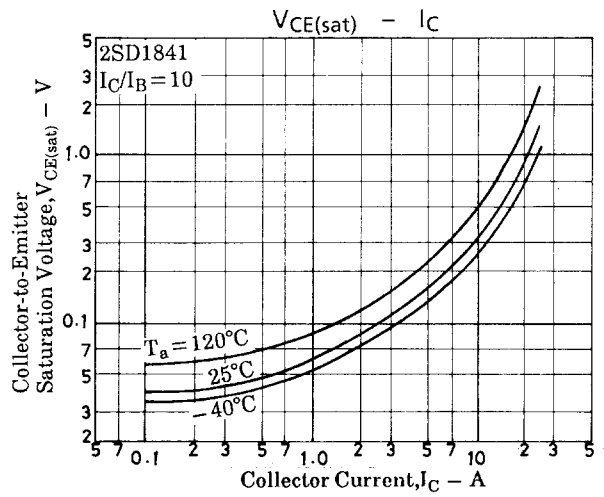
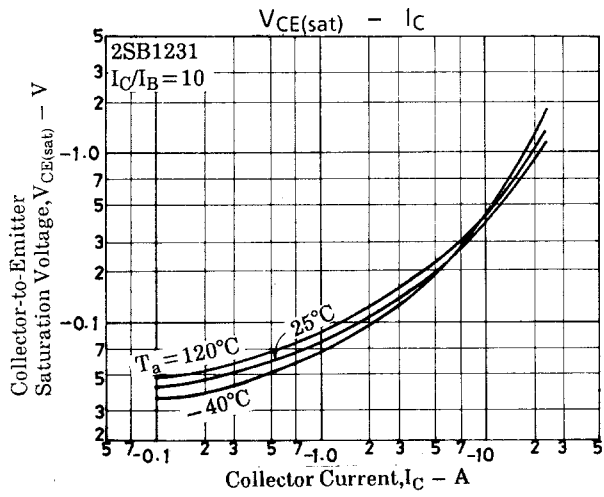
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)1mA, I_E=0$	(-)110			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)5mA, R_{BE}=\infty$	(-)100			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_C=(-)1mA, I_C=0$	(-)6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

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

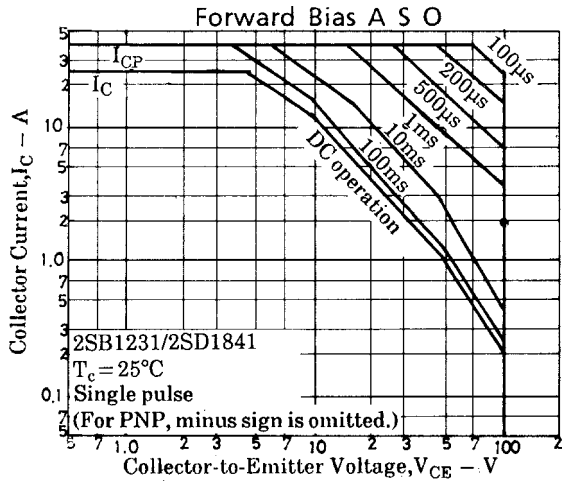
50	P	100	70	Q	140
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