



# 2SB1232/2SD1842

## 100V/40A 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.

( ) : 2SB1232

### Specifications

#### Absolute Maximum Ratings at Ta = 25°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	$V_{EB0}$		(-)6	V
Collector Current	$I_C$		(-)40	A
Collector Current (Pulse)	$I_{CP}$		(-)65	A
Base Current	$I_B$		(-)12	A
Collector Dissipation	$P_C$		3.0	W
		$T_c=25^\circ\text{C}$	150	W
Junction Temperature	$T_j$		150	°C
Storage Temperature	$T_{stg}$		-55 to +150	°C

#### Electrical Characteristics at Ta = 25°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	$h_{FE1}$	$V_{CE}=(-)2\text{V}, I_C=(-)4\text{A}$	50*		140*	
	$h_{FE2}$	$V_{CE}=(-)2\text{V}, I_C=(-)16\text{A}$	20			

\* : For the  $h_{FE1}$  of the 2SB1232/2SD1842, specify at least two ranks in principle.

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Rank	P	Q
$h_{FE}$	50 to 100	70 to 140

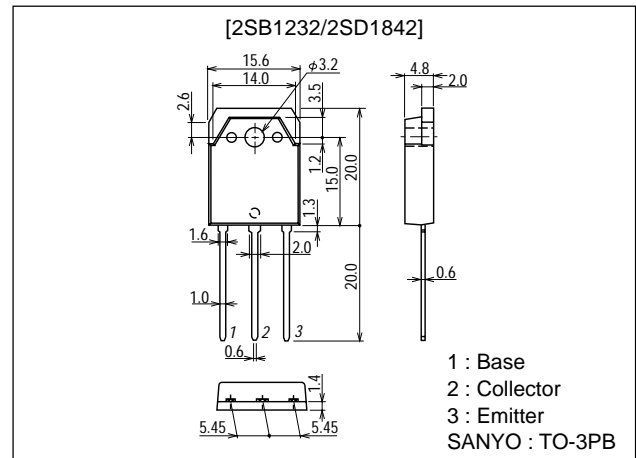
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### Package Dimensions

unit:mm

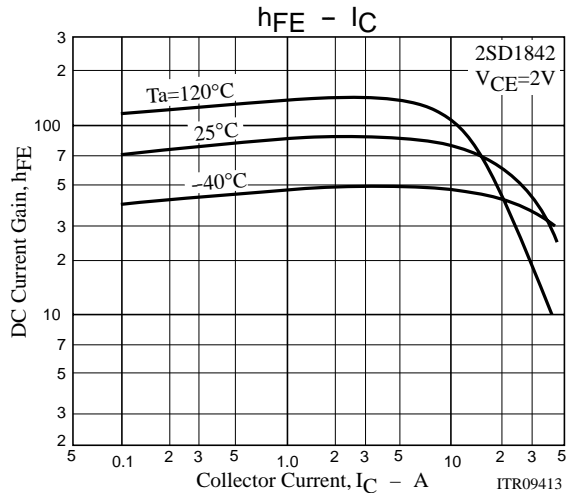
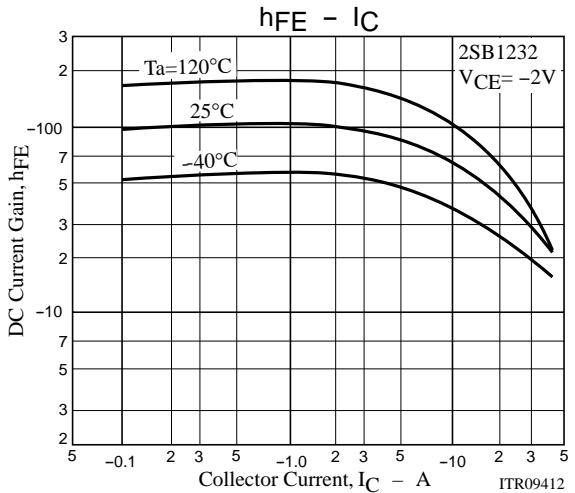
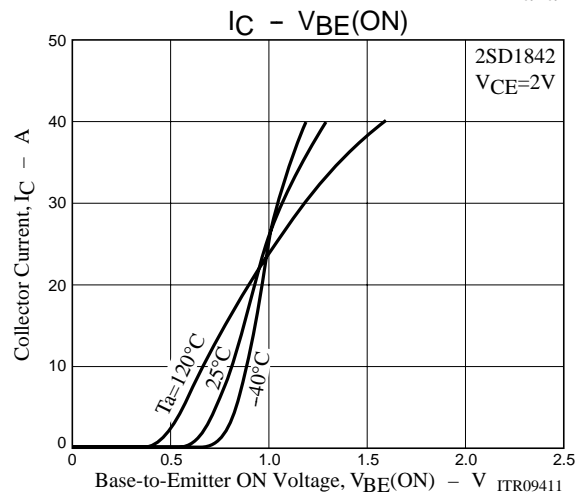
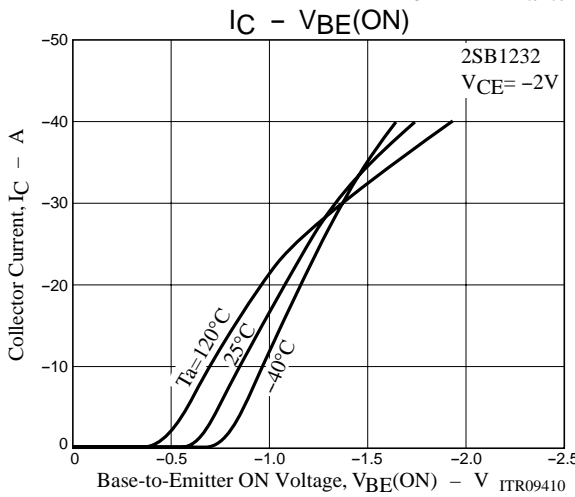
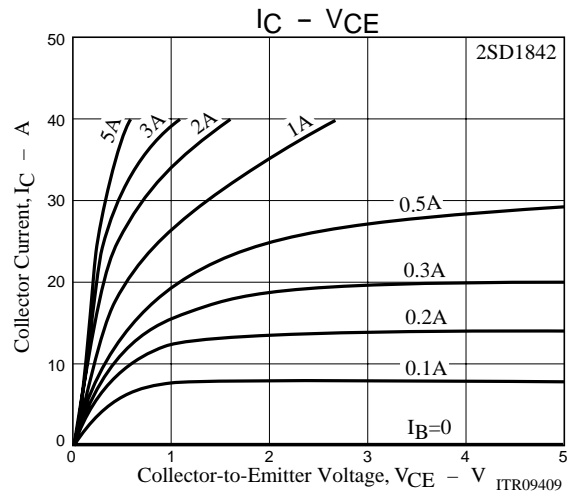
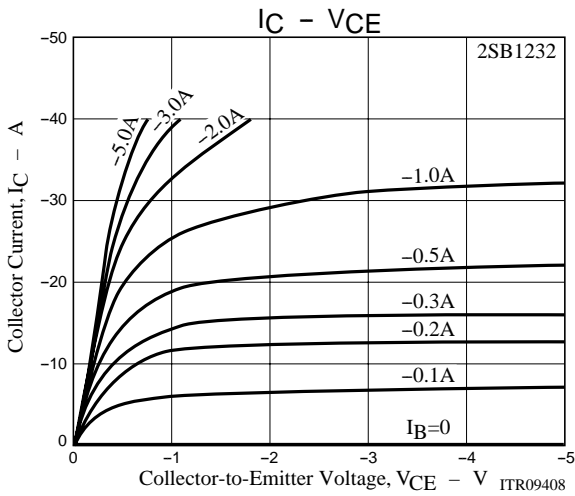
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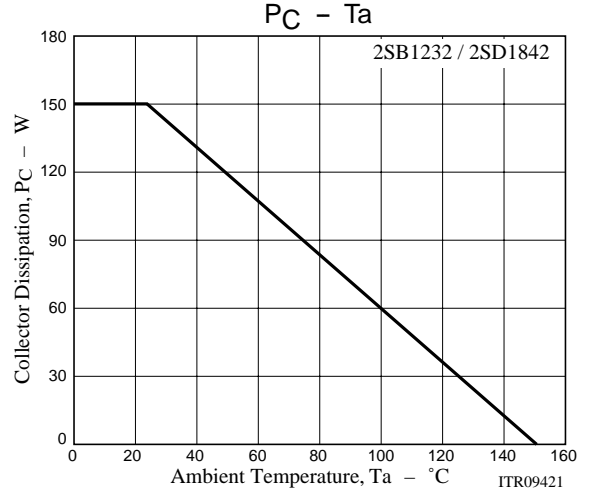
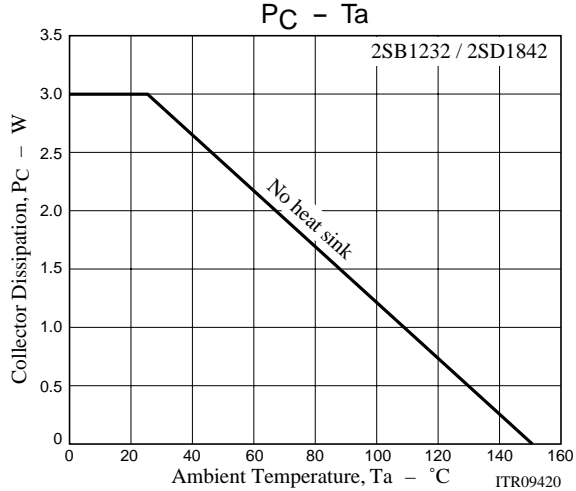
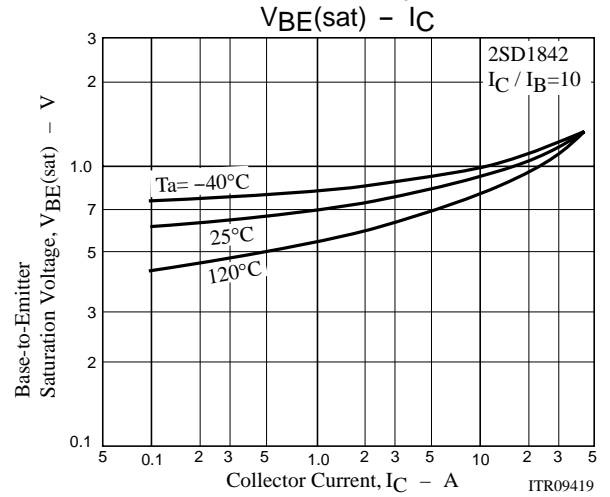
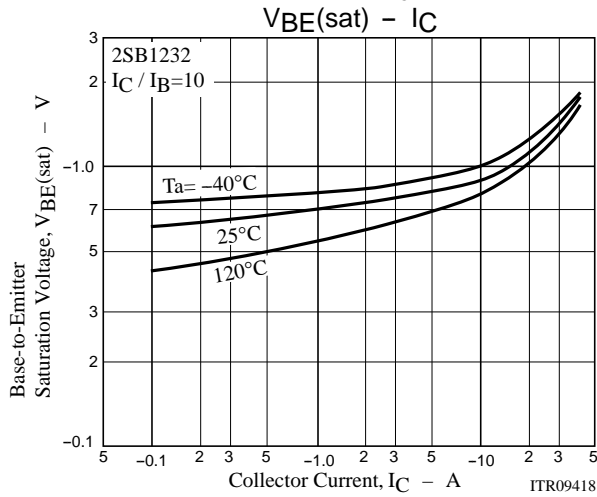
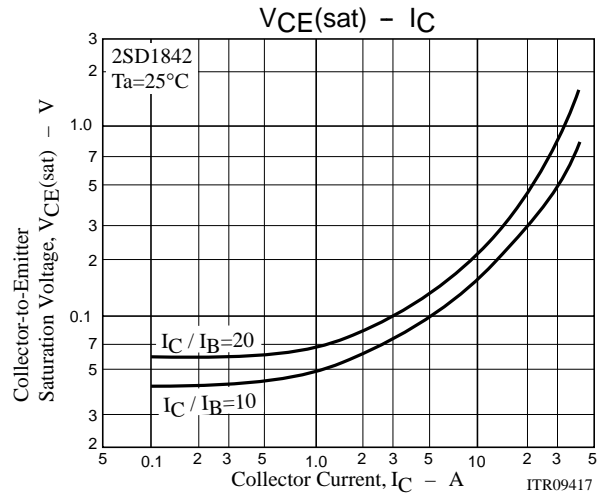
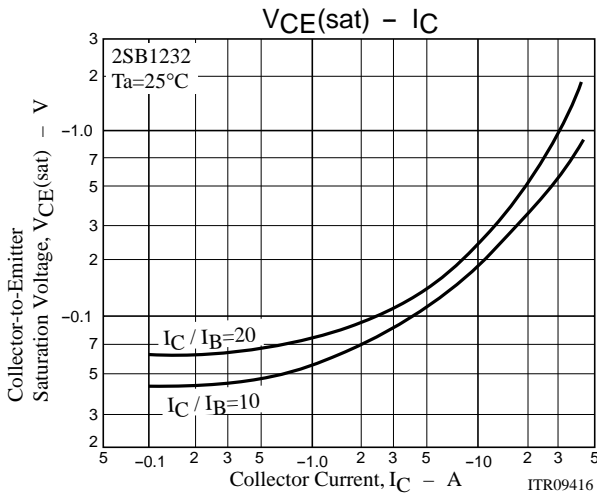
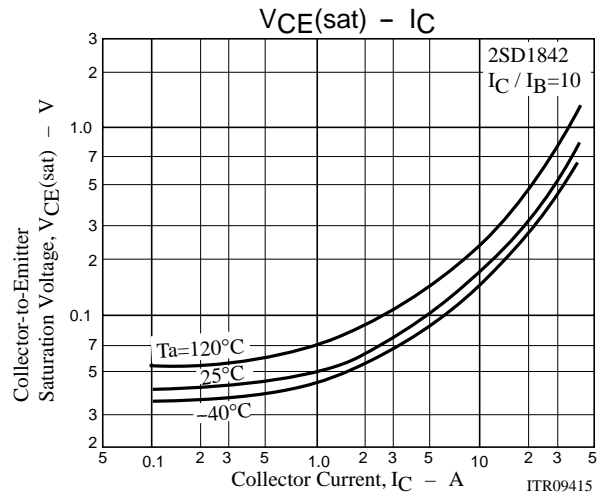
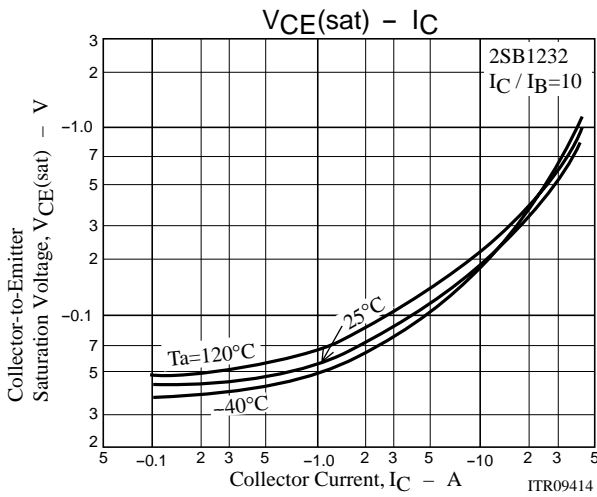
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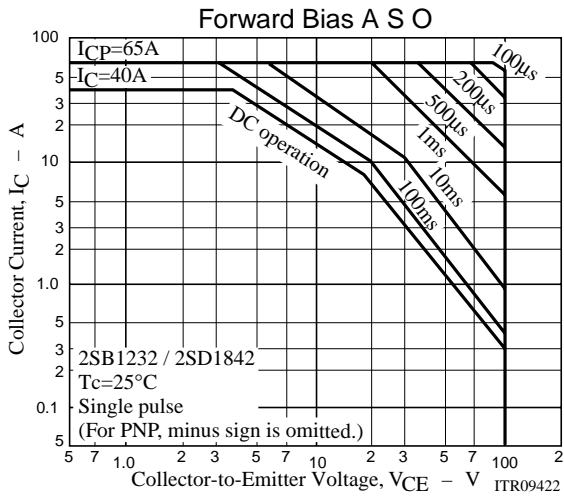
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)16A, I_B=(-)1.6A$			(-)0.8	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)16A, I_B=(-)1.6A$			(-)1.5	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)1mA, I_E=0$	(-)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



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