



## 2SB1225/2SD1827

### Driver Applications

#### Applications

- Suitable for use in control of motor drivers, printer hammer drivers, relay drivers, and constant-voltage regulators.

#### Features

- High DC current gain.
- Large current capacity and wide ASO.
- Low saturation voltage.
- Micaless package facilitating mounting.

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#### Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CBO}$		(-)-70	V
Collector-to-Emitter Voltage	$V_{CEO}$		(-)-60	V
Emitter-to-Base Voltage	$V_{EBO}$		(-)-6	V
Collector Current	$I_C$		(-)-10	A
Collector Current (Pulse)	$I_{CP}$		(-)-15	A
Collector Dissipation	$P_C$		2.0	W
		$T_c=25^\circ\text{C}$	30	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	$I_{CBO}$	$V_{CB} = (-)40\text{V}$ , $I_E = 0$			(-)-0.1	mA
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = (-)5\text{V}$ , $I_C = 0$			(-)-3.0	mA
DC Current Gain	$h_{FE}$	$V_{CE} = (-)2\text{V}$ , $I_C = (-)5\text{A}$	2000	5000		
Gain-Bandwidth Product	$f_T$	$V_{CE} = (-)5\text{V}$ , $I_C = (-)5\text{A}$		20		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)5\text{A}$ , $I_B = (-)10\text{mA}$		0.9	(-)-1.5	V
				(-)-1.0		V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = (-)5\text{A}$ , $I_B = (-)10\text{mA}$			(-)-2.0	V

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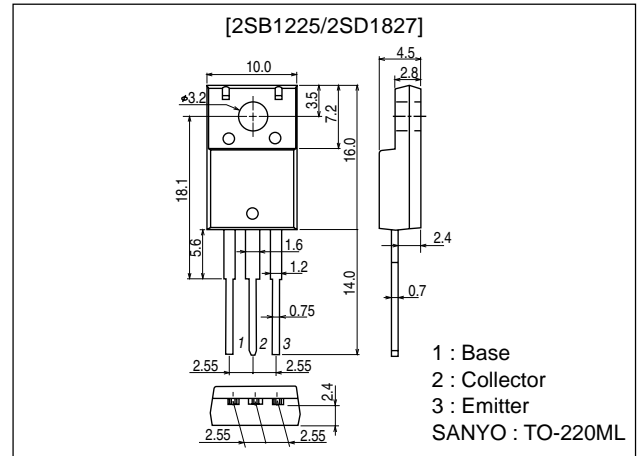
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■ SANYO assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all SANYO products described or contained herein.

#### Package Dimensions

unit:mm

2041A



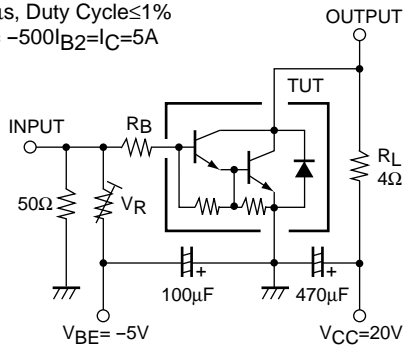
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)5mA, I_E=0$	(-)70			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)50mA, R_{BE}=\infty$	(-)60			V
Turn-ON Time	$t_{on}$	See specified Test Circuit		0.6		$\mu s$
				(0.5)		$\mu s$
Storage Time	$t_{stg}$	See specified Test Circuit		3.0		$\mu s$
				(1.5)		$\mu s$
Fall Time	$t_f$	See specified Test Circuit		1.8		$\mu s$
				(1.7)		$\mu s$

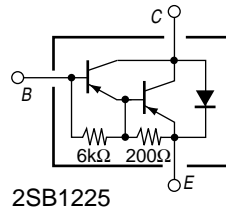
## Switching Time Test Circuit

PW=50 $\mu s$ , Duty Cycle $\leq$ 1%  
500I<sub>B1</sub>=-500I<sub>B2</sub>=I<sub>C</sub>=5A

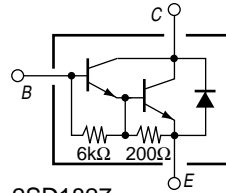


(For PNP, the polarity is reversed.)

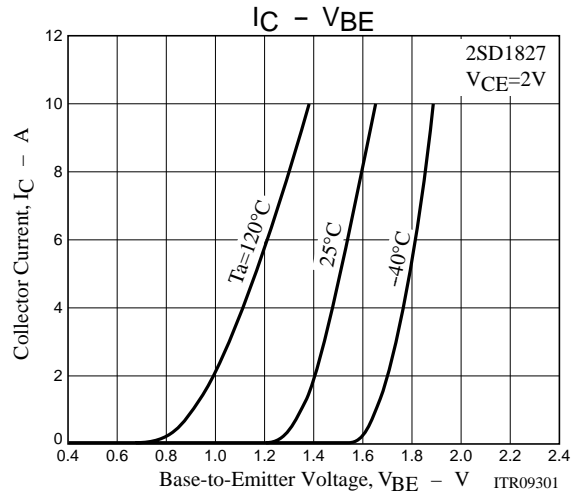
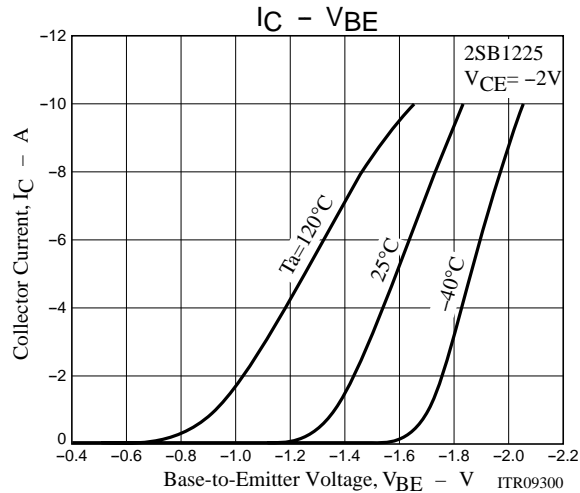
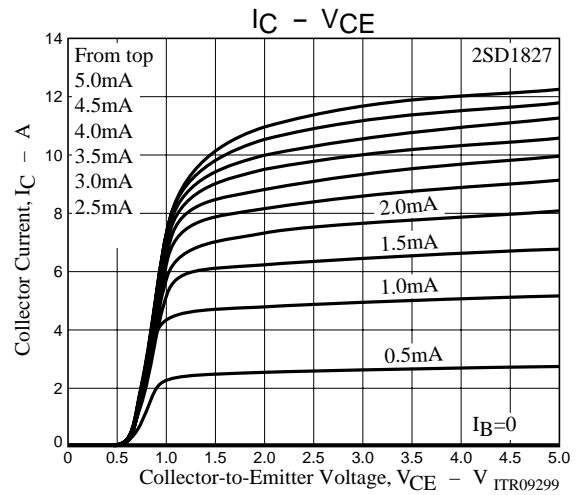
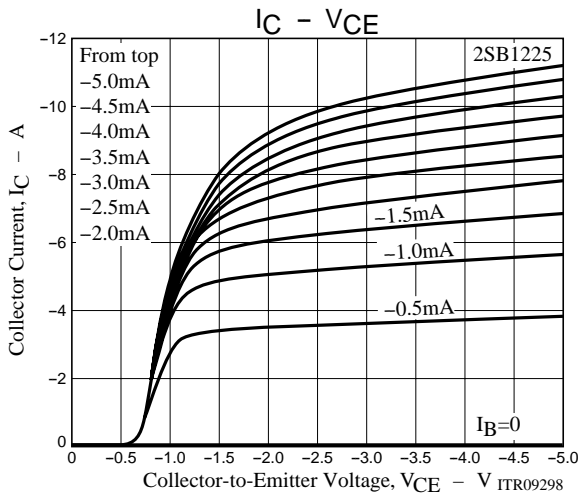
## Electrical Connection



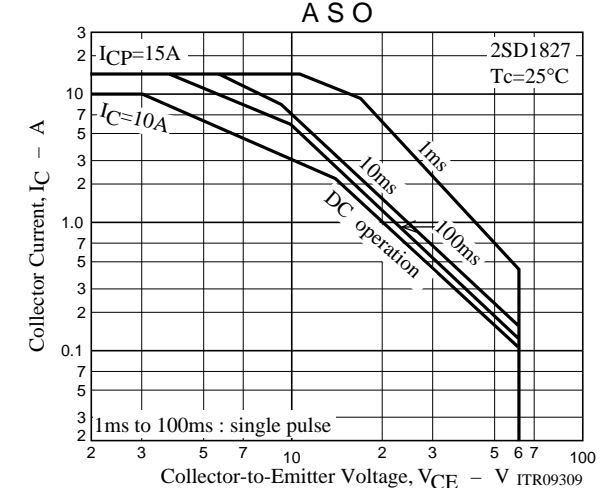
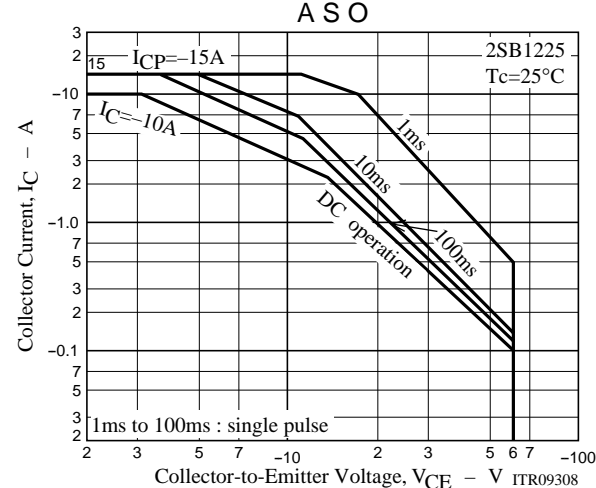
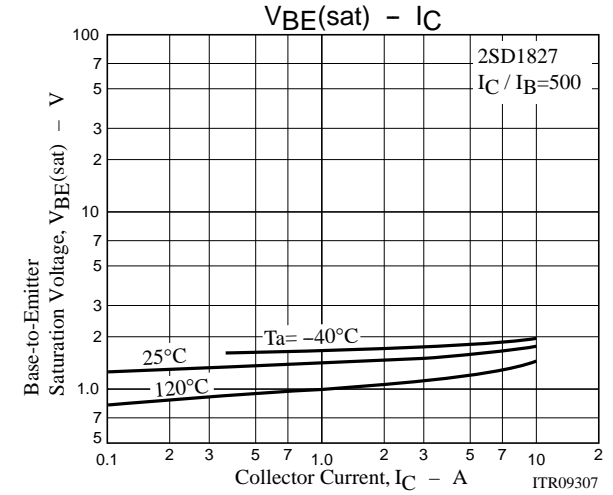
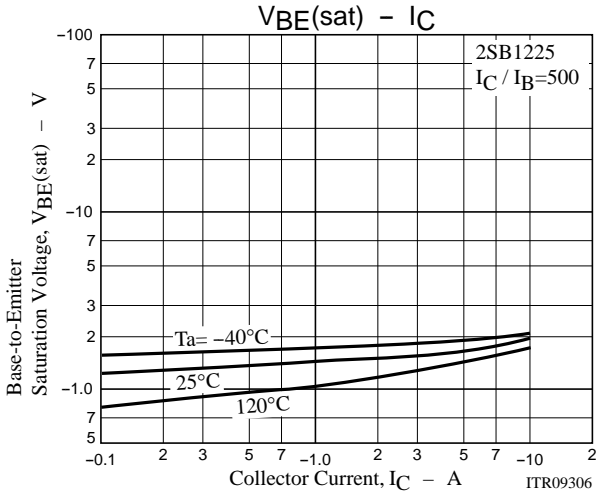
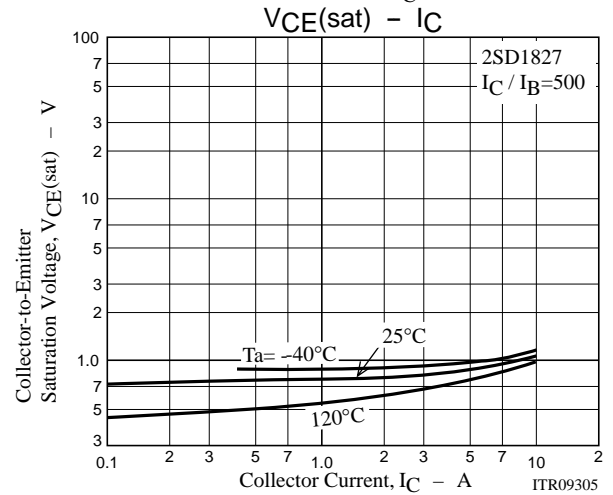
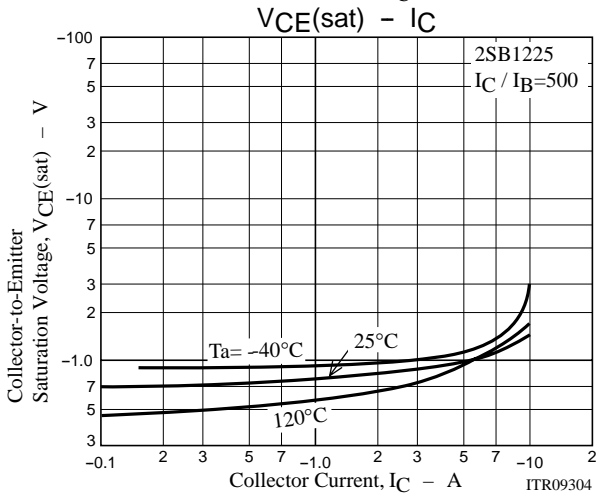
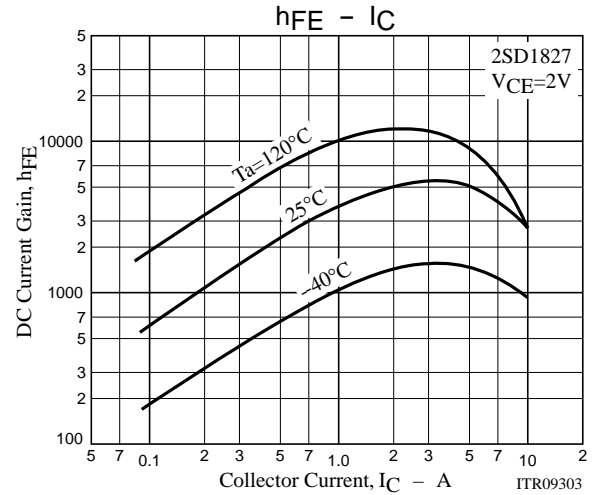
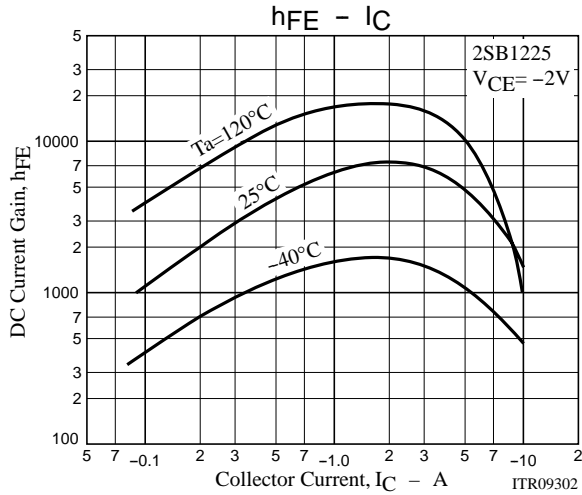
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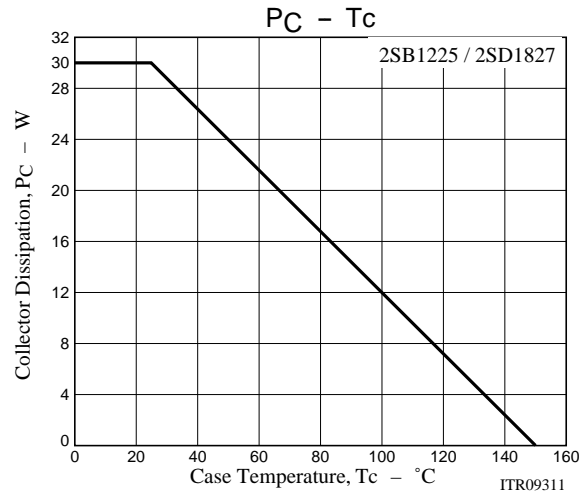
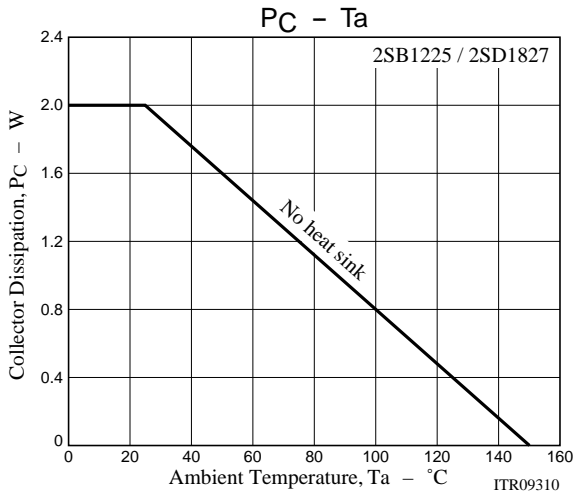
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