



## 2SA1827/2SC4731

### 100V/4A Switching Applications

#### Applications

- Relay drivers, high-speed inverters, converters, and other general high-current switching applications.

#### Features

- Low collector-to-emitter saturation voltage.
- High Gain-Bandwidth Product.
- Excellent linearity of DC Current Gain.
- Fast switching speed.

#### Specifications

( ) : 2SA1827

#### Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CB0}$		(-)120	V
Collector-to-Emitter Voltage	$V_{CEO}$		(-)100	V
Emitter-to-Base Voltage	$V_{EBO}$		(-)6	V
Collector Current	$I_C$		(-)4	A
Collector Current (Pulse)	$I_{CP}$		(-)8	A
Base Current	$I_B$		(-)0.8	A
Collector Dissipation	$P_C$		1.5	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	$I_{CBO}$	$V_{CB} = (-)100V, I_E = 0$			(-)1	$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = (-)4V, I_C = 0$			(-)1	$\mu A$
DC Current Gain	$h_{FE1}$	$V_{CE} = (-)5V, I_C = (-)500mA$	100*		400*	
	$h_{FE2}$	$V_{CE} = (-)5V, I_C = (-)3A$	40			

\* : The 2SA1827/2SC4731 are classified by 500mA  $h_{FE}$  as follows :

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Rank	R	S	T
$h_{FE}$	100 to 200	140 to 280	200 to 400

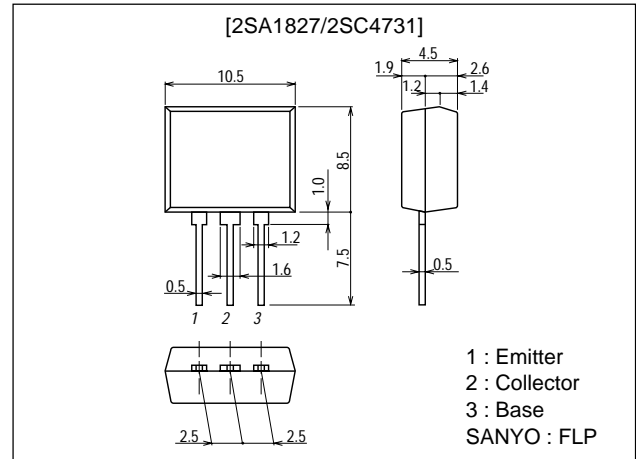
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#### Package Dimensions

unit:mm

2084B

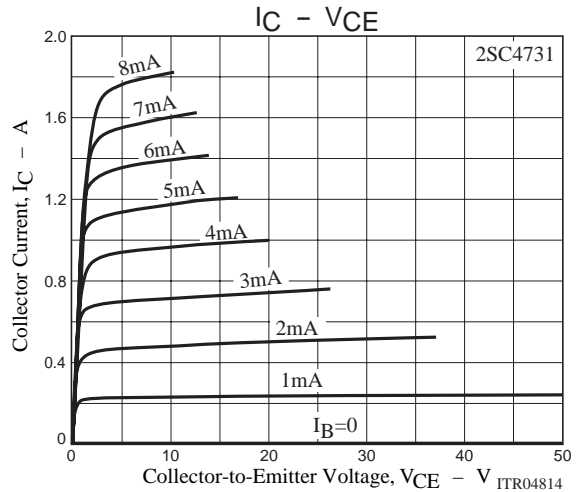
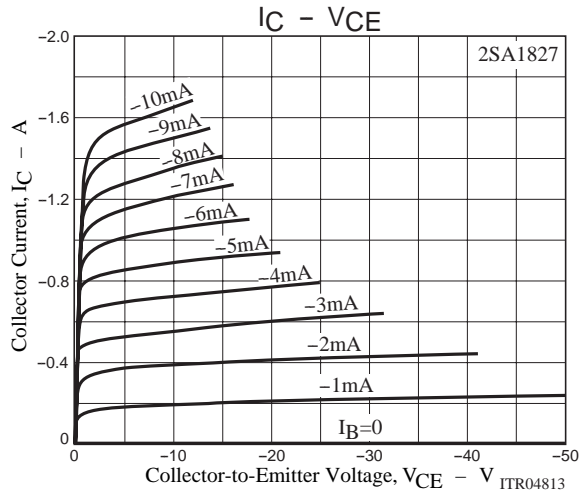
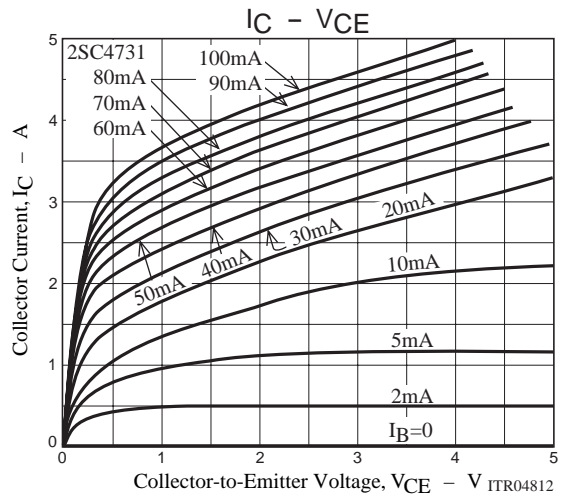
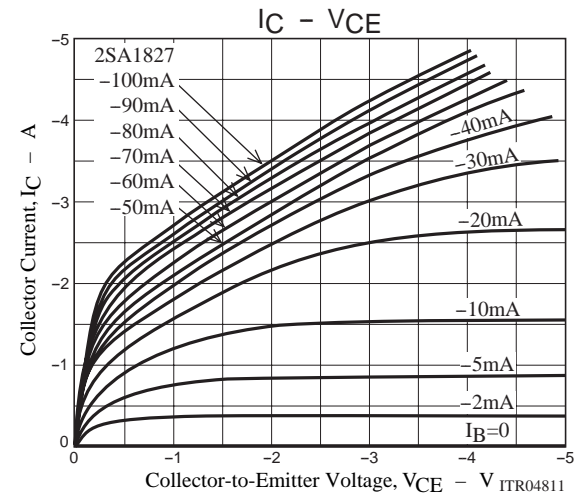
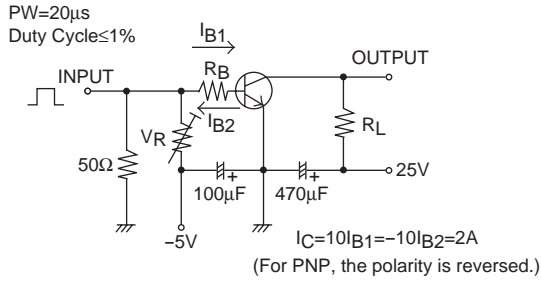


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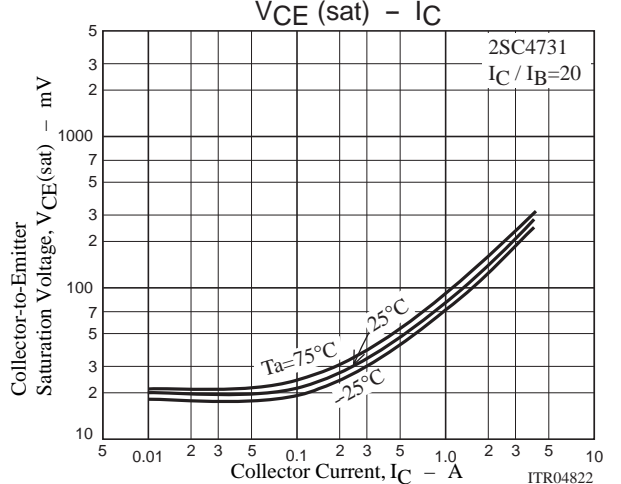
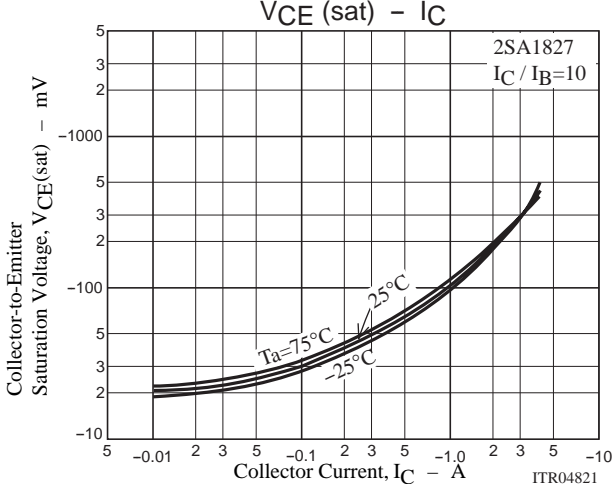
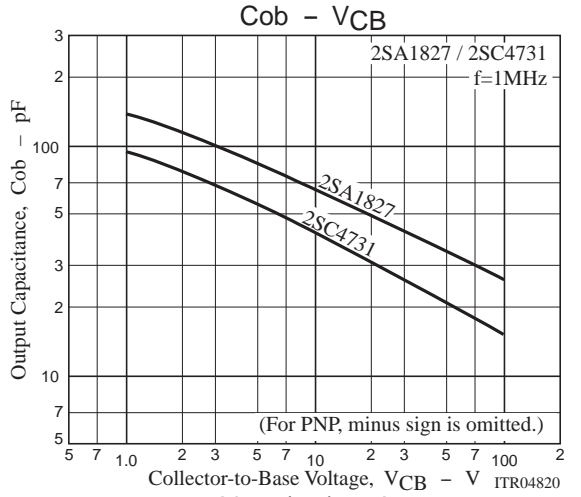
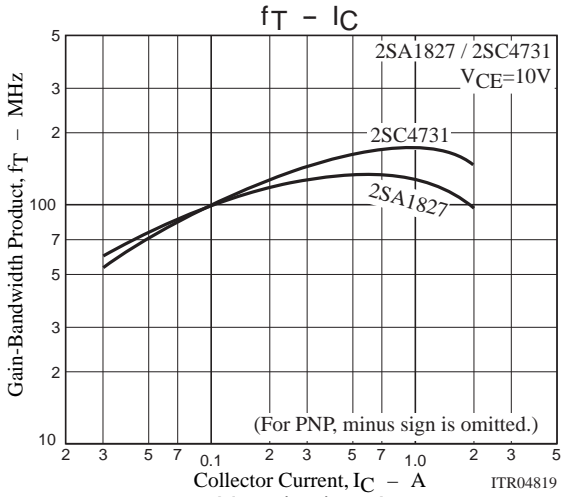
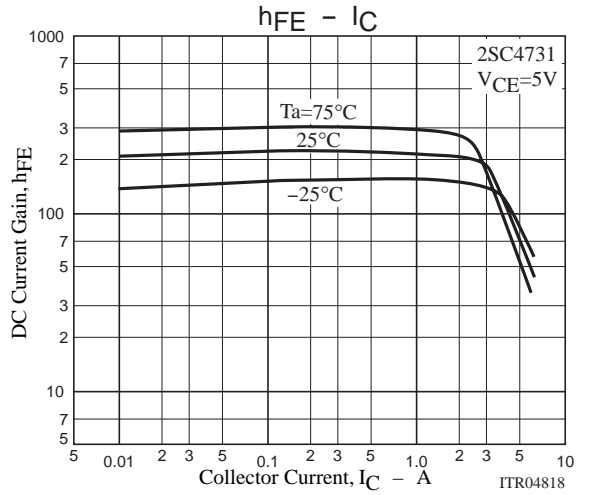
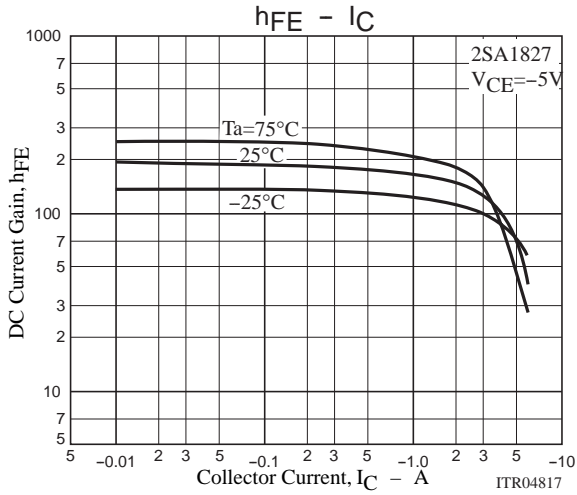
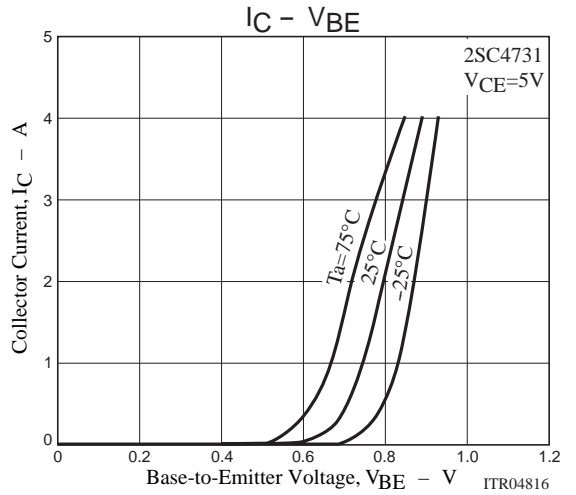
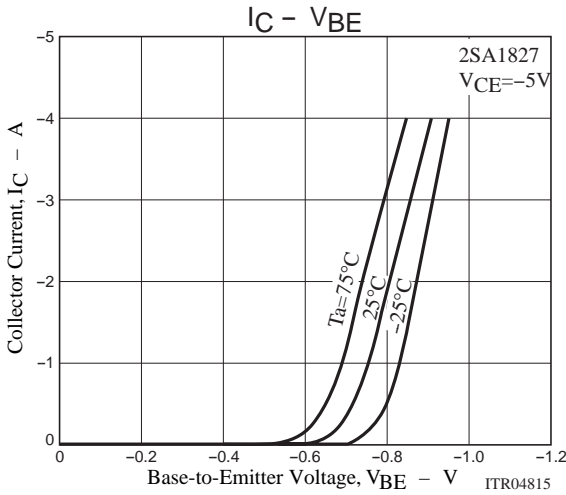
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Gain-Bandwidth Product	$f_T$	$V_{CE}=(-)10V, I_C=(-)500mA$		(130)		MHz
Output Capacitance	$C_{ob}$	$V_{CB}=(-)10V, f=1MHz$		180		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)2A, I_B=(-)0.2A$		(-200)	(-500)	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)2A, I_B=(-)0.2A$		150	400	mV
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu A, I_E=0$	(-)	120		V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1mA, R_{BE}=\infty$	(-)	100		V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=(-)10\mu A, I_C=0$	(-)	6		V
Turn-ON Time	$t_{on}$	See specified Test Circuit		100		ns
Storage Time	$t_{stg}$	See specified Test Circuit		(800)		ns
Fall Time	$t_f$	See specified Test Circuit		900		ns
				50		ns

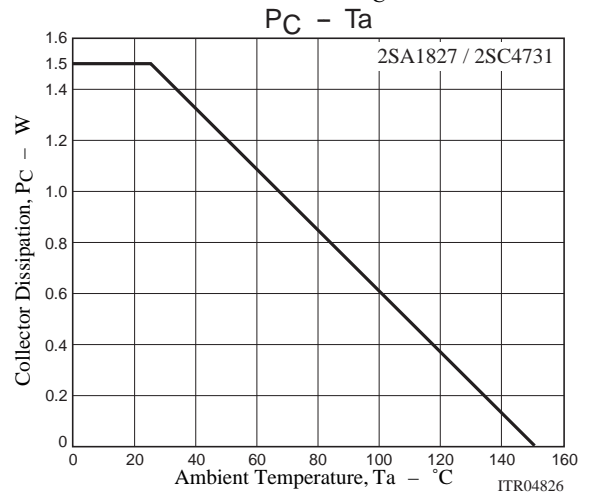
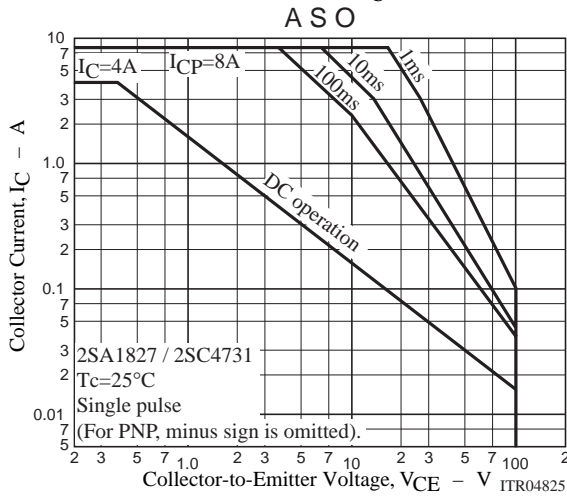
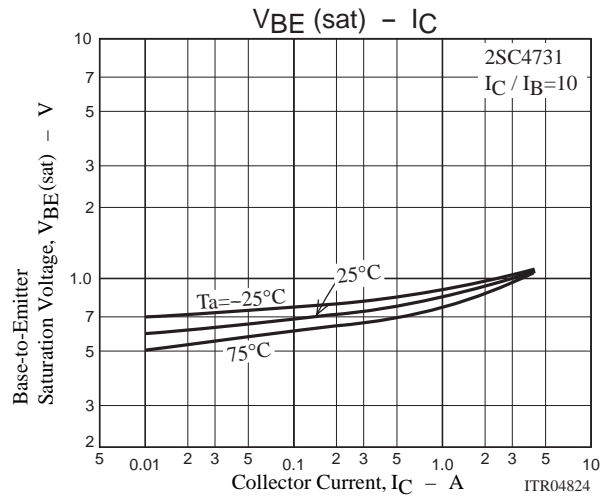
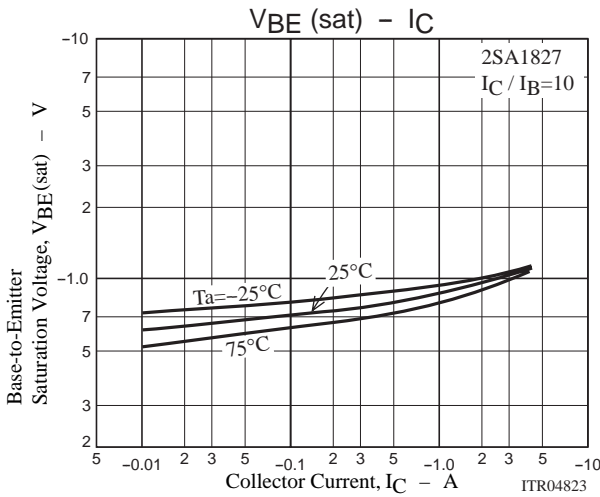
## Switching Time Test Circuit



# 2SA1827/2SC4731



## 2SA1827/2SC4731



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