

<b>SANYO</b>	No.3879	<b>2SA1827/2SC4731</b>
		PNP/NPN Epitaxial Planar Silicon Transistors 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.

( ) : 2SA1827

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

			unit
Collector-to-Base Voltage	V <sub>CB0</sub>	(-)	120 V
Collector-to-Emitter Voltage	V <sub>CEO</sub>	(-)	100 V
Emitter-to-Base Voltage	V <sub>EBO</sub>	(-)	6 V
Collector Current	I <sub>C</sub>	(-)	4 A
Collector Current (Pulse)	I <sub>CP</sub>	(-)	8 A
Base Current	I <sub>B</sub>	(-)	0.8 A
Collector Dissipation	P <sub>C</sub>		1.5 W
Junction Temperature	T <sub>j</sub>		150 °C
Storage Temperature	T <sub>stg</sub>		-55 to +150 °C

**Electrical Characteristics at Ta = 25°C**

			min	typ	max	unit
Collector Cutoff Current	I <sub>CB0</sub>	V <sub>CB</sub> = (-)100V, I <sub>E</sub> = 0			(-)	1 μA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> = (-)4V, I <sub>C</sub> = 0			(-)	1 μA
DC Current Gain	h <sub>FE</sub> (1)	V <sub>CE</sub> = (-)5V, I <sub>C</sub> = (-)500mA	100*		400*	
	h <sub>FE</sub> (2)	V <sub>CE</sub> = (-)5V, I <sub>C</sub> = (-)3A	40			
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> = (-)10V, I <sub>C</sub> = (-)500mA	(130)	180		MHz
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> = (-)10V, f = 1MHz	(65)	40		pF

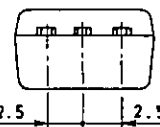
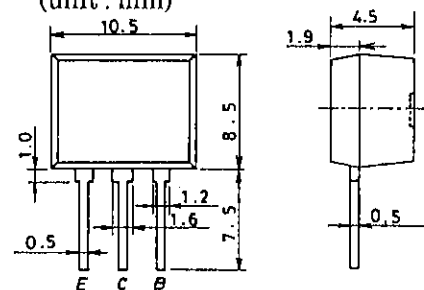
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\* : The 2SA1827/2SC4731 are classified by 500mA h<sub>FE</sub> as follows

100	R	200	140	S	280	200	T	400
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**Package Dimensions 2084**

(unit : mm)



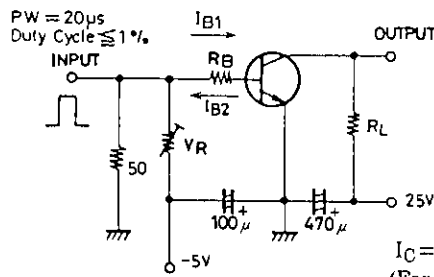
E : Emitter  
C : Collector  
B : Base

SANYO : FLP

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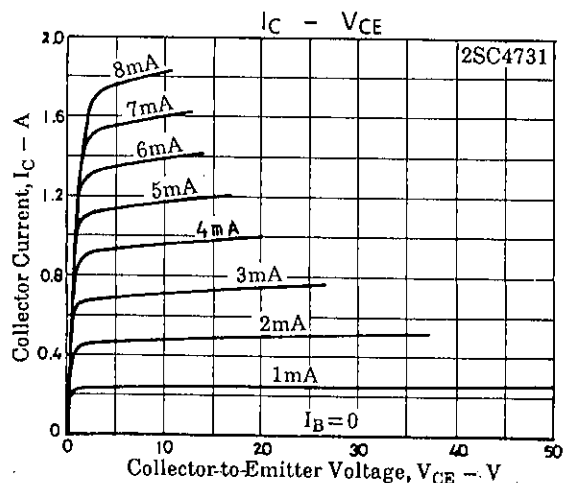
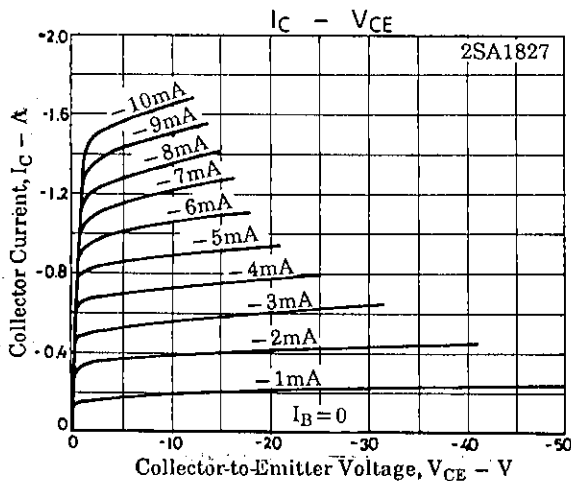
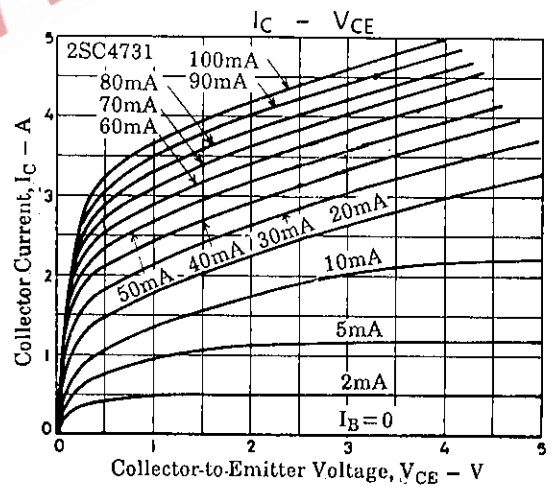
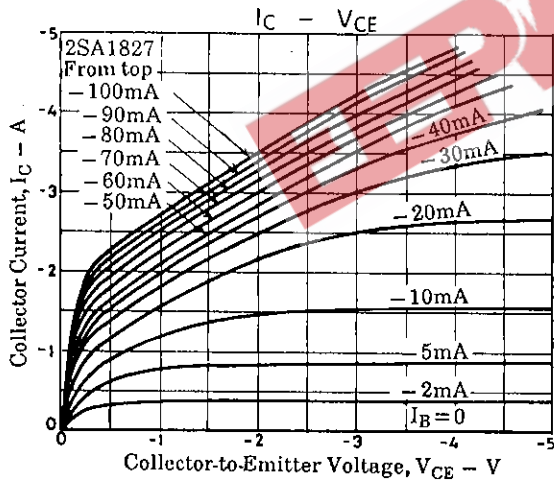
			min	typ	max	unit
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)2A, I_B = (-)0.2A$	(-200)	(-500)		mV
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C = (-)2A, I_B = (-)0.2A$		(-0.9)	(-1.2)	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)10\mu A, I_E = 0$	(-120)			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)1mA, R_{BE} = \infty$	(-100)			V
E-B 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	$t_{stg}$	"		(800)900		ns
Fall Time	$t_f$	"		50		ns

Switching Time Test Circuit

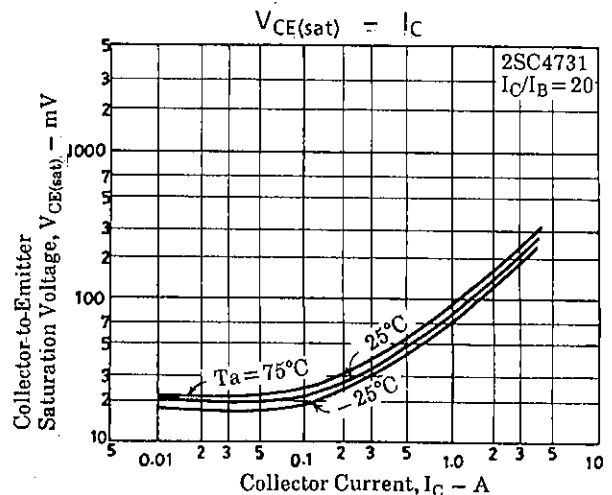
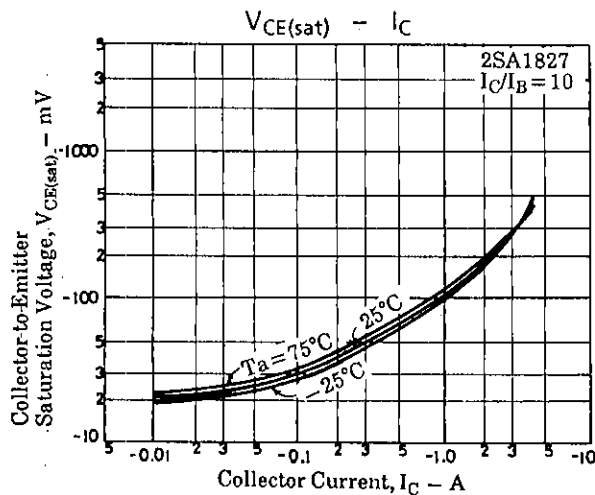
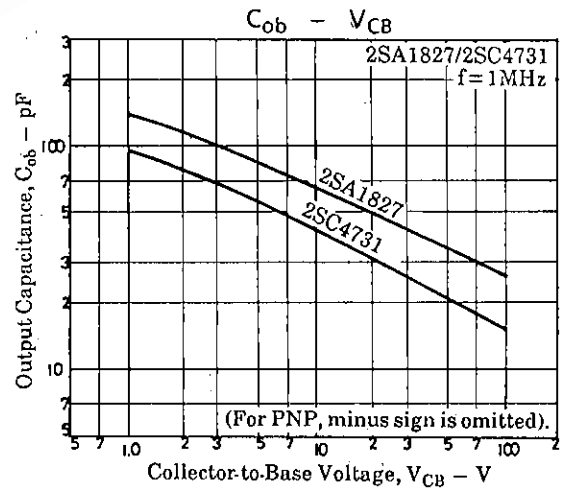
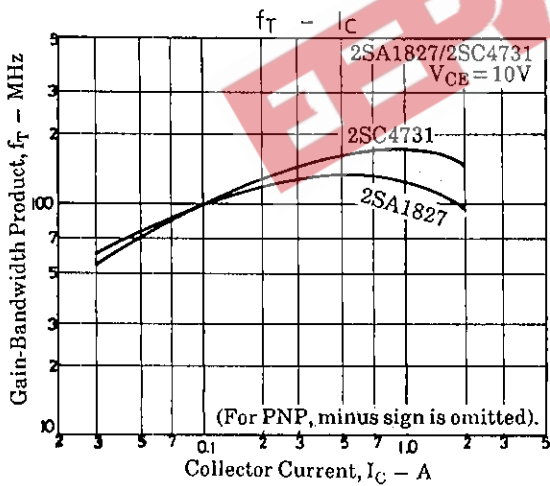
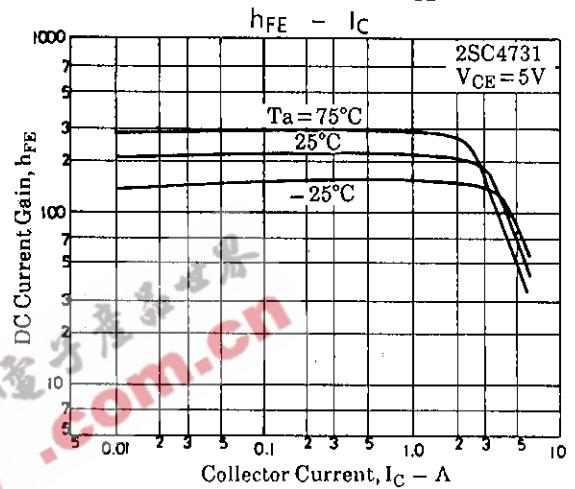
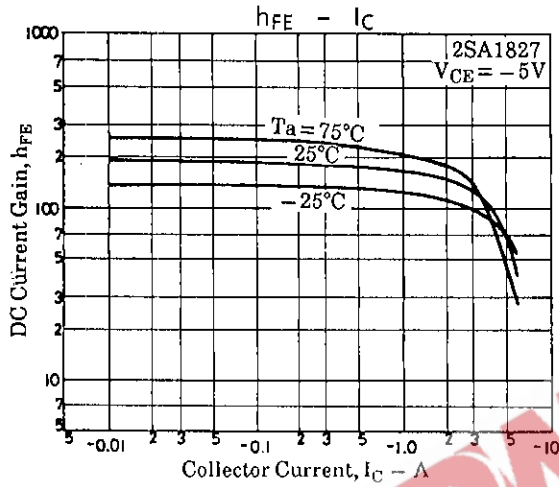
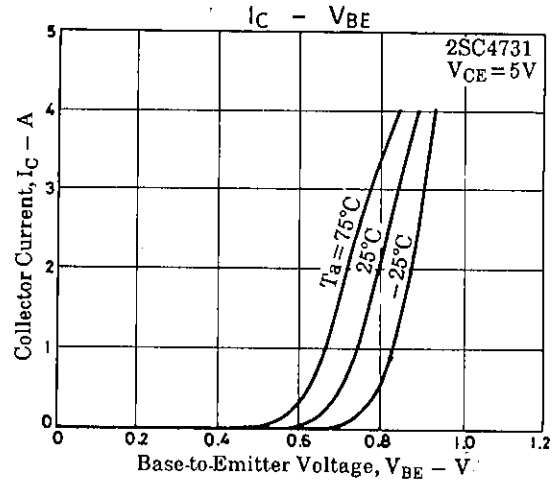
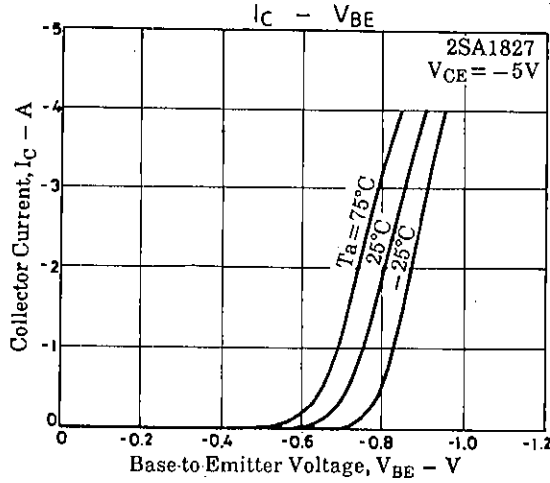


$I_C = 10I_{B1} = -10I_{B2} = 2A$   
 (For PNP, the polarity is reversed).

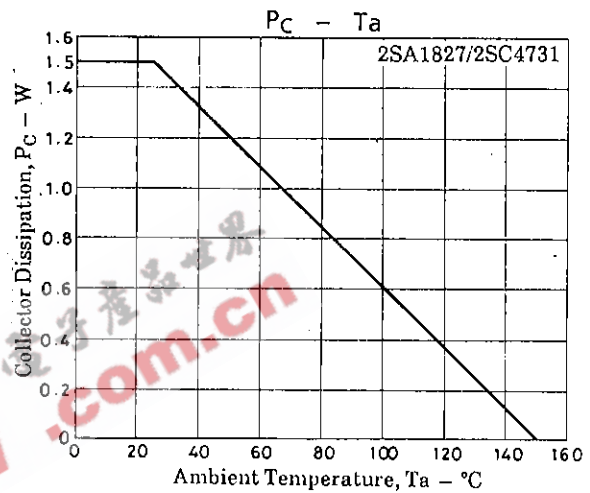
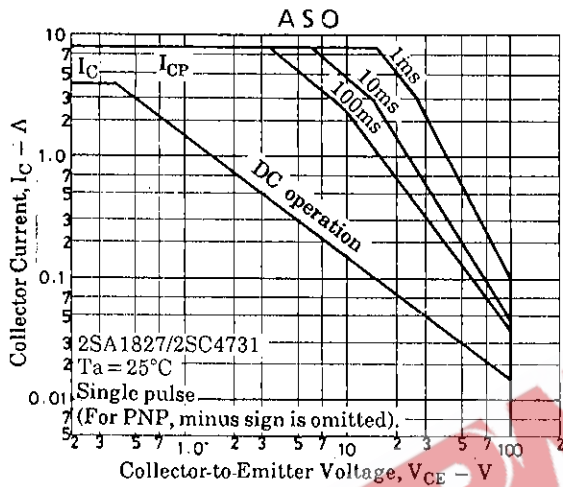
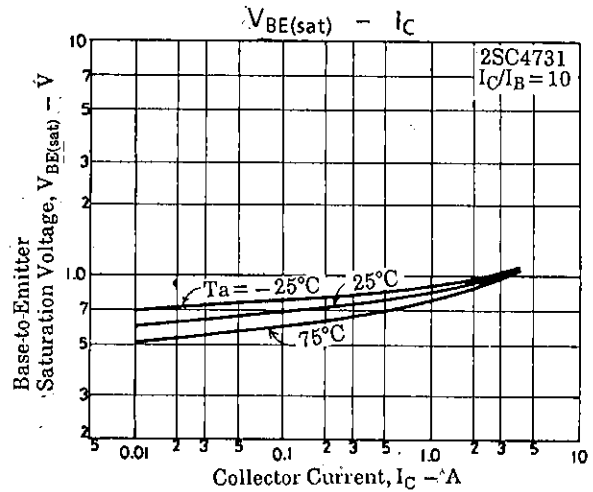
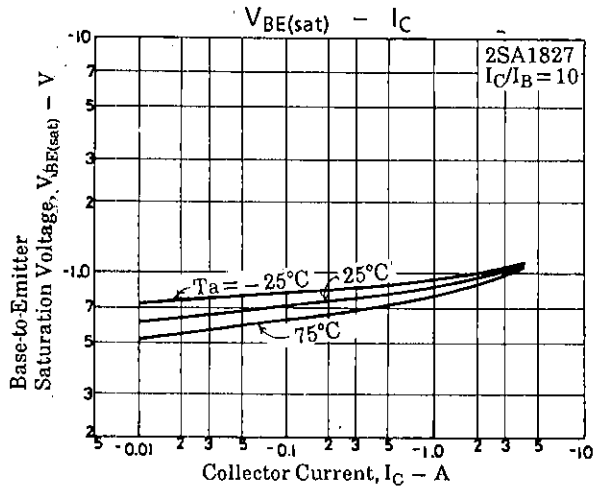
Unit (resistance:  $\Omega$ , capacitance: F)



2SA1827/2SC4731



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