

SANYO	No.2158A	2SB1229/2SD1835
		PNP/NPN Epitaxial Planar Silicon Transistors

High-Current Switching Applications

Applications

- . Voltage regulators, relay drivers, lamp drivers, electrical equipment

Features

- . Adoption of FBET, MBIT processes
- . Large current capacity
- . Low collector-to-emitter saturation voltage
- . Fast switching time

() : 2SB1229

Absolute Maximum Ratings at Ta=25°C

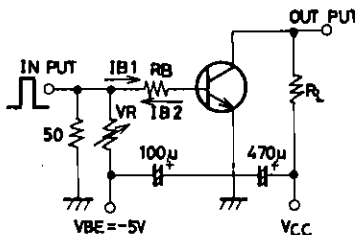
Collector to Base Voltage	V_{CB0}	(-)60	V
Collector to Emitter Voltage	V_{CEO}	(-)50	V
Emitter to Base Voltage	V_{EBO}	(-)6	V
Collector Current	I_C	(-)2	A
Collector Current(Pulse) :nt	I_{CP}	(-)3	A
Collector Dissipation	P_C	0.75	W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{stg}	-55 to +150	°C

Electrical Characteristics at Ta=25°C

		min	typ	max	unit
Collector Cutoff Current	I_{CBO} $V_{CB} = (-) 50V, I_E = 0$			(-)100	nA
Emitter Cutoff Current	I_{EBO} $V_{EB} = (-) 4V, I_C = 0$			(-)100	nA
DC Current Gain	$h_{FE}(1)$ $V_{CE} = (-) 2V, I_C = (-) 100mA$	100*		560*	
	$h_{FE}(2)$ $V_{CE} = (-) 2V, I_C = (-) 1.5A$	40			
Gain-Bandwidth Product	f_T $V_{CE} = (-) 10V, I_C = (-) 50mA$		150		MHz
Output Capacitance	c_{ob} $V_{CB} = (-) 10V, f_C = 1MHz$		12		pF
			(22)		pF
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$ $I_C = (-) 1A, I_B = (-) 50mA$	0.15	0.4		V
		(-0.3)	(-0.7)		V

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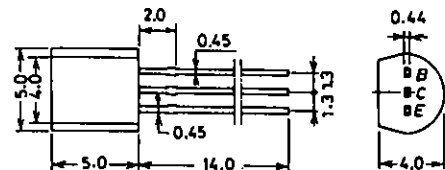
Switching Time Test Circuit



10 IB1 = -10 IB2 = IC = 500mA, VCC = 25V
(For PNP, the polarity is reversed.)

Unit(Resistance : Ω, Capacitance : F)

Package Dimensions 2003A
(unit: mm)



JEDEC: TO-92
EIAJ : SC-43
SANYO: NP

B. Base
C. Collector
E. Emitter

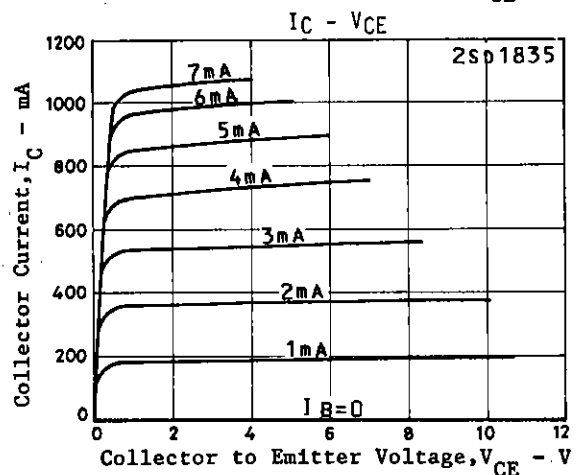
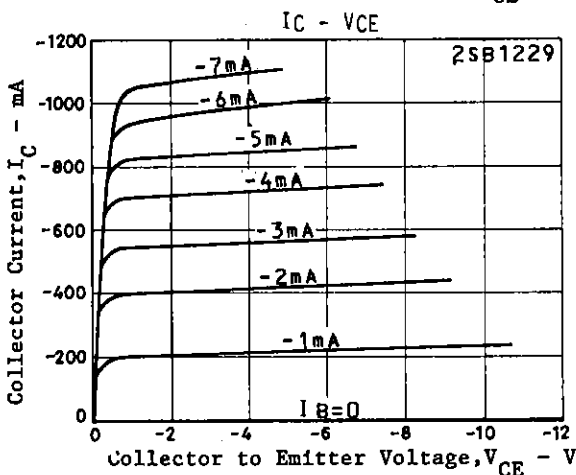
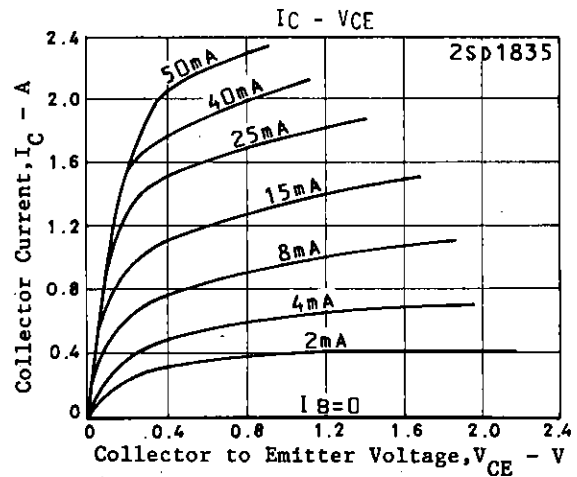
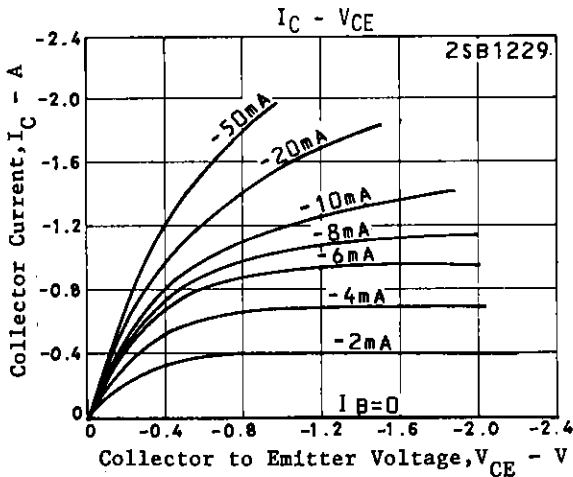
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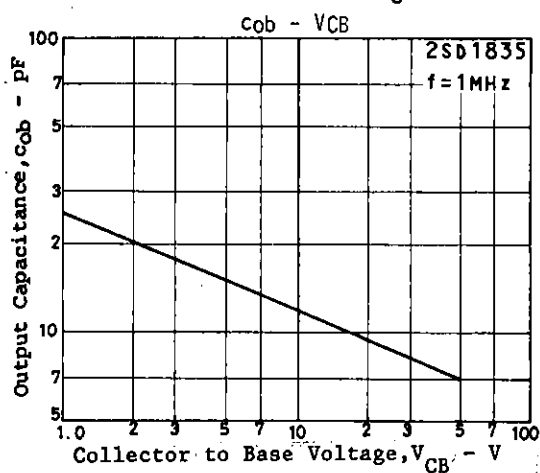
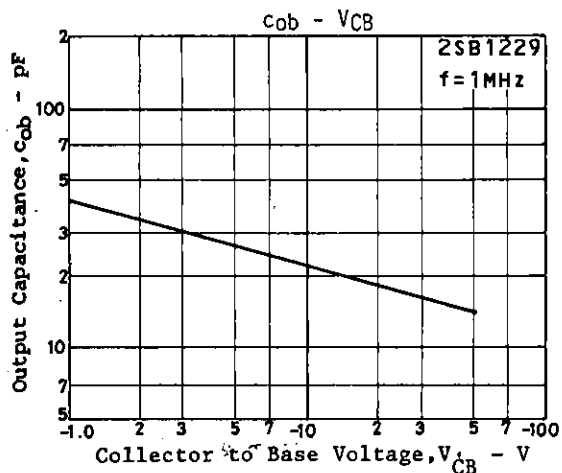
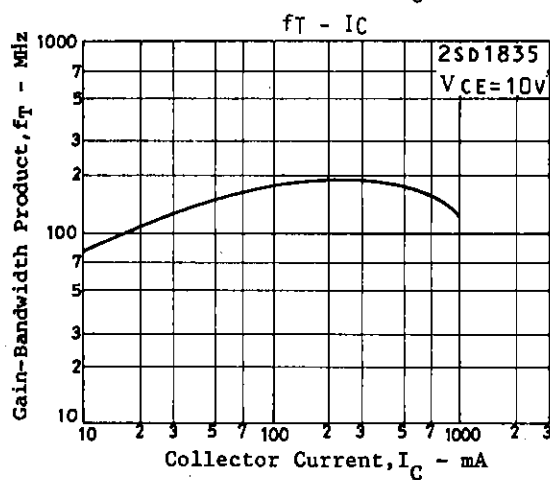
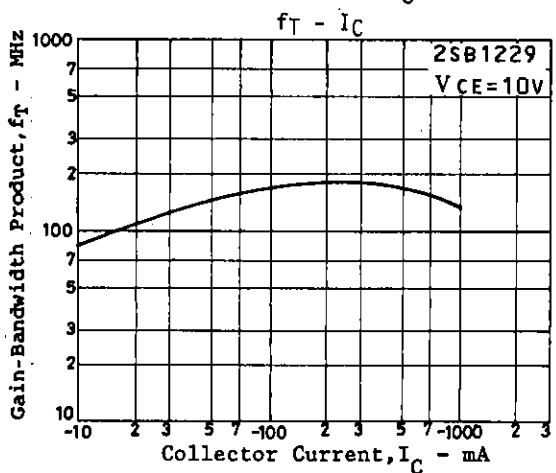
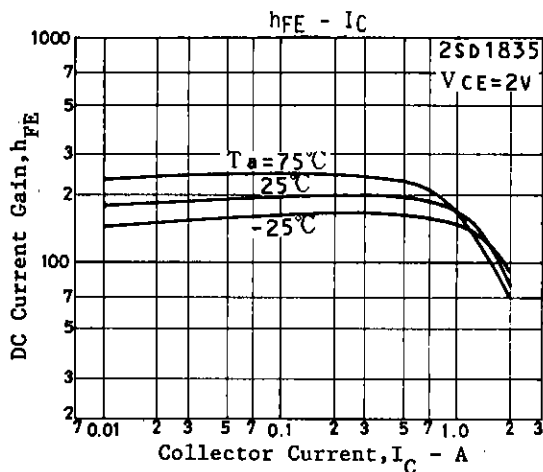
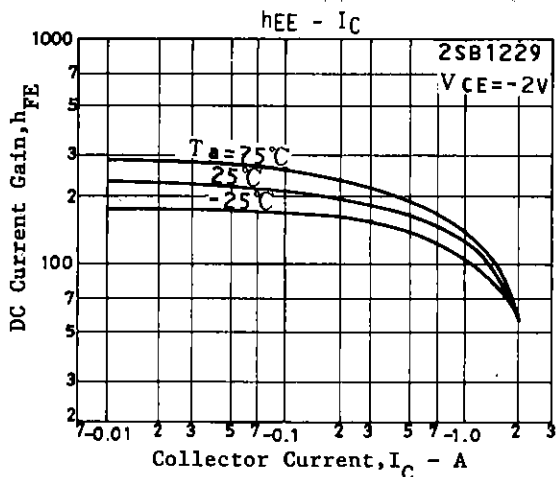
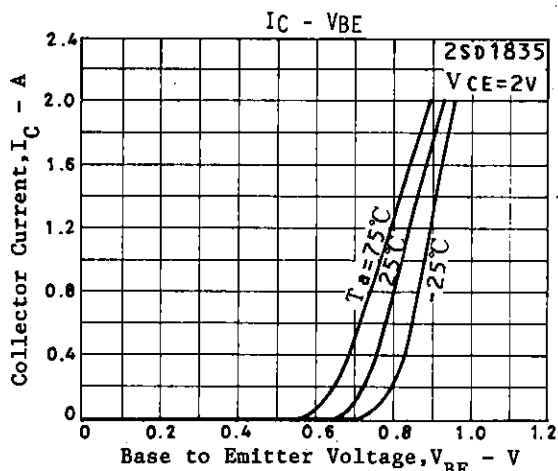
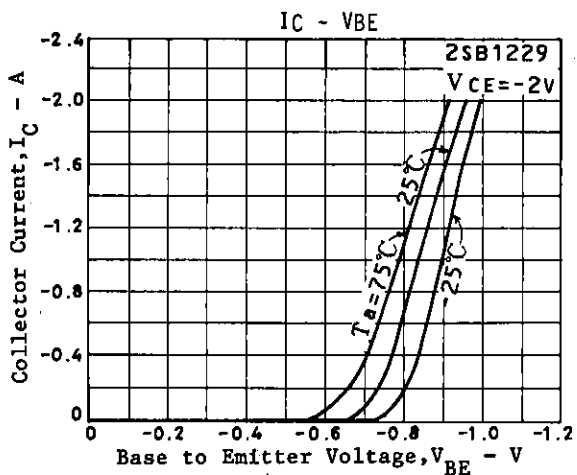
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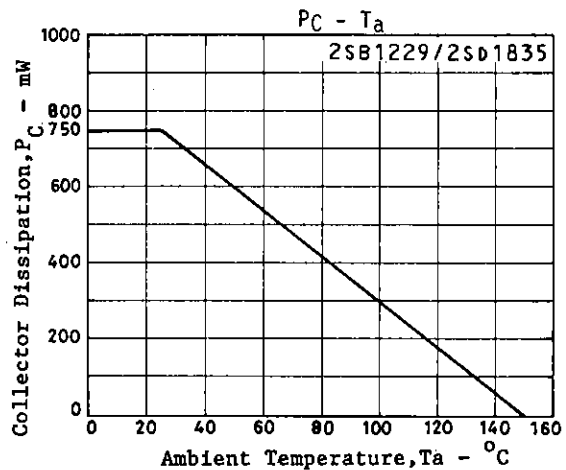
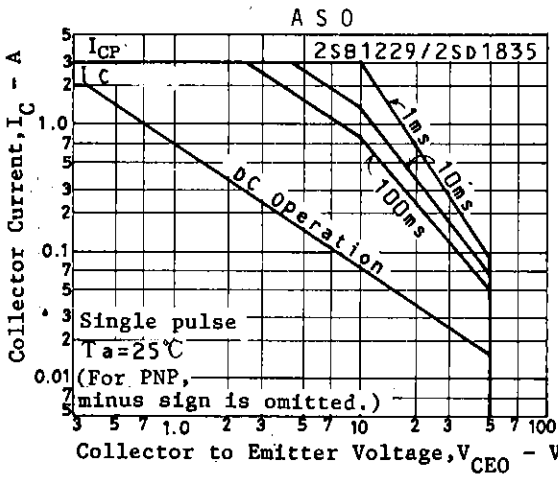
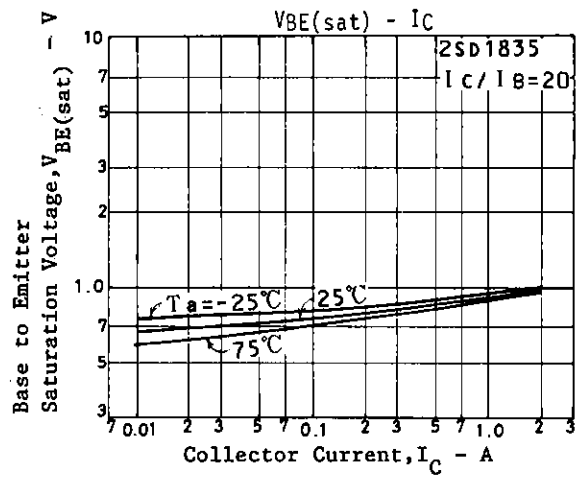
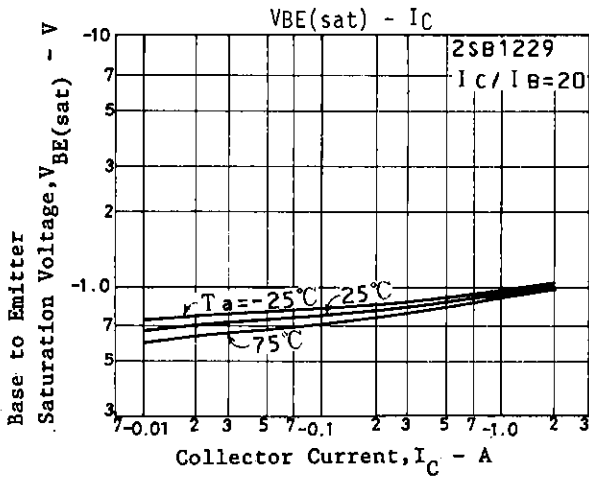
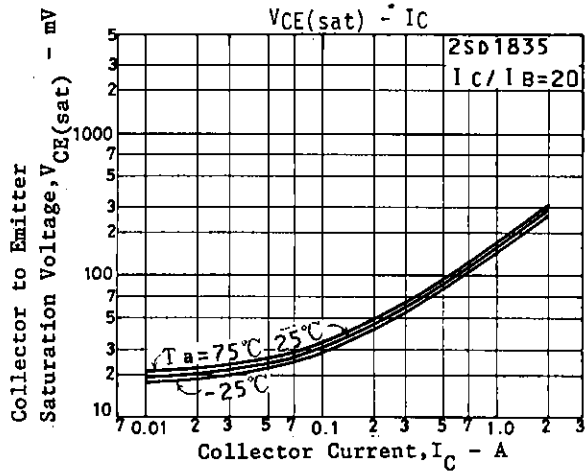
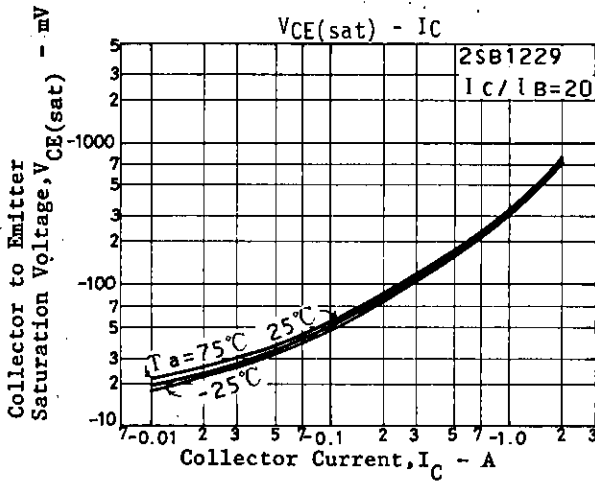
			min	typ	max	unit
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)1A, I_B=(-)50mA$		(-)0.9	(-)1.2	V
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu A, I_E=0$	(-)60			V
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1mA, R_{BE}=\infty$	(-)50			V
Emitter to Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=(-)10\mu A, I_C=0$	(-)6			V
Turn-on Time	ton	See specified Test Circuit.		60		ns
				(60)		ns
Storage Time	tstg	"		550		ns
				(450)		ns
Fall Time	tf	"		30		ns
				30		ns

*: The 2SB1229/2SD1835 are classified by 100mA h_{FE} as follows:

100 R	200	140 S	280	200 T	400	280 U	560
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