

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

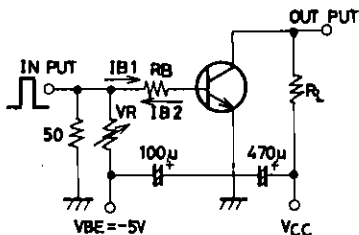
Collector to Base Voltage	V_{CB0}	(-)60	V
Collector to Emitter Voltage	V_{CEO}	(-)50	V
Emitter to Base Voltage	V_{EBO}	(-)6	V
Collector Current	I_C	(-)2	A
Collector Current(Pulse) :nt	I_{CP}	(-)3	A
Collector Dissipation	P_C	0.75	W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{stg}	-55 to +150	°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} $V_{CB} = (-) 10V, f = 1MHz$		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

Continued on next page.

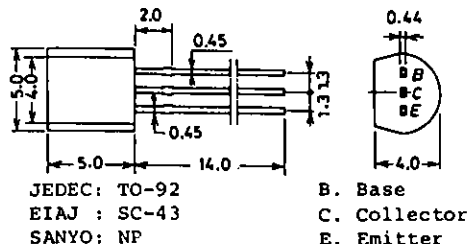
Switching Time Test Circuit



10 I B1 = -10 I B2 = I C = 500mA, V CC = 25V
(For PNP, the polarity is reversed.)

Unit(Resistance : Ω, Capacitance : F)

Package Dimensions 2003A
(unit: mm)



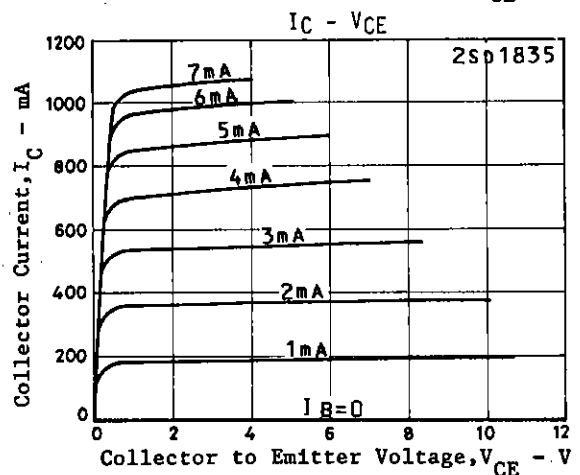
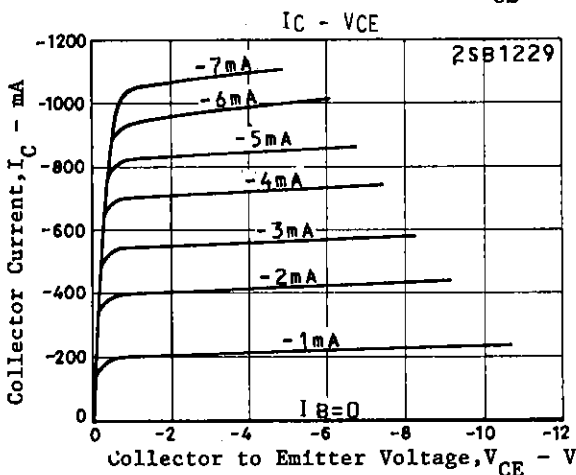
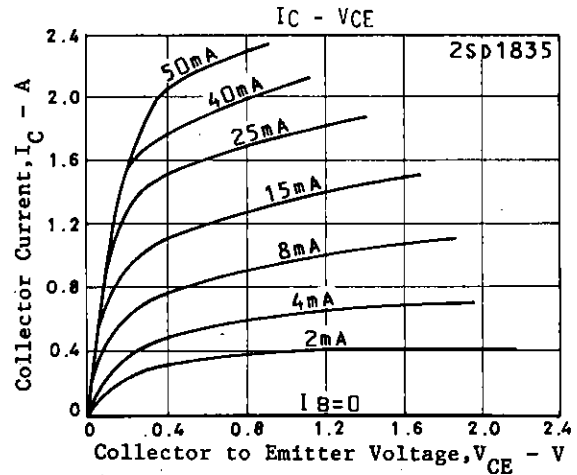
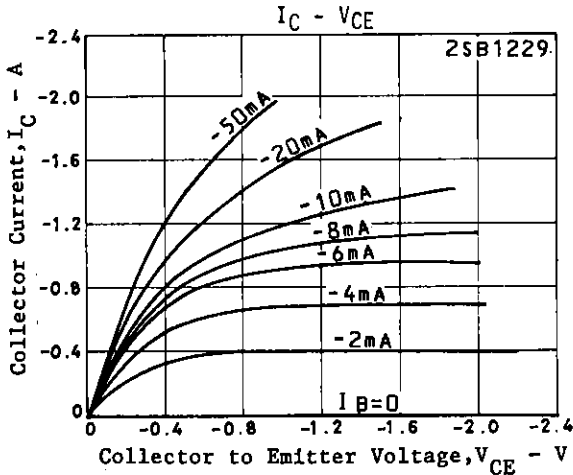
2SB1229/2SD1835

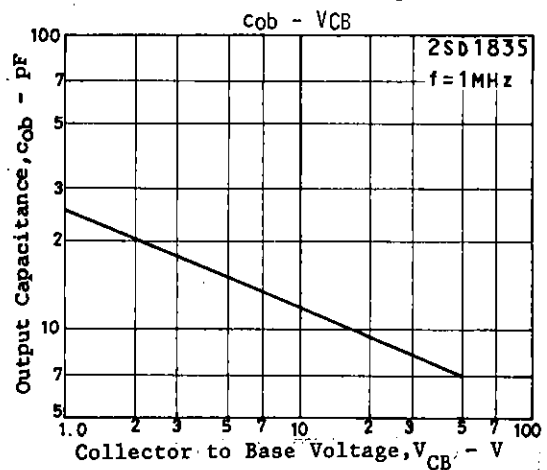
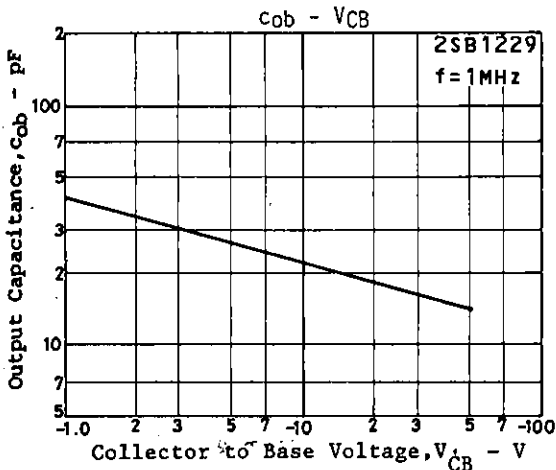
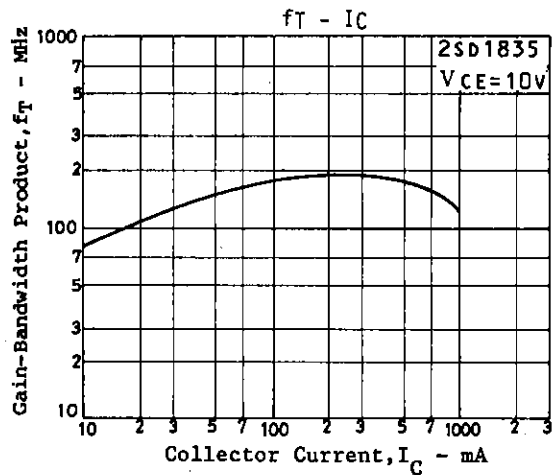
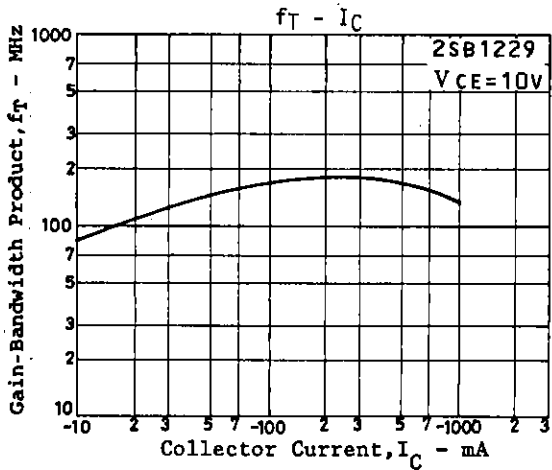
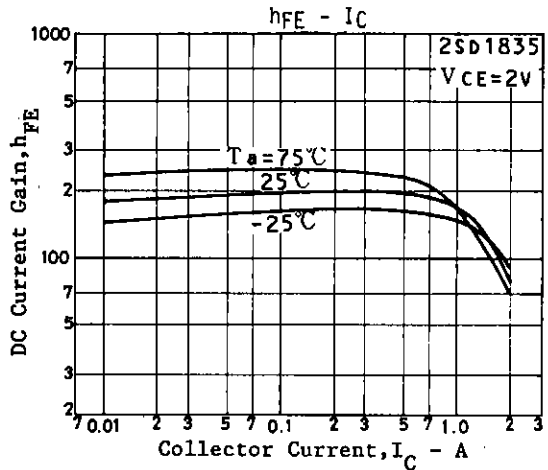
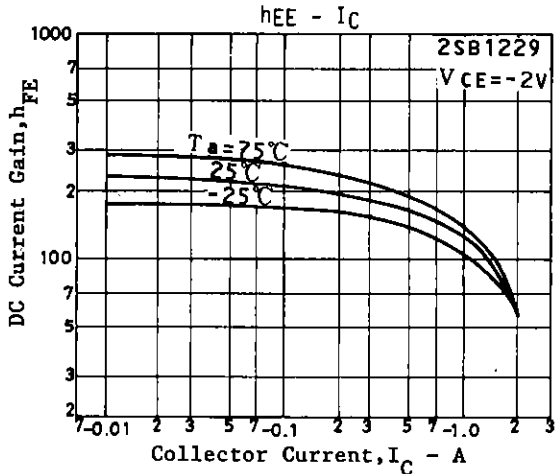
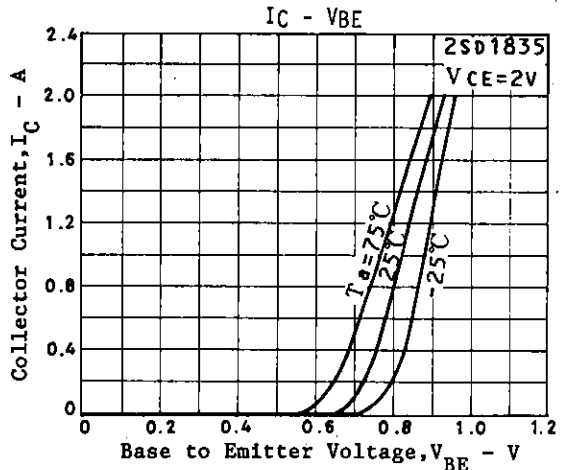
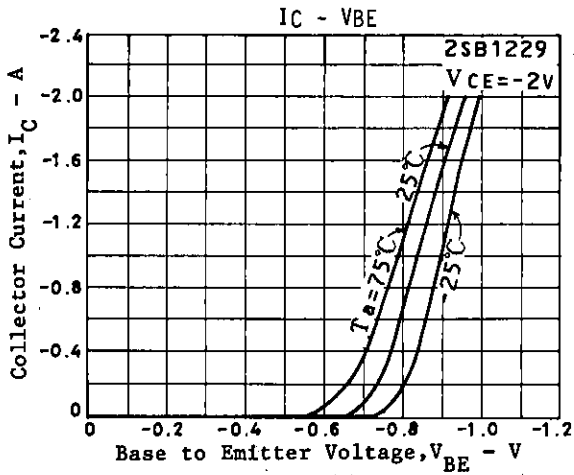
Continued from preceding page.

			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

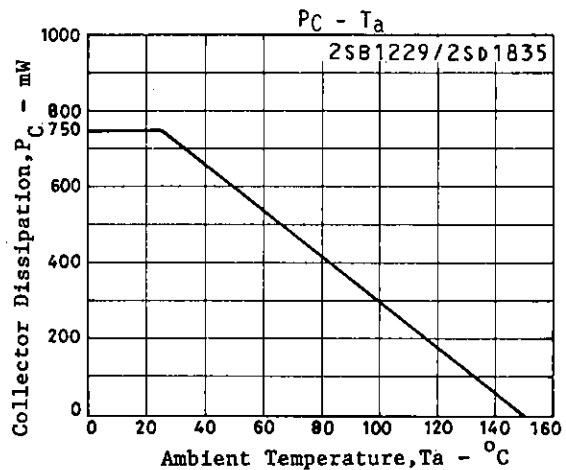
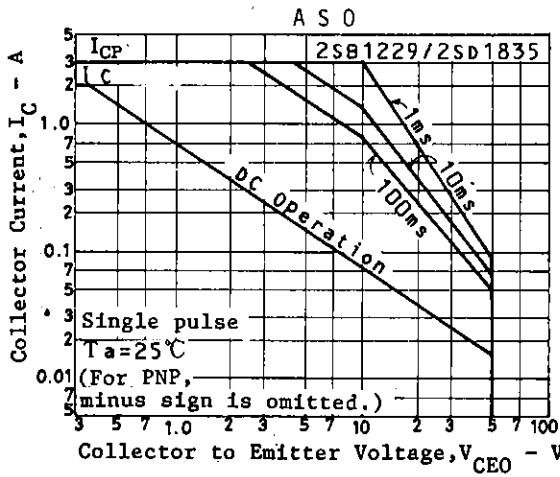
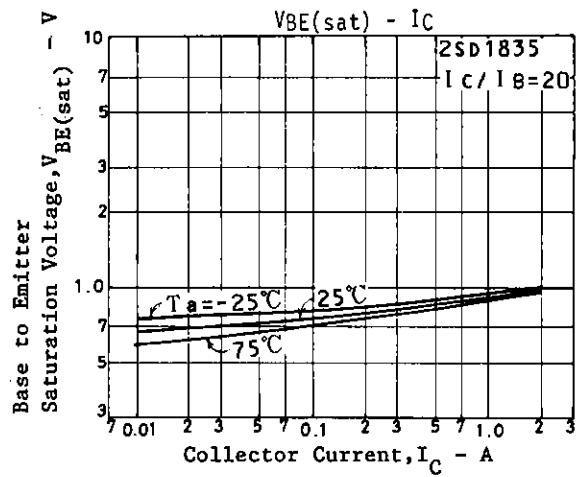
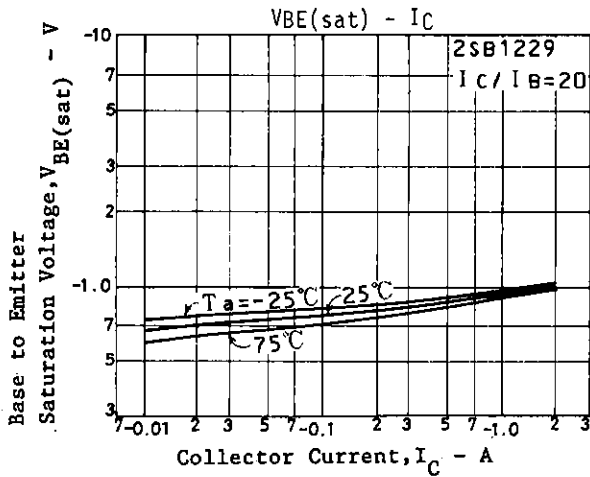
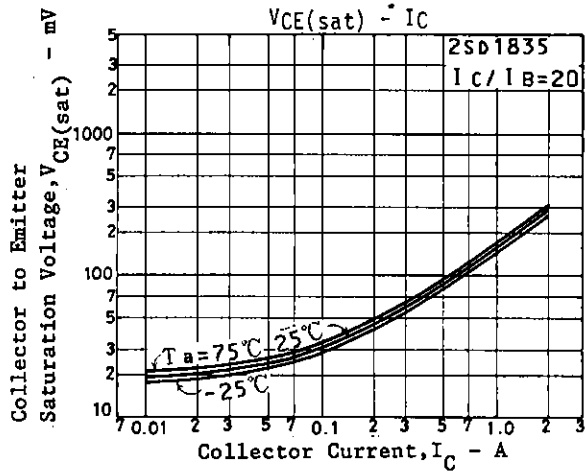
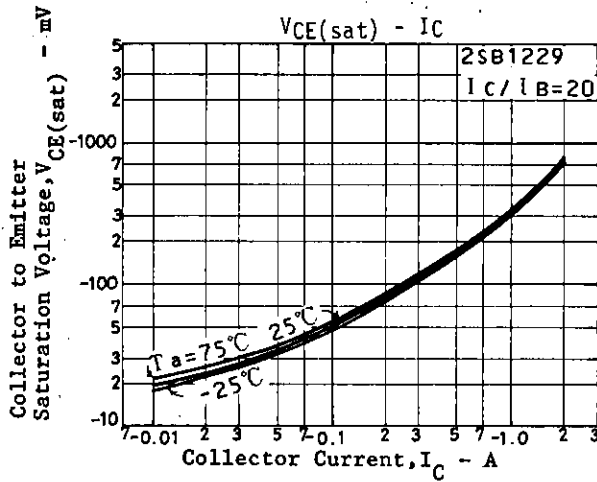
*: The 2SB1229/2SD1835 are classified by 100mA h_{FE} as follows:

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





2SB1229/2SD1835



■ No products described or contained herein are intended for use in surgical implants, life-support systems, aerospace equipment, nuclear power control systems, vehicles, disaster/crime-prevention equipment and the like, the failure of which may directly or indirectly cause injury, death or property loss.

■ Anyone purchasing any products described or contained herein for an above-mentioned use shall:

- ① Accept full responsibility and indemnify and defend SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors and all their officers and employees, jointly and severally, against any and all claims and litigation and all damages, cost and expenses associated with such use;
- ② Not impose any responsibility for any fault or negligence which may be cited in any such claim or litigation on SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors or any of their officers and employees jointly or severally.

■ Information (including circuit diagrams and circuit parameters) herein is for example only; it is not guaranteed for volume production. SANYO believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringements of intellectual property rights or other rights of third parties.