

SANYO	No.2540A	2SB1216/2SD1816
		PNP/NPN Epitaxial Planar Silicon Transistors High-Current Switching Applications

Applications

- . Suitable for relay drivers, high-speed inverters, converters, and other general high-current switching applications

Features

- . Low collector to emitter saturation voltage
- . Good linearity of h_{FE}
- . Small and slim package facilitating compactness of sets
- . High f_T
- . Fast switching time

(): 2SB1216

Absolute Maximum Ratings at Ta=25°C

			unit
Collector to Base Voltage	V_{CBO}	(-)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
Collector Dissipation	P_C	1	W
		20	W
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55 to +150	°C

Electrical Characteristics at Ta=25°C

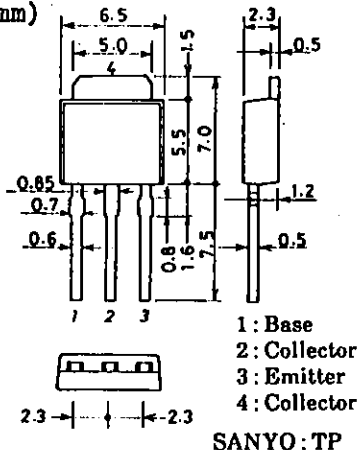
			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB}=(-)100V, I_E=0$			(-)1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=(-)4V, I_C=0$			(-)1	μA
DC Current Gain	$h_{FE}(1)$	$V_{CE}=(-)5V, I_C=(-)0.5A$	70*		400*	
	$h_{FE}(2)$	$V_{CE}=(-)5V, I_C=(-)3A$	40			

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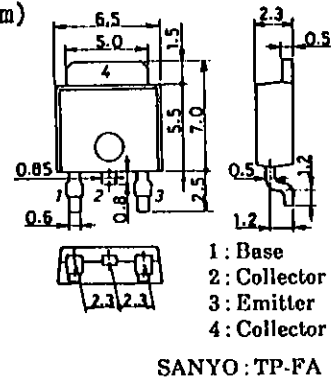
*: The 2SB1216/2SD1816 are classified by 0.5A h_{FE} as follows:

70	Q	140	100	R	200	140	S	280	200	T	400
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Package Dimensions 2045B (unit:mm)



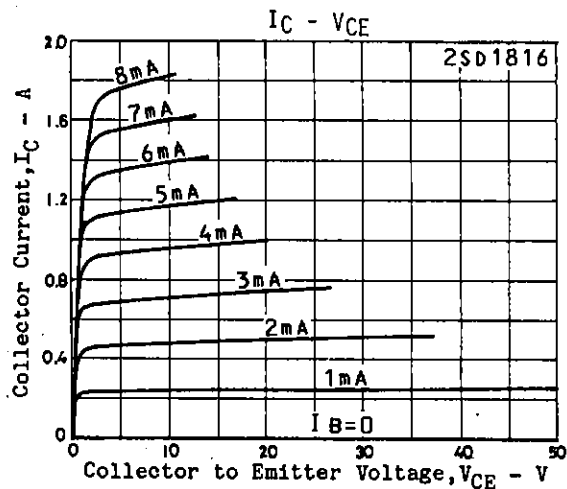
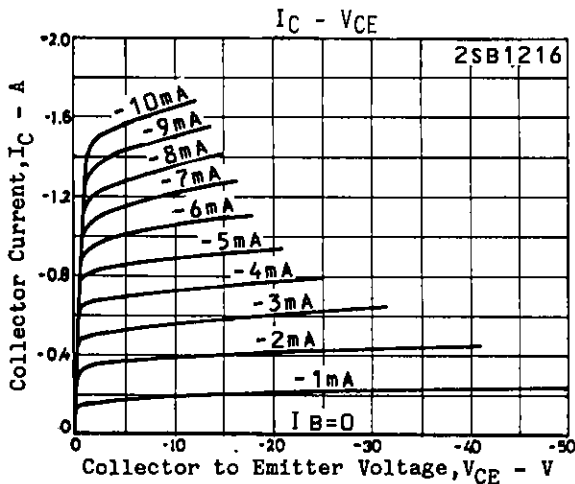
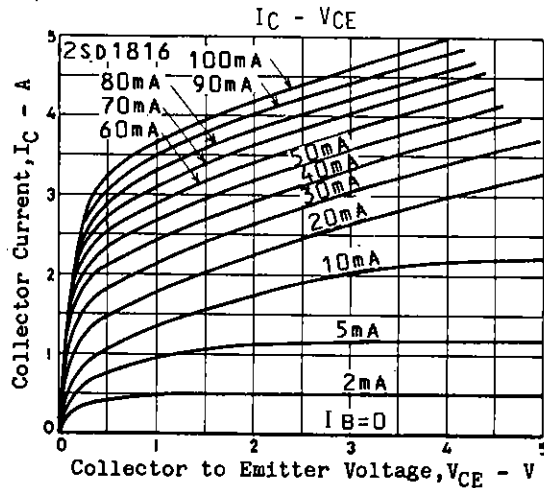
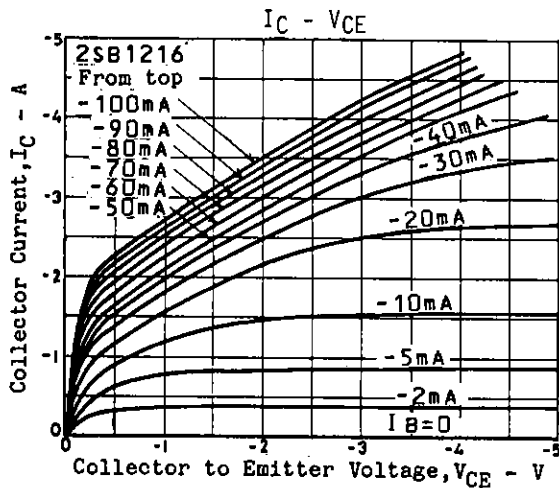
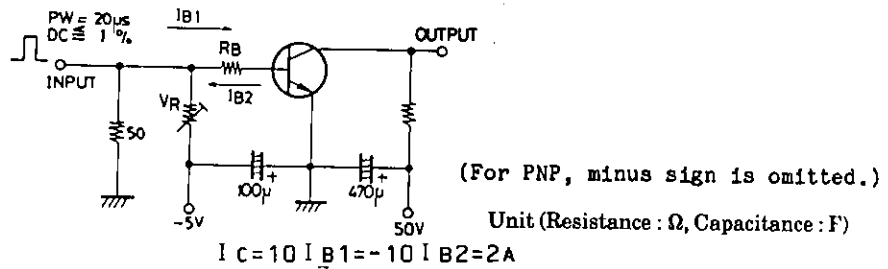
Package Dimensions 2044B (unit:mm)



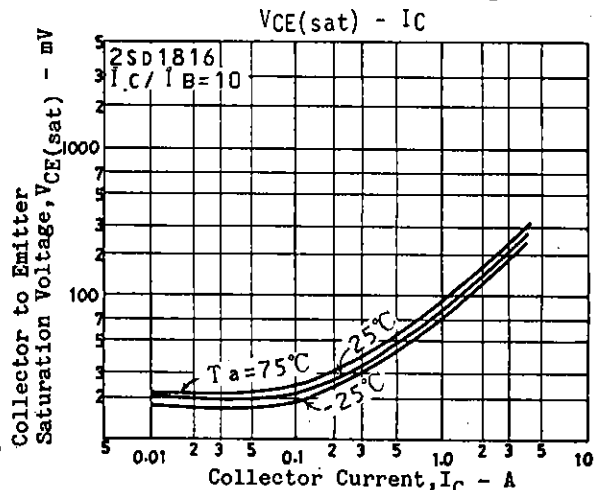
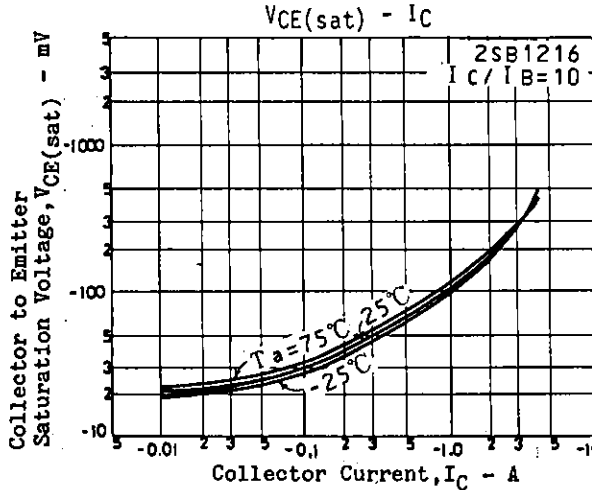
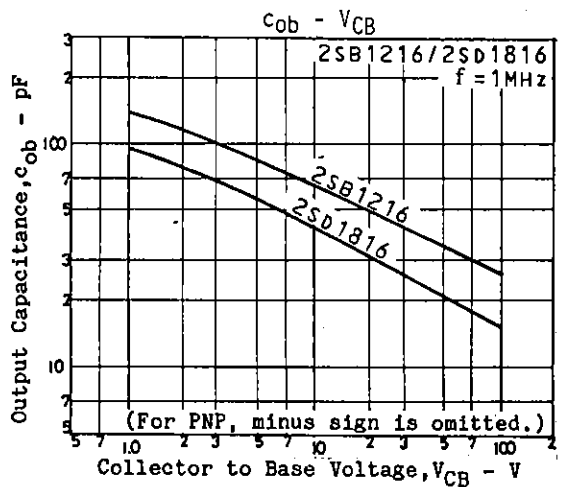
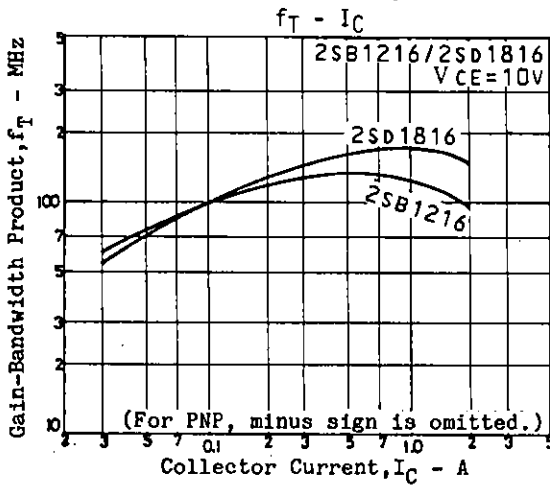
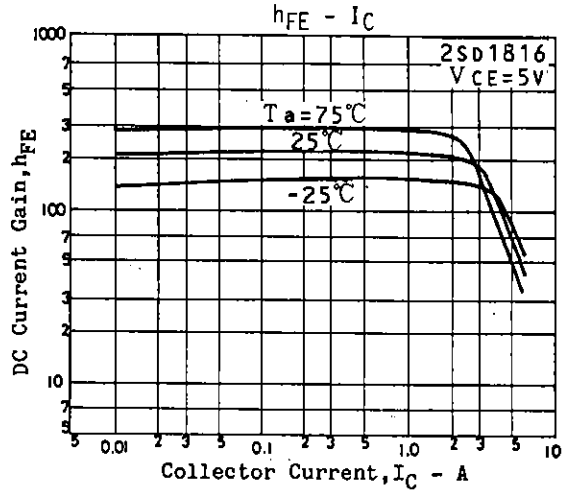
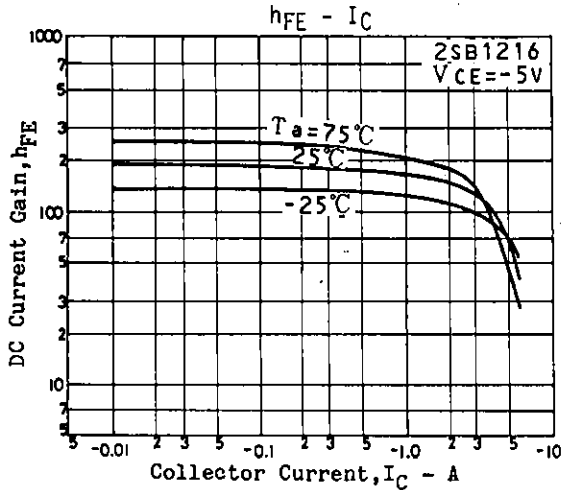
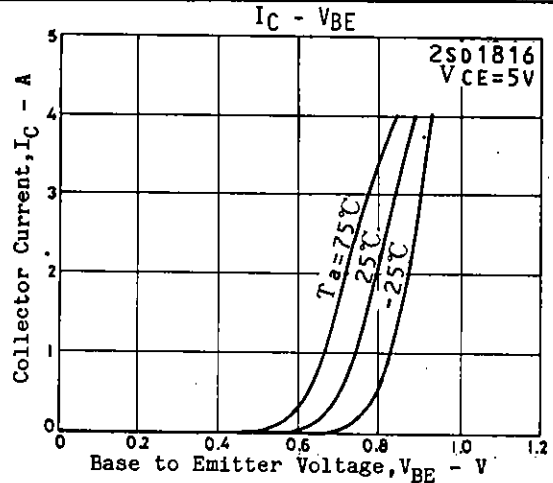
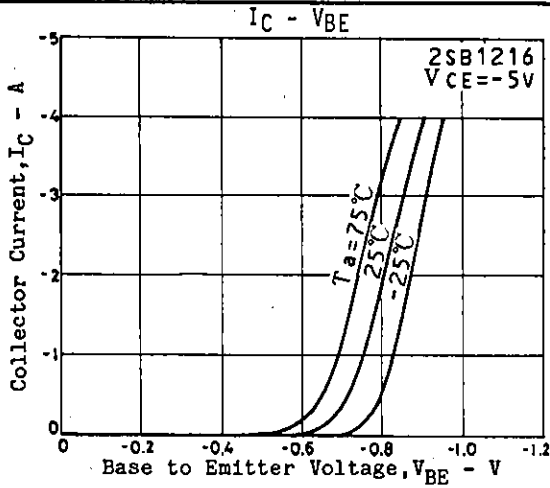
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			min	typ	max	unit
Gain-Bandwidth Product	f_T	$V_{CE}=(-)10V, I_C=(-)0.5A$		180 (130)		MHz
Output Capacitance	c_{ob}	$V_{CB}=(-)10V, f=1MHz$		(65)40		pF
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)2A, I_B=(-)0.2A$		150 (-200)	400 (-500)	mV
B-E Saturation 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

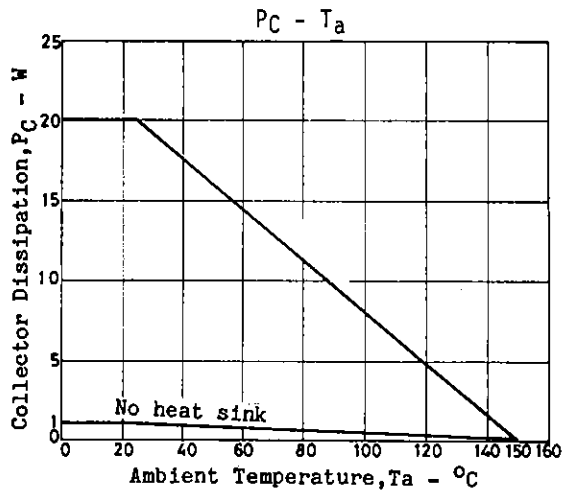
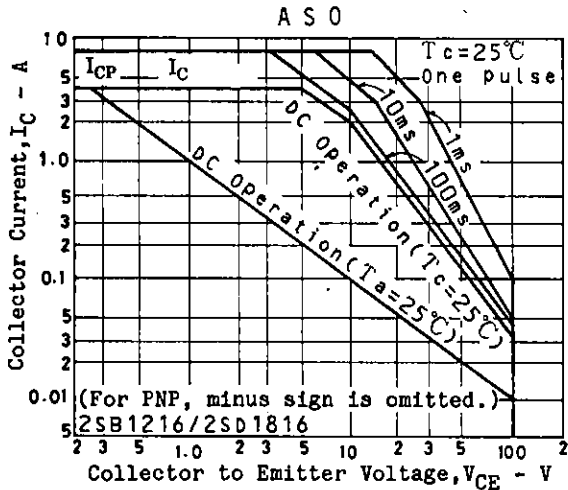
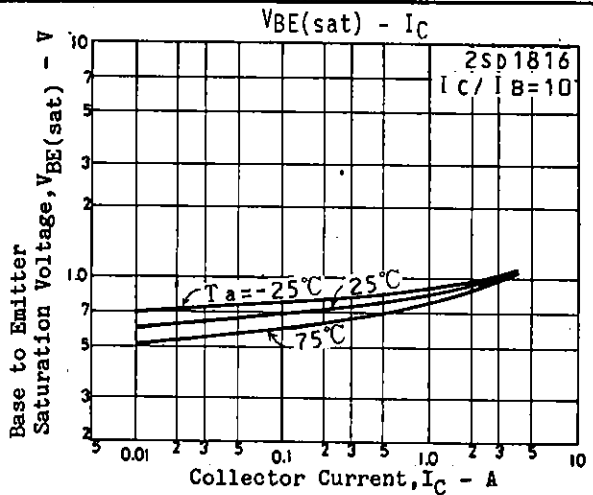
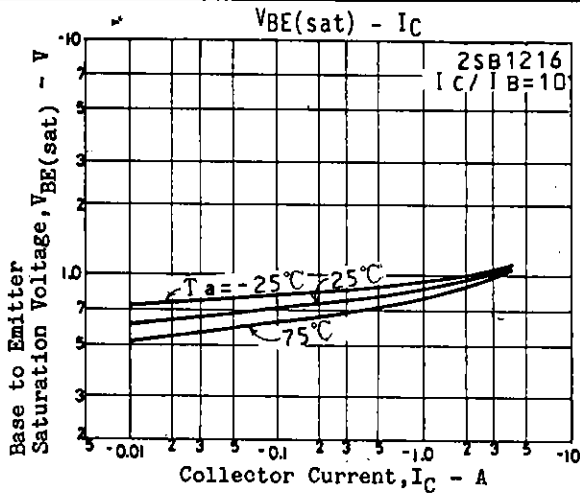
Switching Time Test Circuit



2SB1216/2SD1816



2SB1216/2SD1816



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