



No.2539B

2SB1215/2SD1815

PNP/NPN Epitaxial Planar Silicon Transistors

High-Current Switching Applications

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

- Features**
- Low collector-to-emitter saturation voltage.
 - Excellent linearity of h_{FE} .
 - Small-sized package permitting 2SB1215/2SD1815-applied sets to be made small and slim.
 - High f_T .
 - Fast switching time.

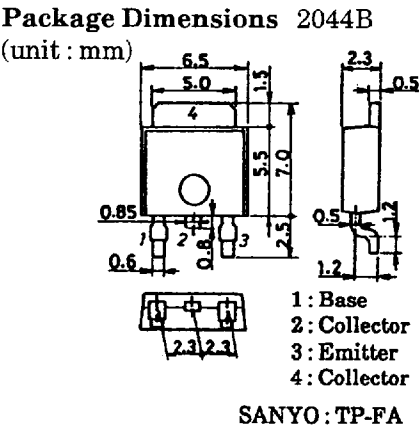
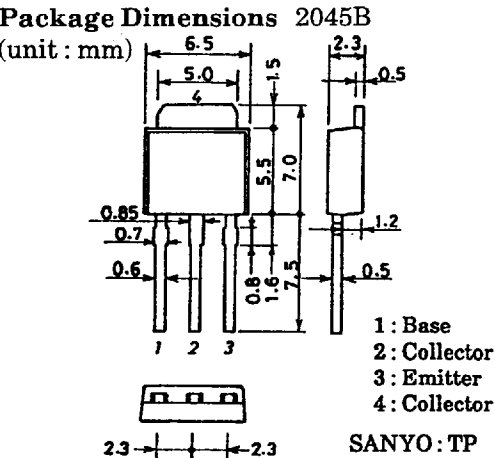
() : 2SB1215		
Absolute Maximum Ratings at Ta = 25°C		
Collector-to-Base Voltage	V _{CBO}	(-)120 V
Collector-to-Emitter Voltage	V _{CEO}	(-)100 V
Emitter-to-Base Voltage	V _{EBO}	(-)6 V
Collector Current	I _C	(-)3 A
Collector Current (Pulse)	I _{CP}	(-)6 A
Collector Dissipation	P _C	1 W
Tc = 25°C		20 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 = (-)2A	40			
Gain-Bandwidth Product	f _T	V _{CE} = (-)10V, I _C = (-)0.5A		180		MHz
				(130)		
Output Capacitance	C _{ob}	V _{CB} = (-)10V, f = 1MHz		(40)25		pF
C-E Saturation Voltage	V _{CE(sat)}	I _C = (-)1.5A, I _B = (-)0.15A		150	400	mV
				(- 200) (- 500)		

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※ : The 2SB1215/2SD1815 are classified by 100mA h_{FE} as follows :

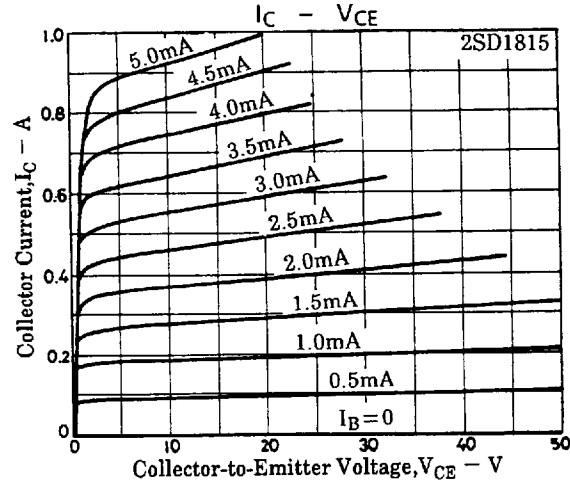
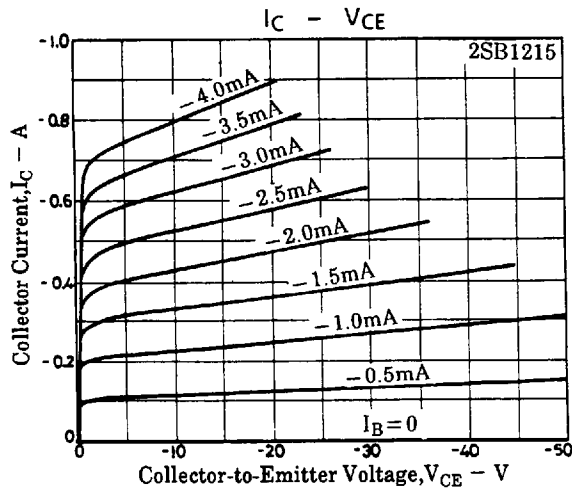
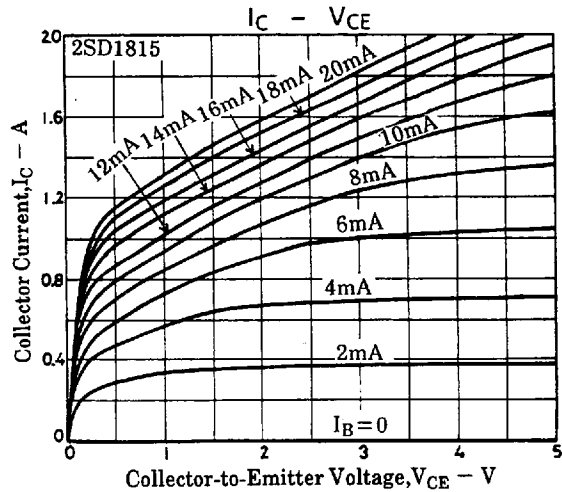
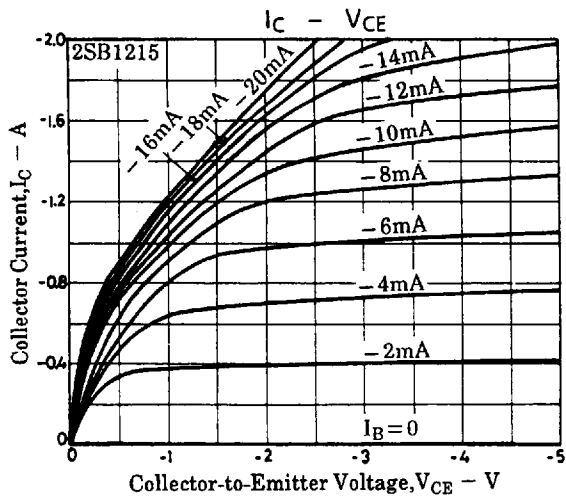
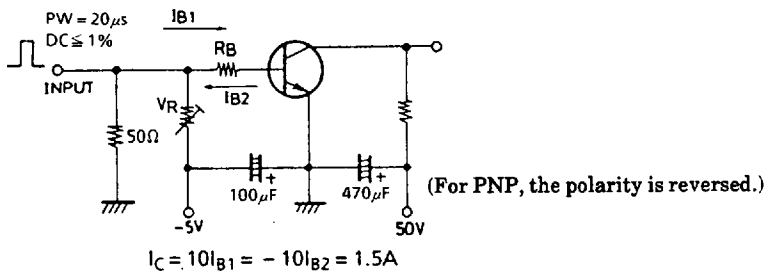
70	Q	140	100	R	200	140	S	280	200	T	400
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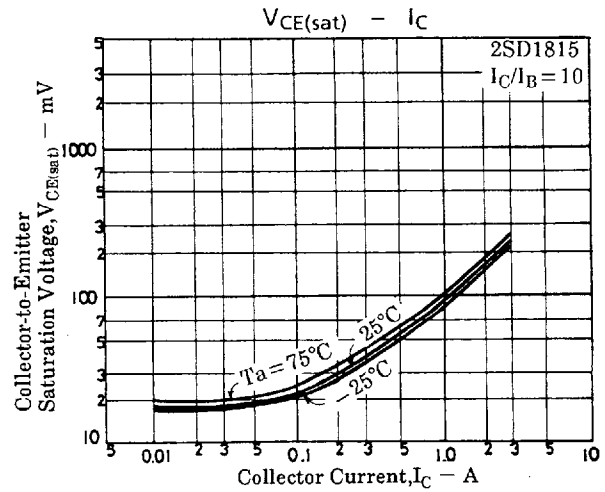
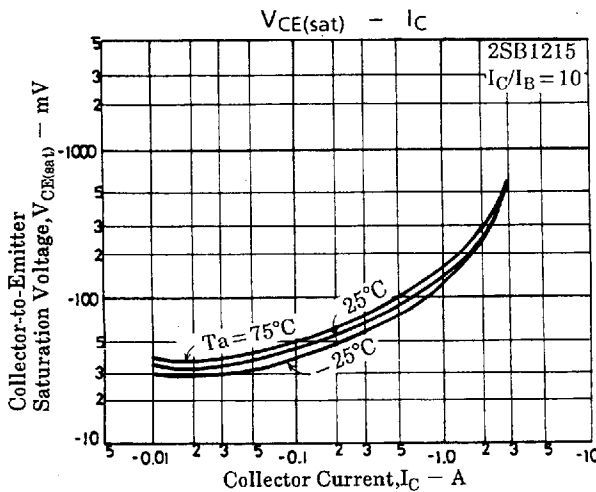
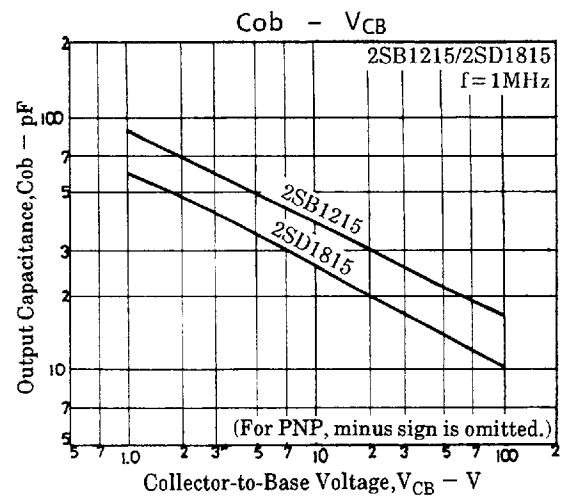
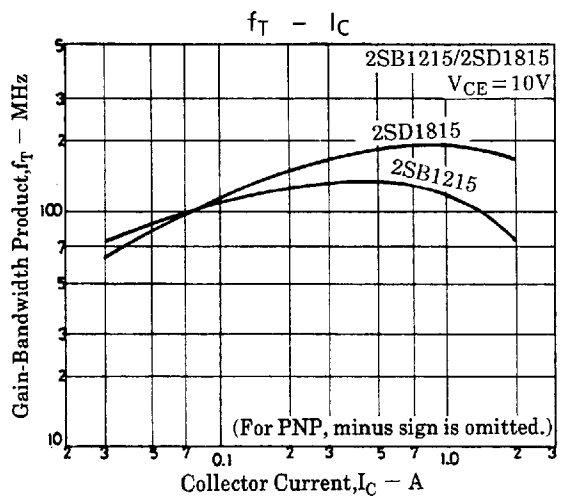
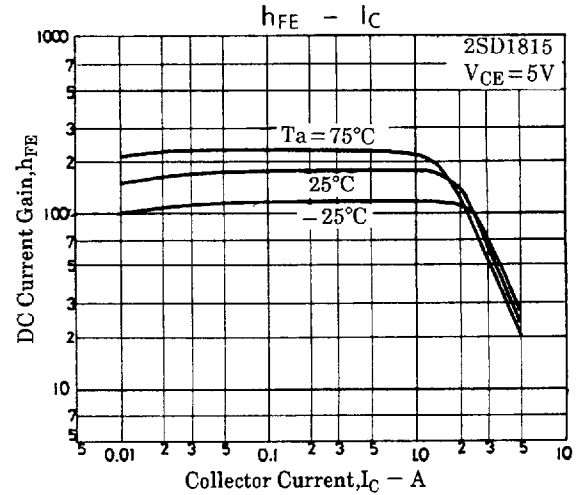
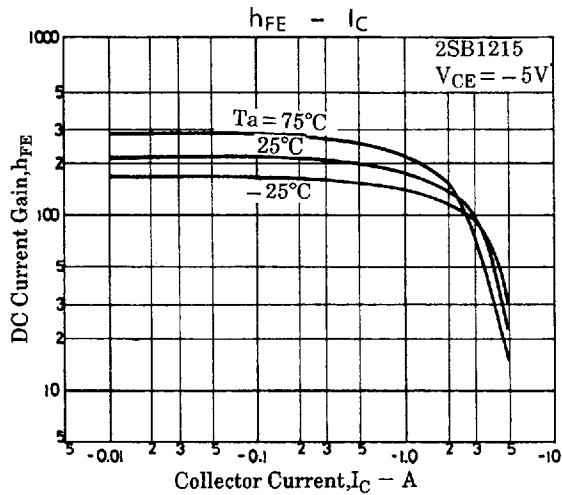
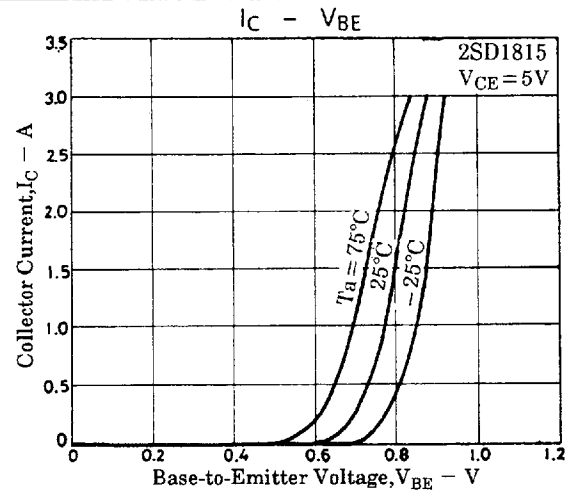
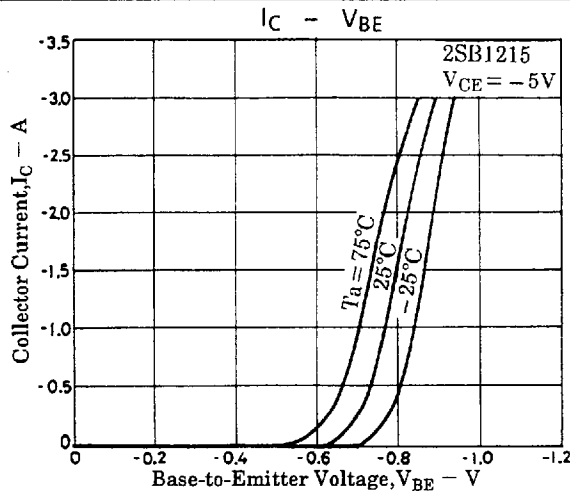
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		min	typ	max	unit
B-E Saturation Voltage	$V_{BE(sat)}$ $I_C=(-)1.5A, I_B=(-)0.15A$		$(-)0.9$	$(-)1.2$	V
C-B Breakdown Voltage	$V_{(BR)CBO}$ $I_C=(-)10\mu A, I_E=0$	$(-)120$			V
C-E Breakdown Voltage	$V_{(BR)CEO}$ $I_C=(-)1mA, R_{BE}=\infty$	$(-)100$			V
E-B Breakdown Voltage	$V_{(BR)EBO}$ $I_E=(-)10\mu A, I_C=0$	$(-)6$			V
Rise Time	t_{on} See specified Test Circuit.		100		ns
Storage Time	t_{stg} "		(800)900		ns
Fall Time	t_f "		50		ns

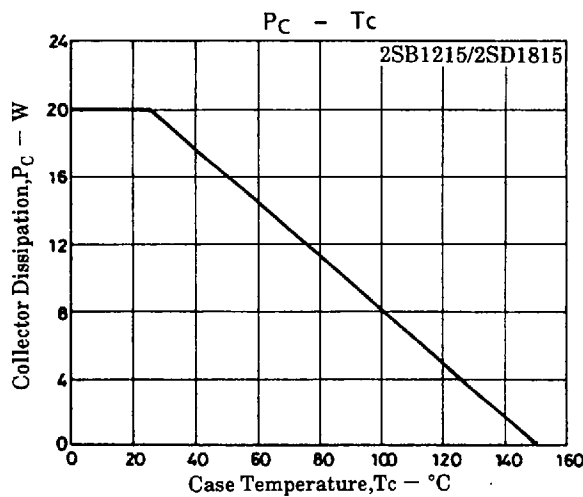
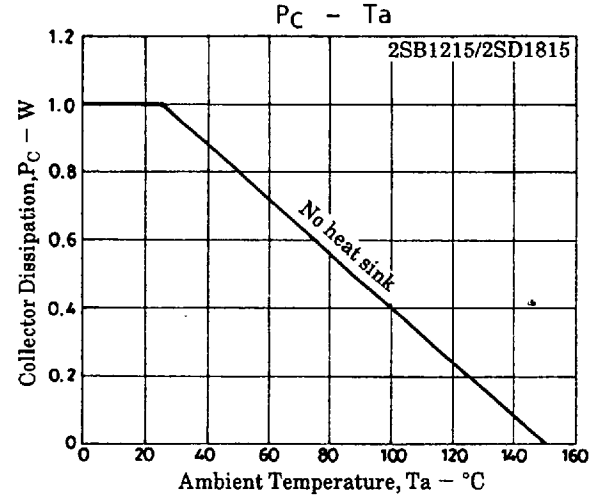
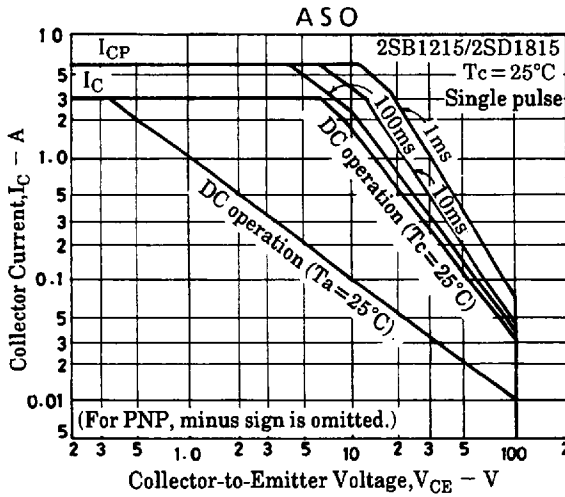
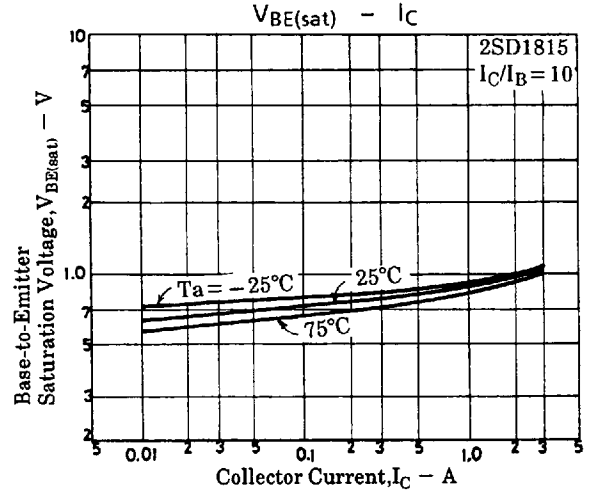
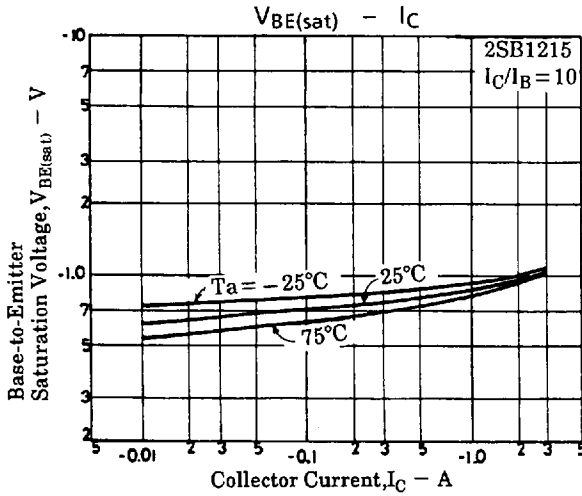
Switching Time Test Circuit



2SB1215/2SD1815



2SB1215/2SD1815



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