

SANYO

No.2511A

2SA1593/2SC4135

PNP/NPN Epitaxial Planar Silicon Transistors

High-Voltage Switching Applications

Applications

- Power supplies, relay drivers, lamp drivers

Features

- Adoption of FBET, MBIT processes
- High breakdown voltage and large current capacity
- Fast switching speed
- Small and slim package permitting 2SA1593/2SC4135-applied sets to be made more compact

(): 2SA1593

Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

			unit
Collector to Base Voltage	V_{CB0}	(-)120	V
Collector to Emitter Voltage	V_{CEO}	(-)100	V
Emitter to Base Voltage	V_{EBO}	(-)6	V
Collector Current	I_C	(-)2	A
Collector Current(Pulse)	I_{CP}	(-)3	A
Collector Dissipation	P_C	1	W
		15	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

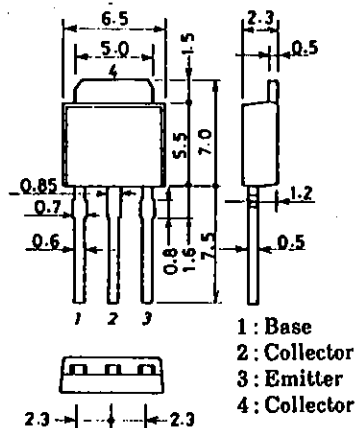
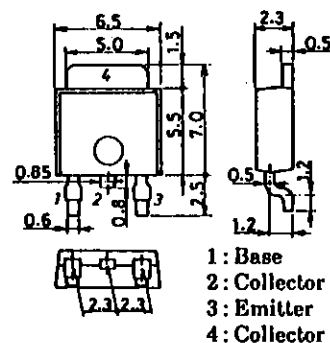
 $T_c=25^\circ\text{C}$ **Electrical Characteristics at $T_a=25^\circ\text{C}$**

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB}=(-)100\text{V}, I_E=0$			(-)100	nA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=(-)4\text{V}, I_C=0$			(-)100	nA
DC Current Gain	h_{FE}	$V_{CE}=(-)5\text{V}, I_C=(-)100\text{mA}$	100*		400*	
Gain-Bandwidth Product	f_T	$V_{CE}=(-)10\text{V}, I_C=(-)100\text{mA}$		120		MHz
Output Capacitance	c_{ob}	$V_{CB}=(-)10\text{V}, f=1\text{MHz}$		(25)		pF
				16		pF

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*: The 2SA1593/2SC4135 are classified by 100mA h_{FE} as follows:

100	R	200	140	S	280	200	T	400
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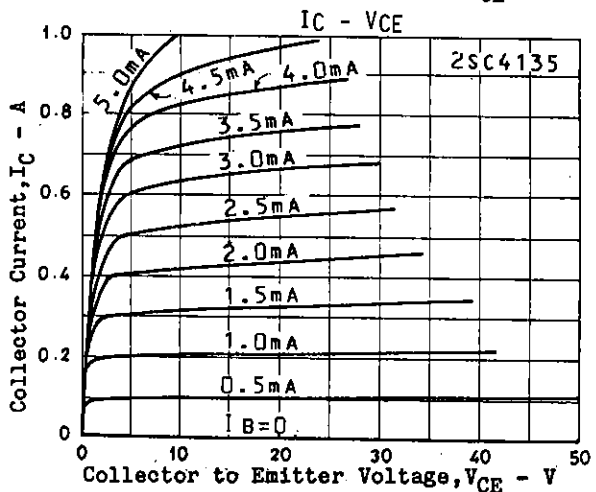
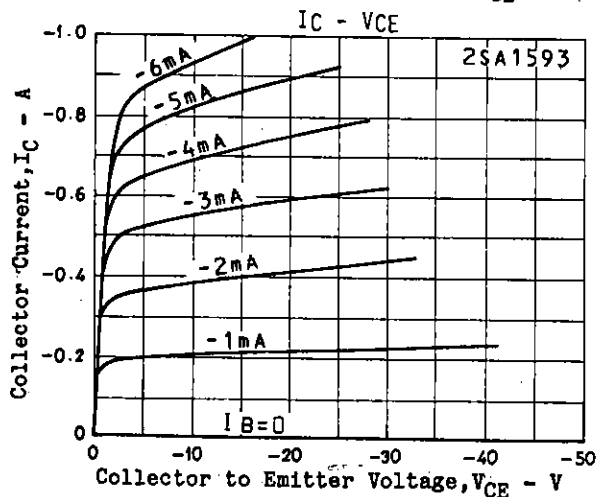
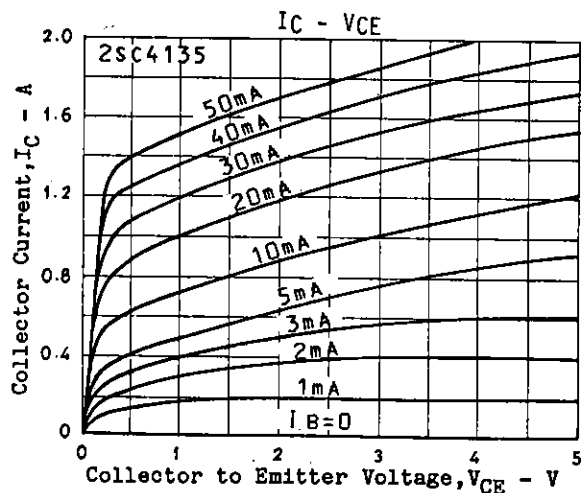
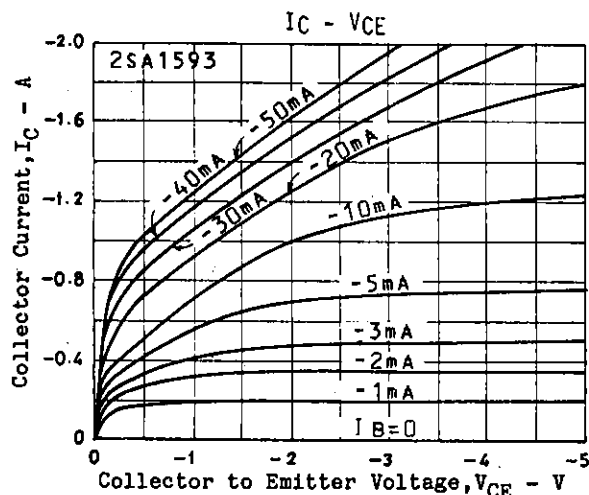
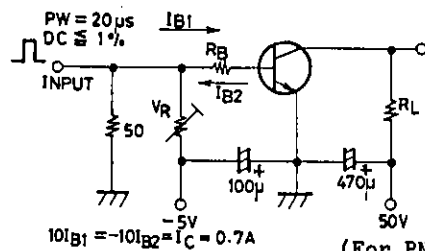
Package Dimensions 2045B
(unit:mm)**Package Dimensions 2044B**
(unit:mm)

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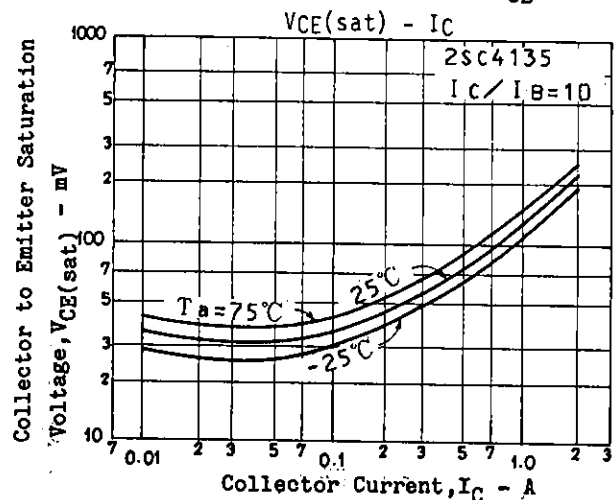
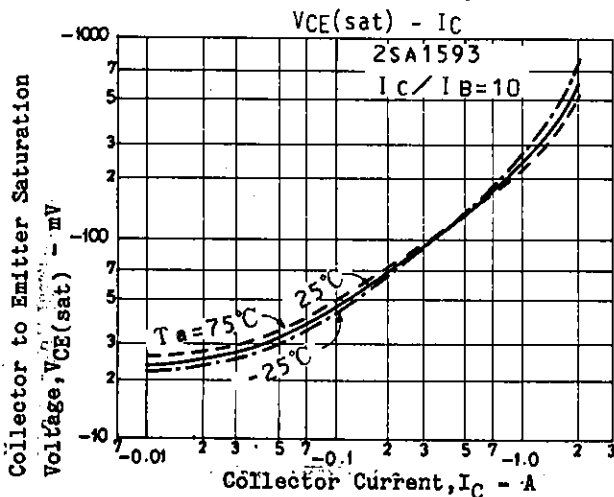
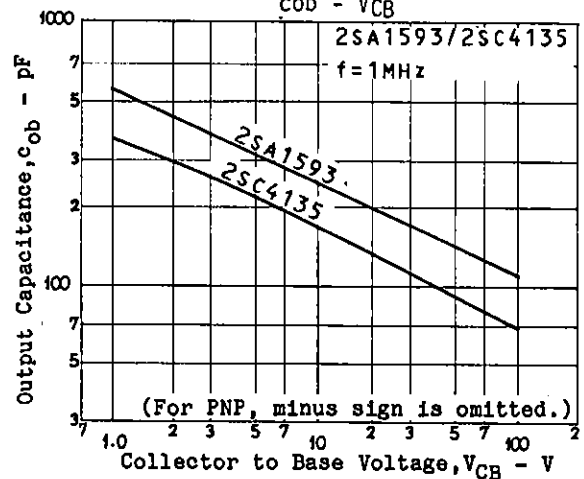
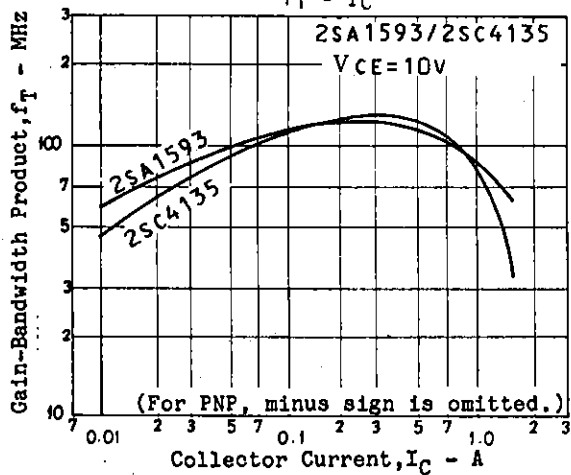
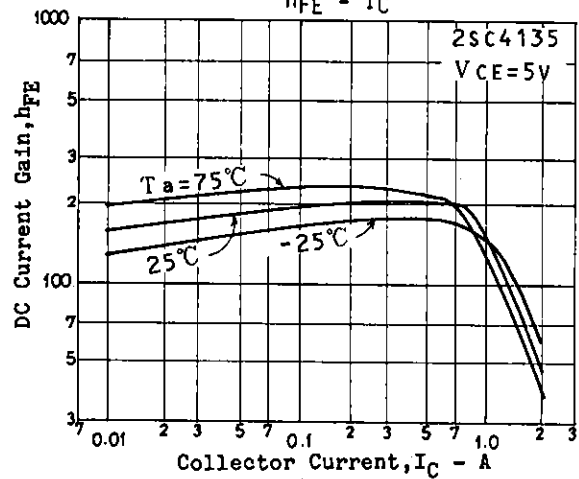
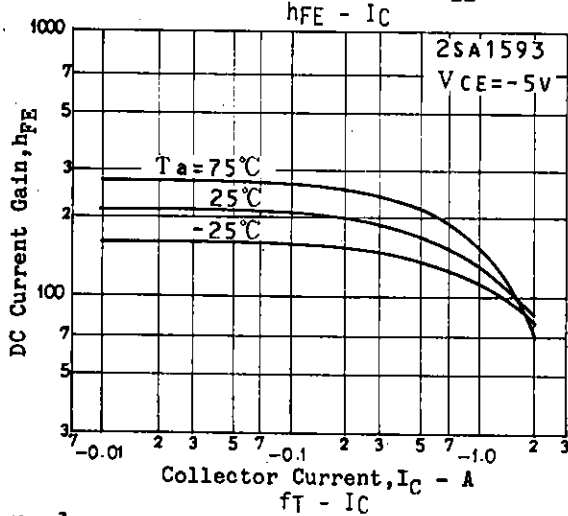
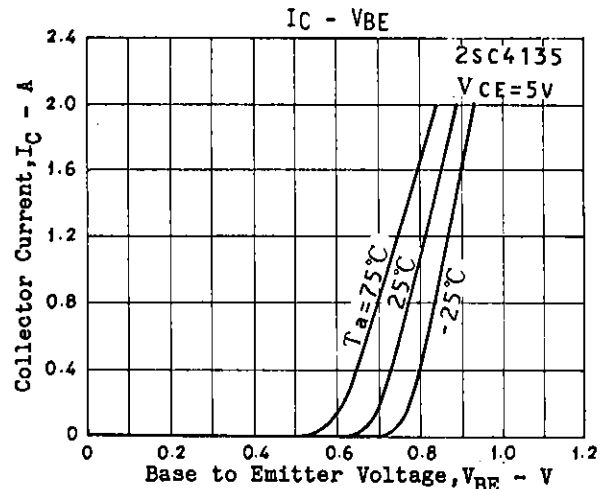
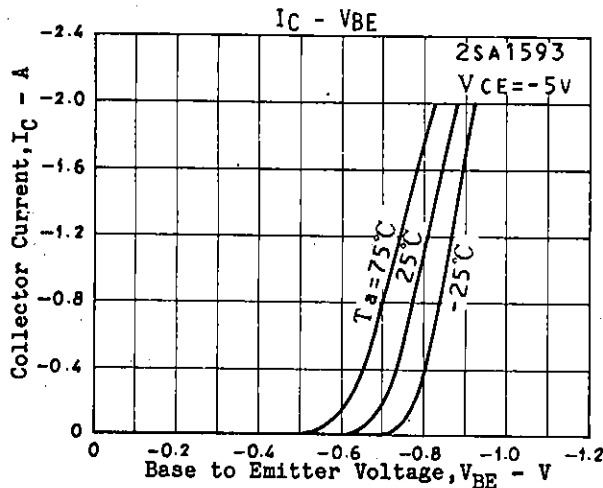
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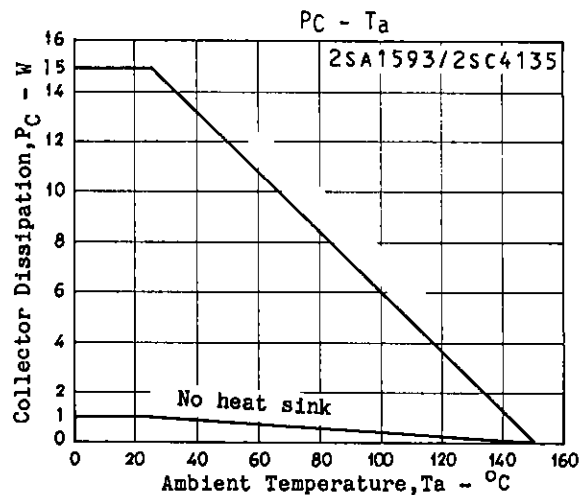
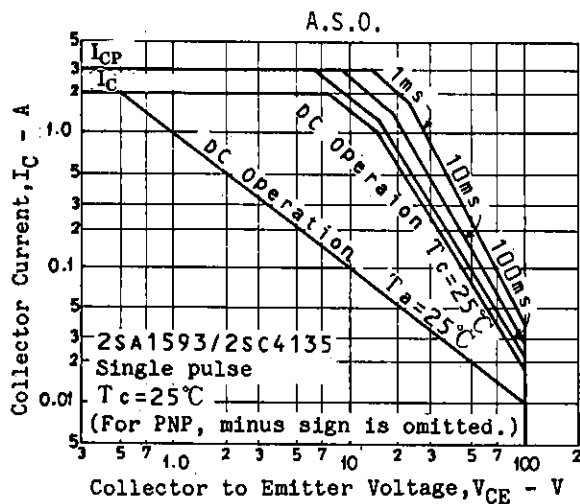
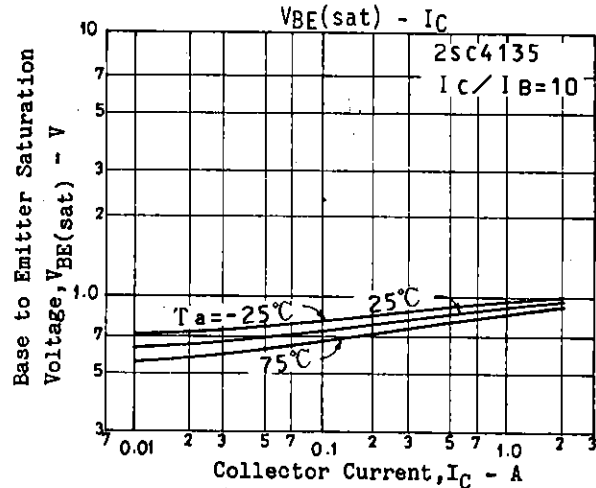
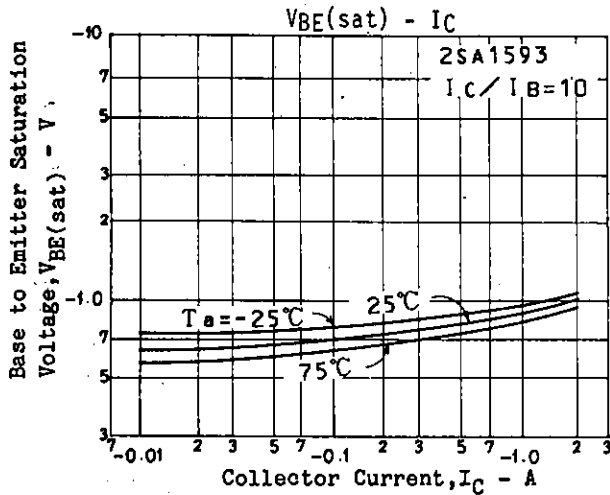
			min	typ	max	unit
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)1A, I_B=(-)100mA$		$(-0.22)(-0.6)$		V
				0.13	0.4	V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)1A, I_B=(-)100mA$		$(-)0.85(-)1.2$		V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu A, I_E=0$	$(-)120$			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1mA, R_{BE}=\infty$	$(-)100$			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.		(80)		ns
				80		ns
Storage Time	t_{stg}			(750)		ns
				1000		ns
Fall Time	t_f			(40)		ns
				50		ns

Switching Time Test Circuit



2SA1593/2SC4135





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