

SANYO

No.2101B

2SA1507/2SC3902

PNP/NPN Epitaxial Planar Silicon Transistors

High-Voltage Driver Applications

Applications

- Color TV audio output, converters, inverters.

Features

- High breakdown voltage.
- Large current capacity.
- Adoption of FBET and MBIT process.
- The plastic-covered heat sink eliminates the need for an insulator when mounting the 2SA1507/2SC3902.

() : 2SA1507

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

			unit
Collector-to-Base Voltage	V_{CB0}	(-)180	V
Collector-to-Emitter Voltage	V_{CE0}	(-)160	V
Emitter-to-Base Voltage	V_{EB0}	(-)6	V
Collector Current	I_C	(-)1.5	A
Collector Current (Pulse)	I_{CP}	(-)2.5	A
Collector Dissipation	P_C	1.5	W
		10	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

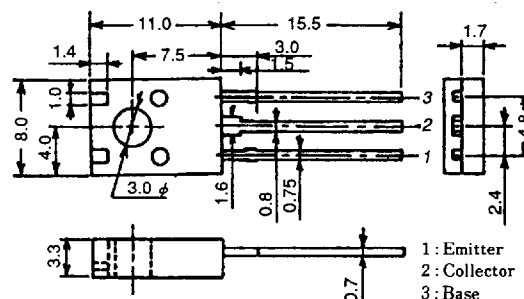
 $T_c = 25^\circ\text{C}$ **Electrical Characteristics at $T_a = 25^\circ\text{C}$**

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB} = (-)120\text{V}, I_E = 0$			(-)1.0	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = (-)4\text{V}, I_C = 0$			(-)1.0	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE} = (-)5\text{V}, I_C = (-)100\text{mA}$	100※		400※	
	$h_{FE(2)}$	$V_{CE} = (-)5\text{V}, I_C = (-)10\text{mA}$	90			
Gain-Bandwidth Product	f_T	$V_{CE} = (-)10\text{V}, I_C = (-)50\text{mA}$		120		MHz
Output Capacitance	C_{ob}	$V_{CB} = (-)10\text{V}, f = 1\text{MHz}$		(22)		pF
				14		pF
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)500\text{mA}, I_B = (-)50\text{mA}$	(-)0.2	(-)0.5		V
			0.13	0.45		V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C = (-)500\text{mA}, I_B = (-)50\text{mA}$	(-)0.85	(-)1.2		V

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※ : The 2SA1507/2SC3902 are classified by 100mA h_{FE} as follows :

100	R	200	140	S	280	200	T	400
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Package Dimensions 2042B
(unit : mm)

SANYO: TO126ML

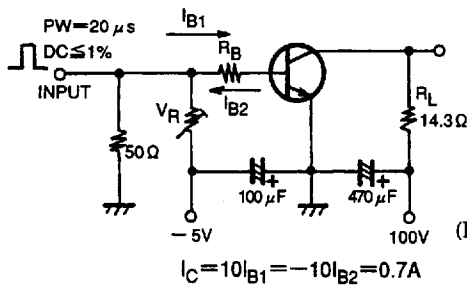
SANYO Electric Co., Ltd. Semiconductor Business Headquarters

TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110 JAPAN

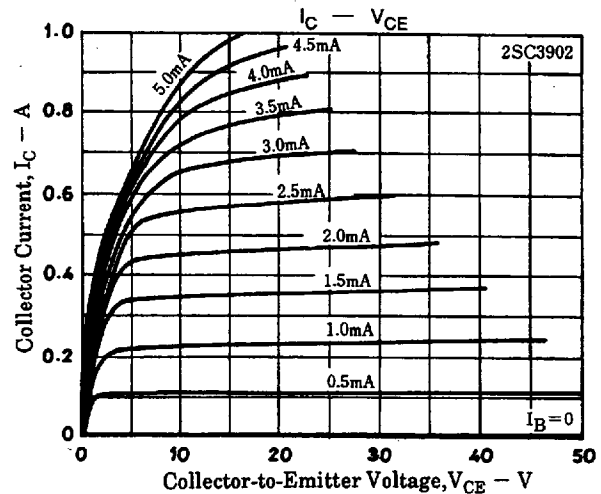
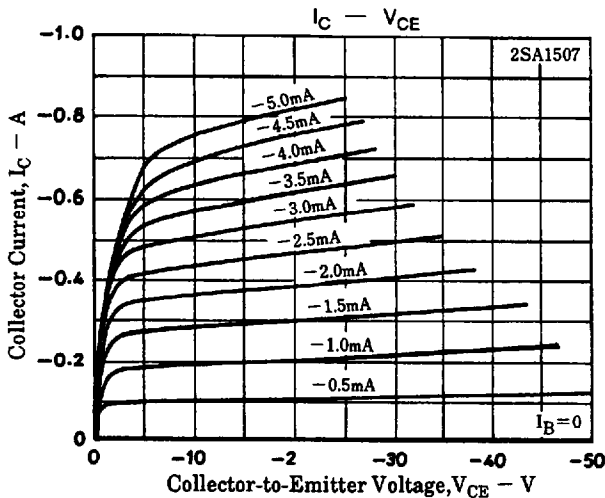
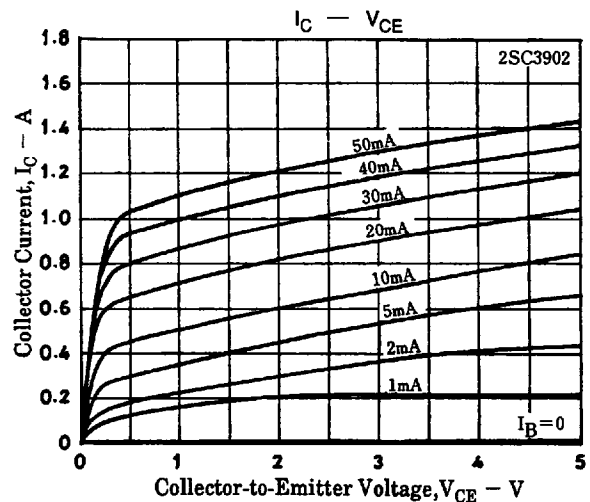
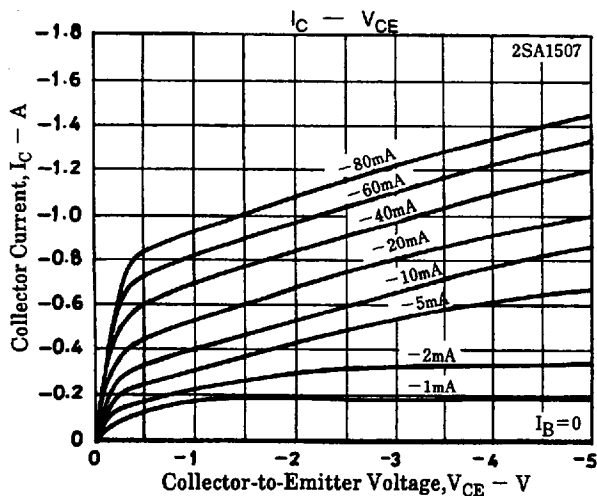
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		min	typ	max	unit
C-B Breakdown Voltage	$V_{(BR)CBO}$ $I_C = (-)10\mu A$, $I_E = 0$	(-)180			V
C-E Breakdown Voltage	$V_{(BR)CEO}$ $I_C = (-)1mA$, $R_{BE} = \infty$	(-)160			V
E-B Breakdown Voltage	$V_{(BR)EBO}$ $I_E = (-)10\mu A$, $I_C = 0$	(-)6			V
Turn-ON Time	t_{on} See specified Test Circuit.		0.04		μs
Storage Time	t_{stg}		(0.7)		μs
			1.2		μs
Fall Time	t_f		(0.04)		μs
			0.08		μs

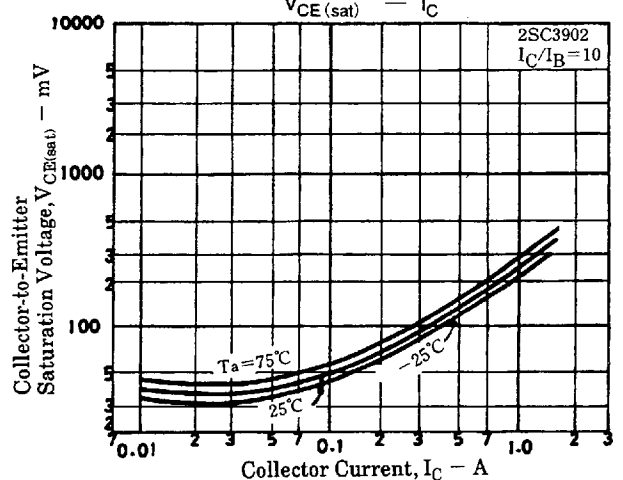
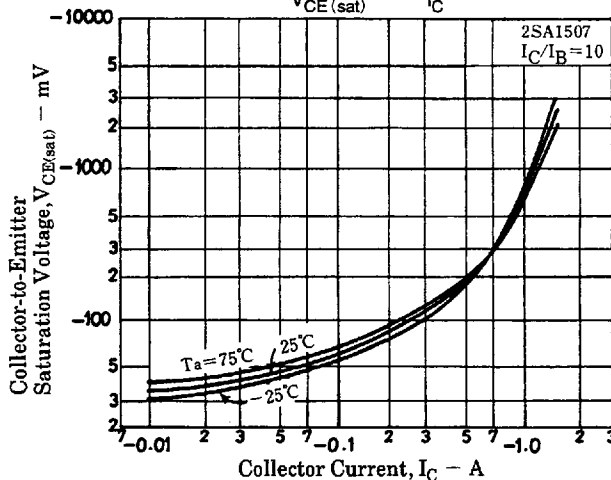
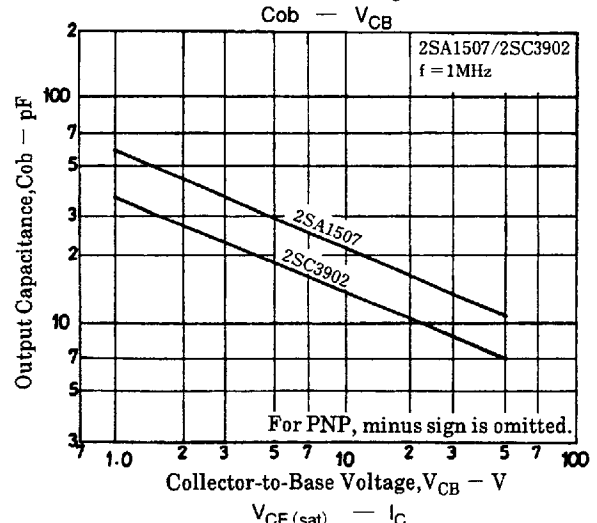
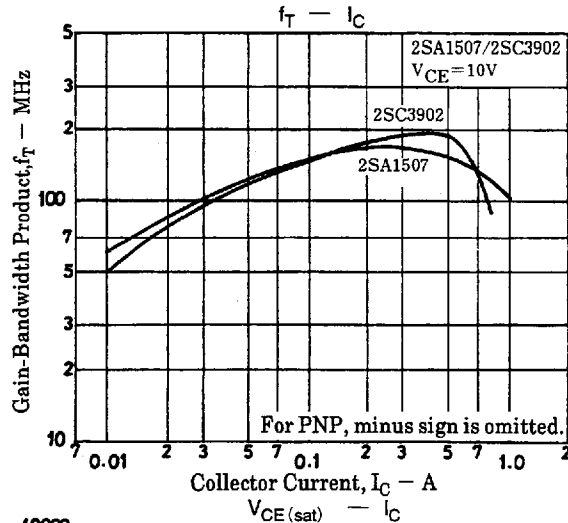
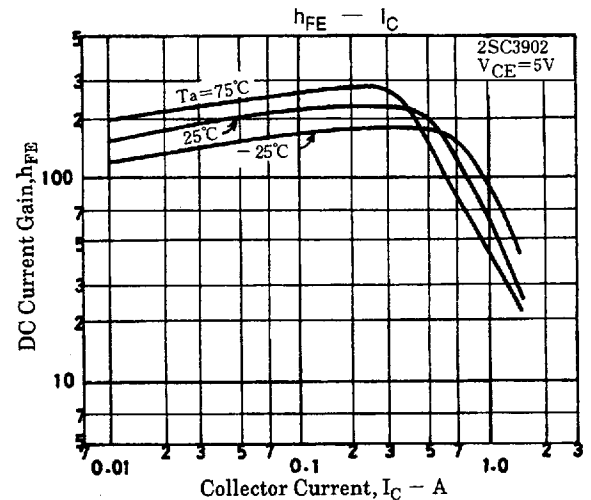
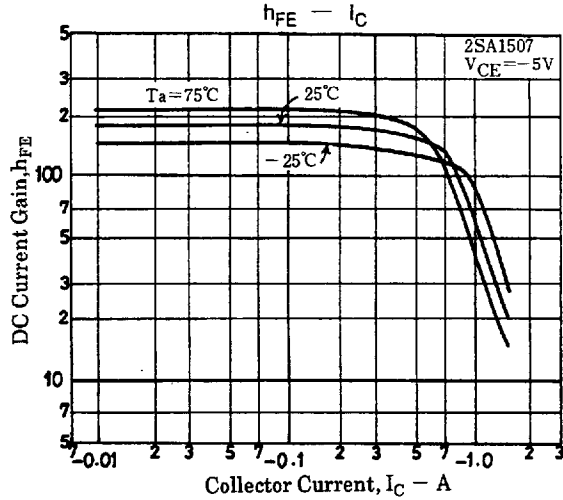
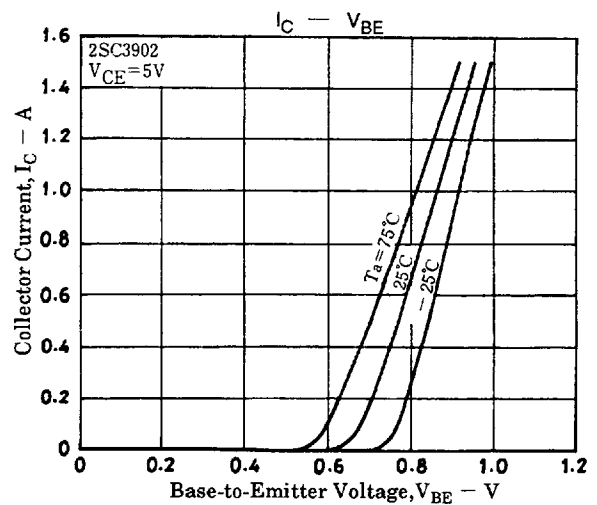
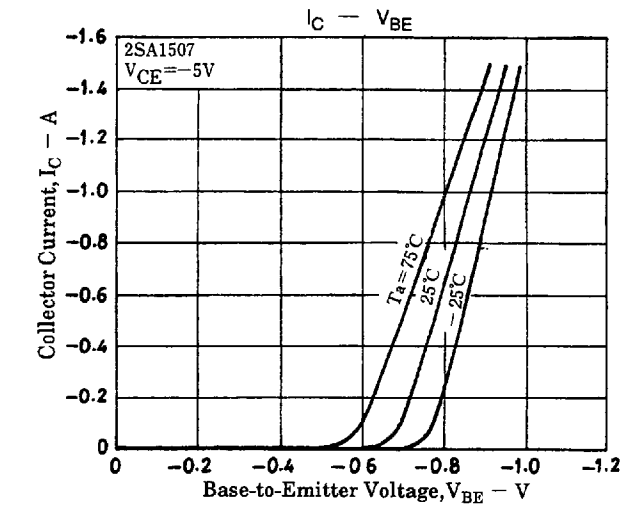
Switching Time Test Circuit

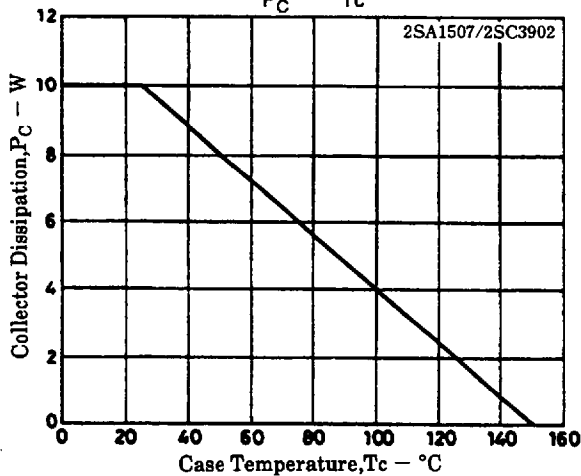
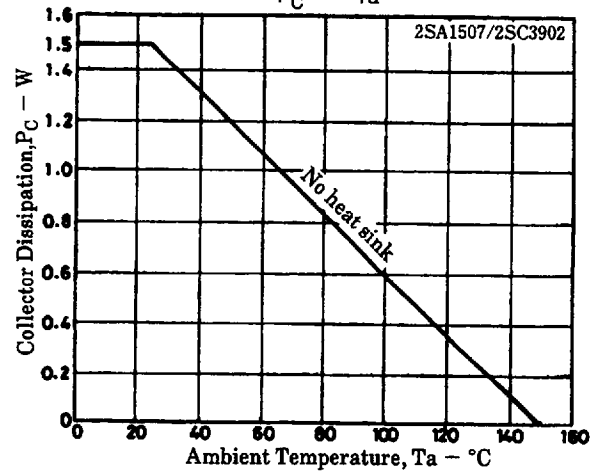
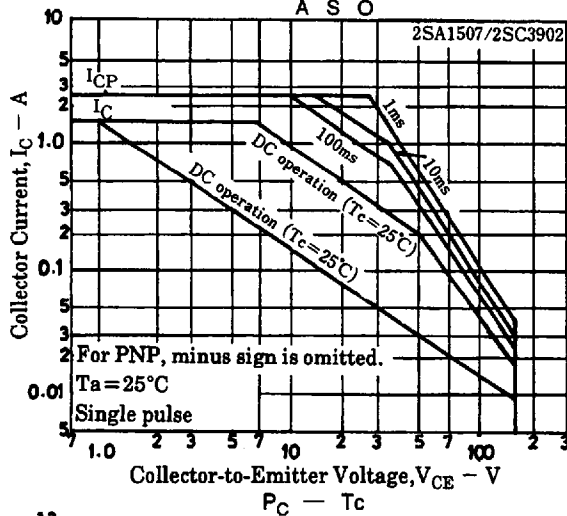
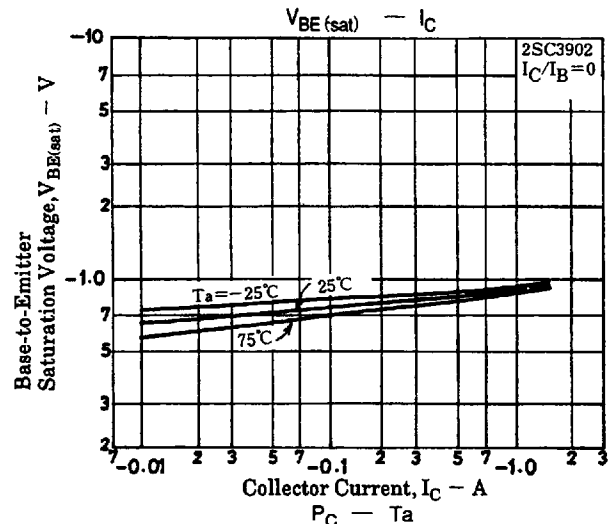
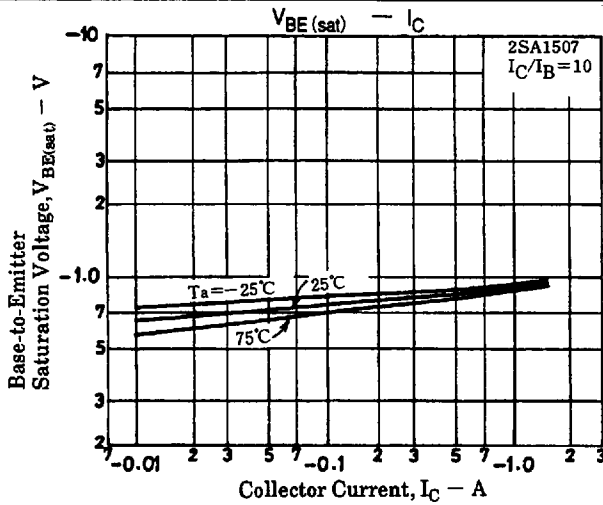


(For PNP, the polarity is reversed.)



2SA1507/2SC3902





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