

**SANYO**

No.1761B

**2SA1402/2SC3596**

PNP/NPN Epitaxial Planar Silicon Transistors

Ultrahigh-Definition CRT Display  
Video Output Applications

**Applications**

- Ultrahigh-definition CRT display.
- Video output.
- Color TV chroma output.
- Wide-band amp.

**Features**

- High  $f_T$ :  $f_T$  typ = 700MHz.
- Small reverse transfer capacitance and excellent high-frequency characteristic:  
C<sub>re</sub> = 1.8pF(NPN), 2.3pF(PNP)
- Complementary pair with the 2SA1402/2SC3596.
- Adoption of FBET process.

( ): 2SA1402

**Absolute Maximum Ratings at Ta = 25°C**

			unit
Collector-to-Base Voltage	V <sub>CB0</sub>	(-)80	V
Collector-to-Emitter Voltage	V <sub>CE0</sub>	(-)60	V
Emitter-to-Base Voltage	V <sub>EB0</sub>	(-)4	V
Collector Current	I <sub>C</sub>	(-)300	mA
Collector Current (Pulse)	I <sub>CP</sub>	(-)600	mA
Collector Dissipation	P <sub>C</sub>	1.2	W
		8	W
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55 to +150	°C

T<sub>c</sub> = 25°C**Electrical Characteristics at Ta = 25°C**

			min	typ	max	unit
Collector Cutoff Current	I <sub>CB0</sub>	V <sub>CB</sub> = (-)60V, I <sub>E</sub> = 0			(-)0.1	μA
Emitter Cutoff Current	I <sub>EB0</sub>	V <sub>EB</sub> = (-)2V, I <sub>C</sub> = 0			(-)1.0	μA
DC Current Gain	h <sub>FE</sub> (1)	V <sub>CE</sub> = (-)10V, I <sub>C</sub> = (-)50mA	40※		320※	
	h <sub>FE</sub> (2)	V <sub>CE</sub> = (-)10V, I <sub>C</sub> = (-)250mA	20			
Gain Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> = (-)10V, I <sub>C</sub> = (-)100mA		700		MHz
C-E Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = (-)100mA, I <sub>B</sub> = (-)10mA			0.6	V
					(-0.8)	

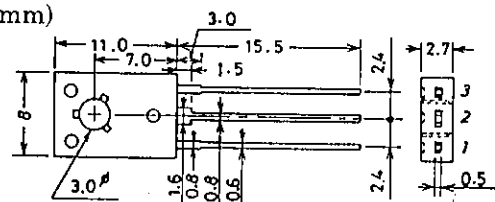
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※: The 2SA1402/2SC3596 are classified by 50mA h<sub>FE</sub> as follows:

40	C	80	60	D	120
100	E	200	160	F	320

**Package Dimensions 2009B**

(unit: mm)



1: Emitter  
2: Collector  
3: Base

JEDEC: TO126

**SANYO Electric Co., Ltd. Semiconductor Business Headquarters**

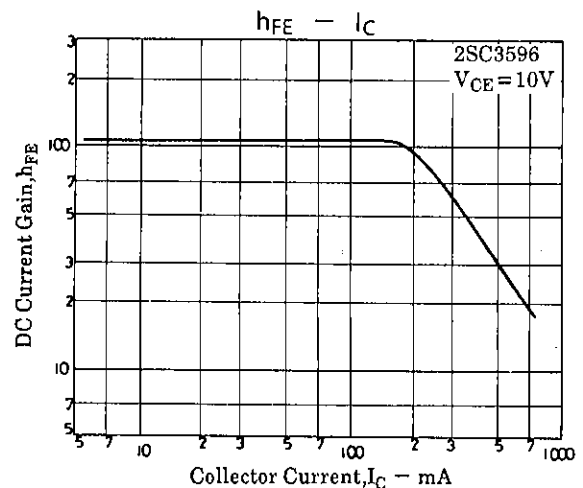
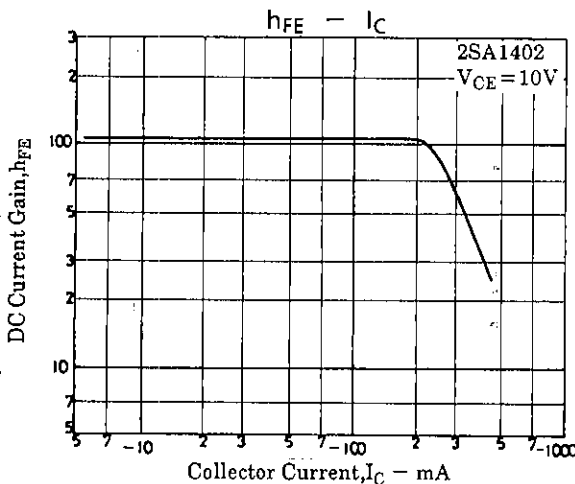
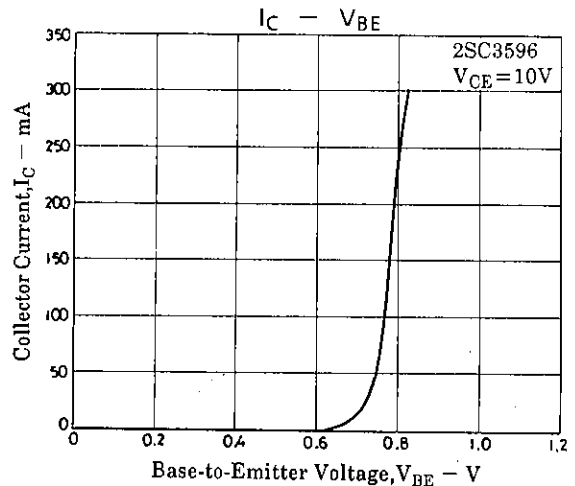
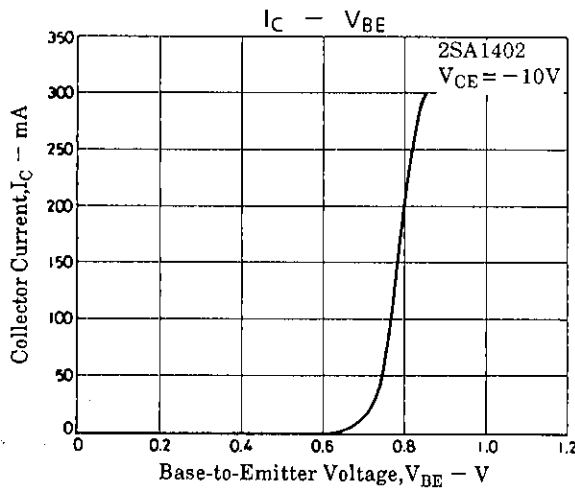
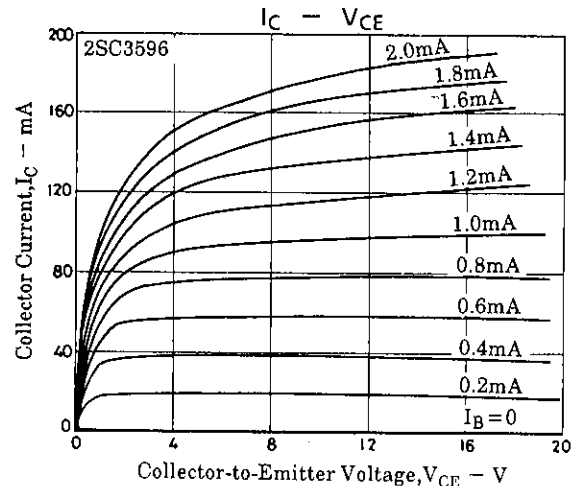
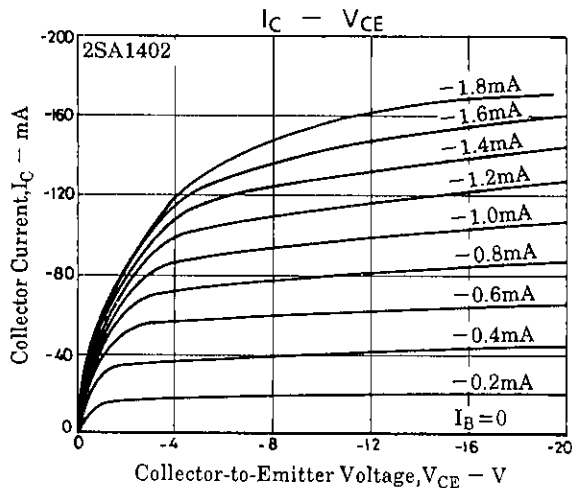
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110 JAPAN

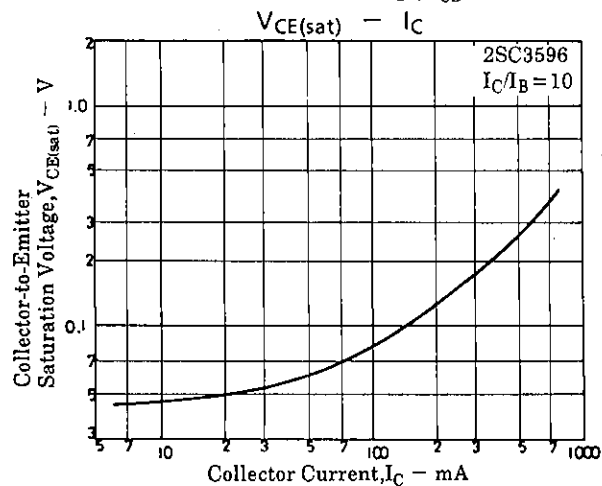
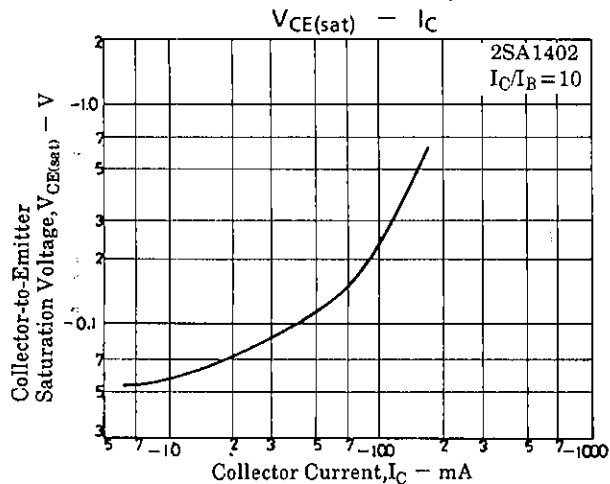
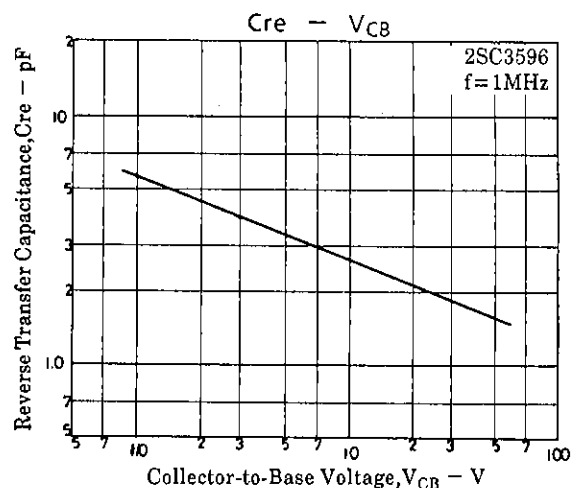
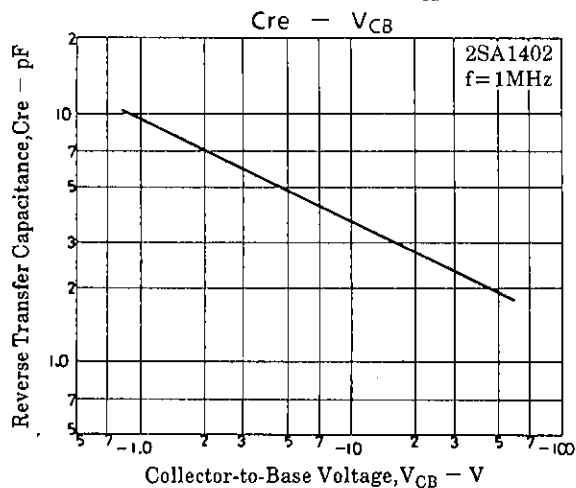
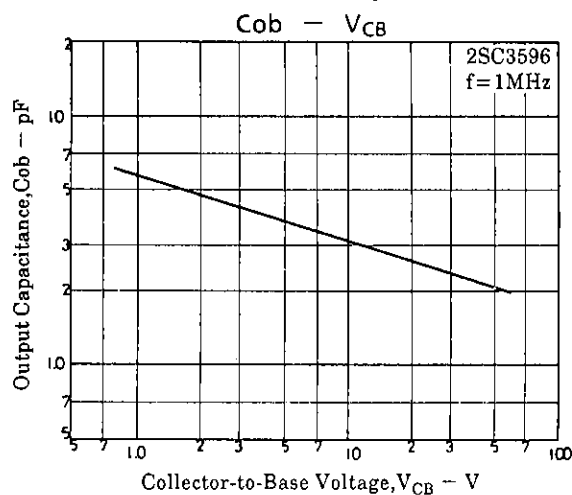
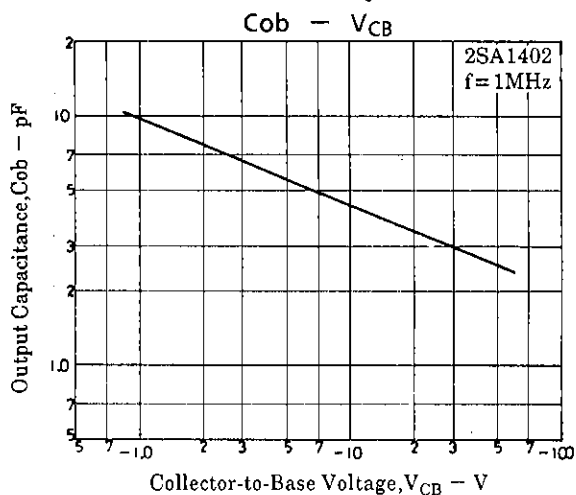
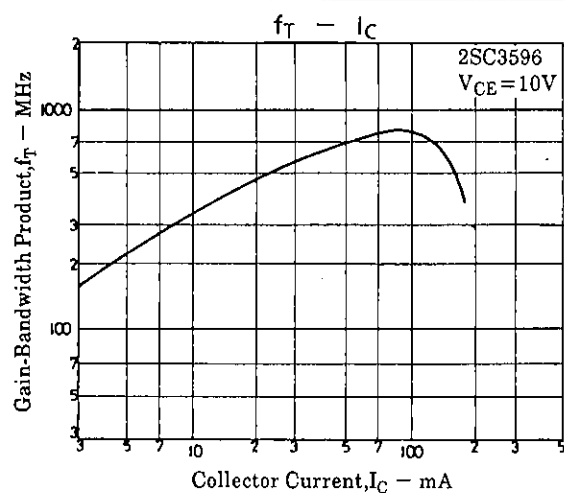
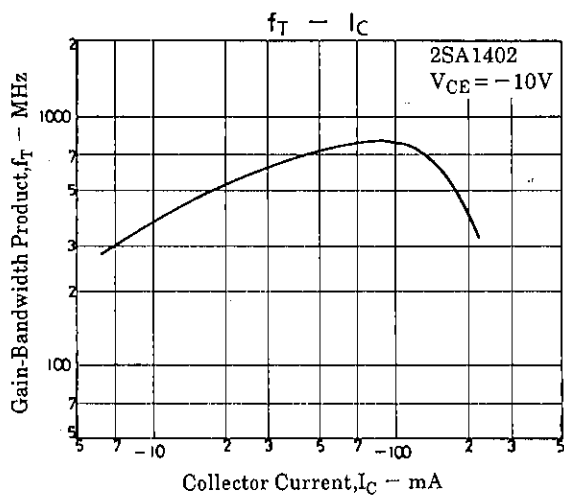
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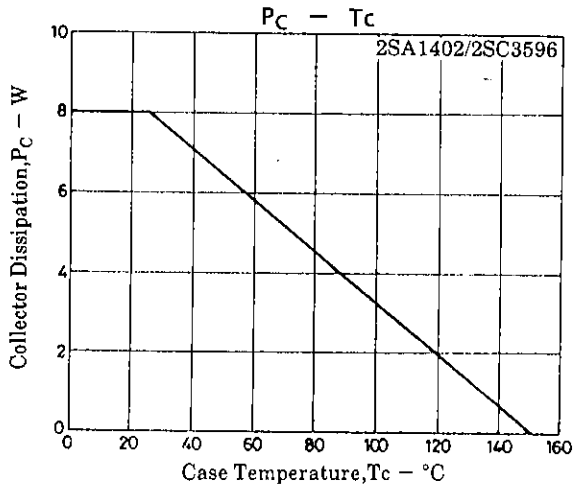
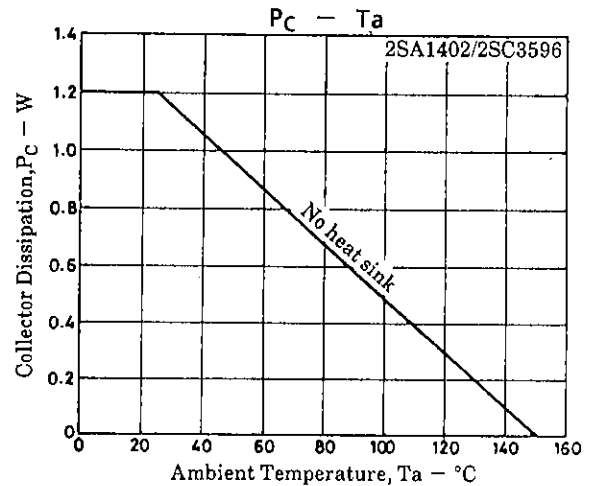
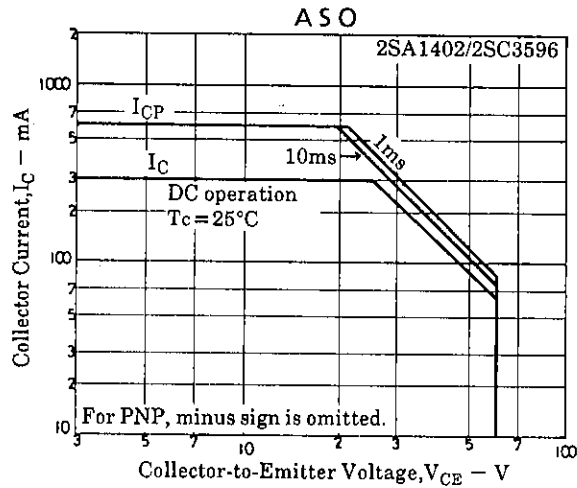
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			min	typ	max	unit
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C = (-)100\text{mA}, I_B = (-)10\text{mA}$			(-1.0)	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)10\mu\text{A}, I_E = 0$	(-80)			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)1\text{mA}, R_{BE} = \infty$	(-60)			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E = (-)100\mu\text{A}, I_C = 0$	(-4)			V
Output Capacitance	$C_{ob}$	$V_{CB} = (-)30\text{V}, f = 1\text{MHz}$		2.3		pF
				(3.0)		pF
Reverse Transfer Capacitance	$C_{re}$	$V_{CB} = (-)30\text{V}, f = 1\text{MHz}$		1.8		pF
				(2.3)		pF





# 2SA1402/2SC3596



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