

<b>SANYO</b>	No.1765A	<b>2SA1406 / 2SC3600</b>
Silicon PNP/NPN Epitaxial Planar Transistor VERY HIGH-DEFINITION CRT DISPLAY VIDEO OUTPUT APPLICATIONS		

**Applications**

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

**Features**

- . High  $f_T$ .  $f_T$  typ=400MHz.
- . High breakdown voltage.  $V_{CEO} \geq 200V$
- . Small reverse transfer capacitance and excellent HF response  $c_{re}=1.4pF$ (NPN),  $1.7pF$ (PNP).
- . Complementary PNP and NPN types.
- . Adoption of FBET process.

( ): 2SA1406

**Absolute Maximum Ratings at  $T_a=25^\circ C$**

			unit
Collector-to-Base Voltage	$V_{CBO}$	(-) $200$	V
Collector-to-Emitter Voltage	$V_{CEO}$	(-) $200$	V
Emitter-to-Base Voltage	$V_{EBO}$	(-) $4$	V
Collector Current	$I_C$	(-) $100$	mA
Peak Collector Current	$i_{cp}$	(-) $200$	mA
Collector Dissipation	$P_C$	$1.2$	W
		$T_c=25^\circ C$	$7$
Junction Temperature	$T_j$	$150$	$^\circ C$
Storage Temperature	$T_{stg}$	$-55$ to $+150$	$^\circ C$

**Electrical Characteristics at  $T_a=25^\circ C$**

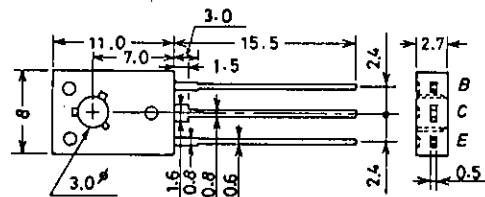
			min	typ	max	unit
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=(-)150V, I_E=0$			(-) $0.1$	$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=(-)2V, I_C=0$			(-) $1.0$	$\mu A$
DC Current Gain	$h_{FE}(1)$	$V_{CE}=(-)10V, I_C=(-)10mA$	$40^*$		$320^*$	
	$h_{FE}(2)$	$V_{CE}=(-)10V, I_C=(-)60mA$	$20$			
Gain-Bandwidth Product	$f_T$	$V_{CE}=(-)10V, I_C=(-)30mA$		$400$		MHz
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)30mA, I_B=(-)3mA$			$0.6$ $(-0.8)$	V

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\*:The 2SA1406/2SC3600 are classified by 10mA  $h_{FE}$  as follows:

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

**Package Dimensions 2009A**  
(unit: mm)



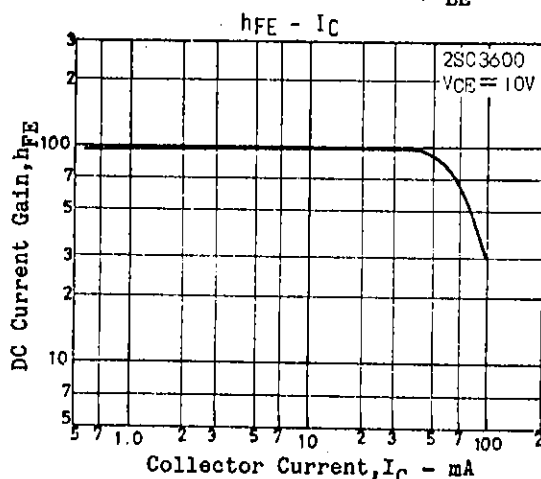
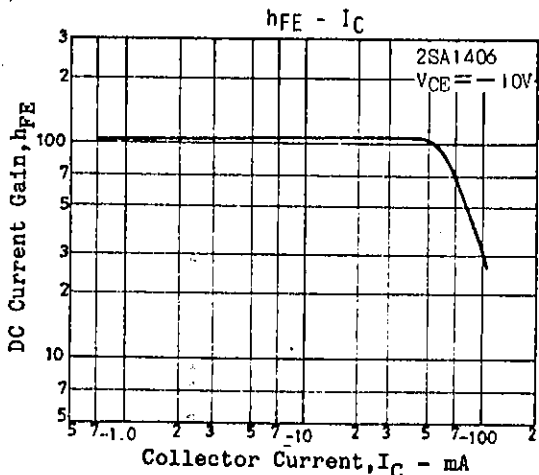
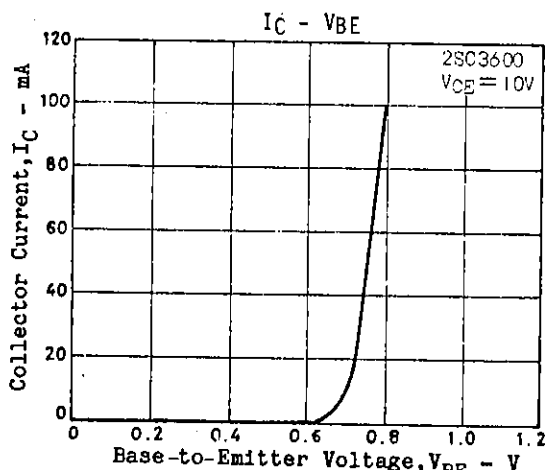
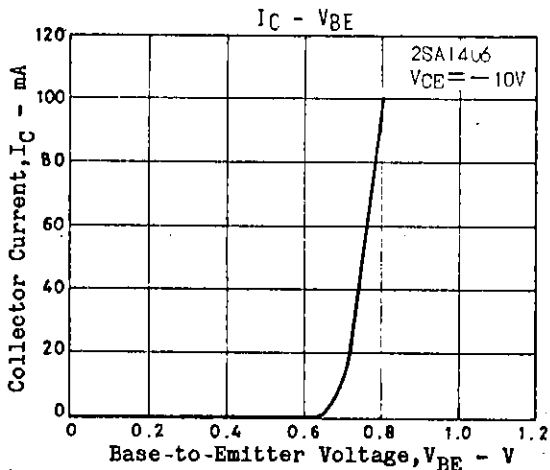
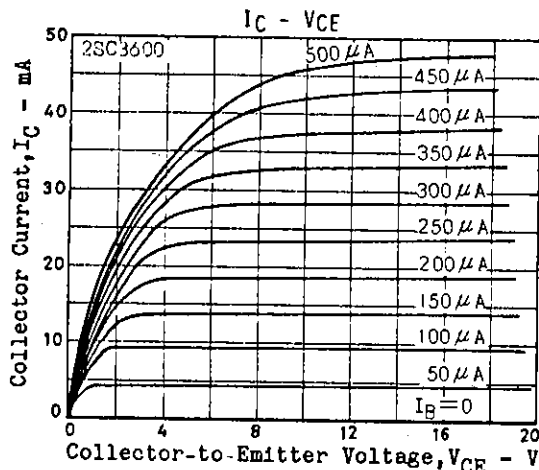
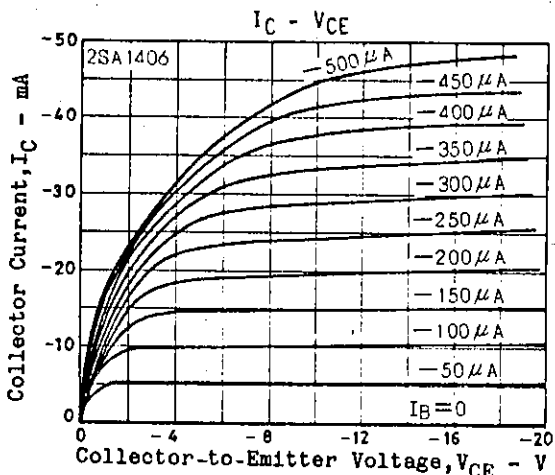
JEDEC: TO-126

B: Base  
C: Collector  
E: Emitter

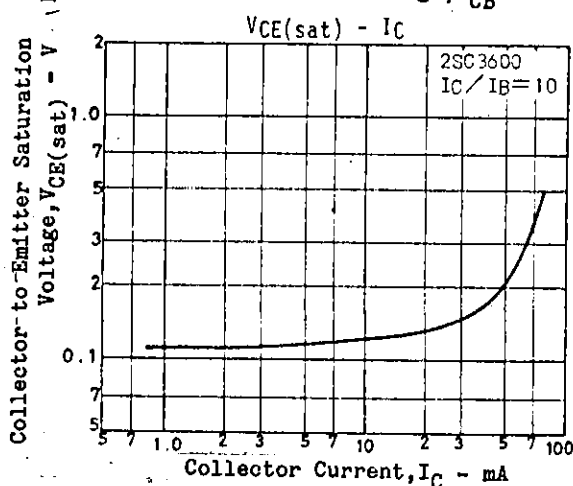
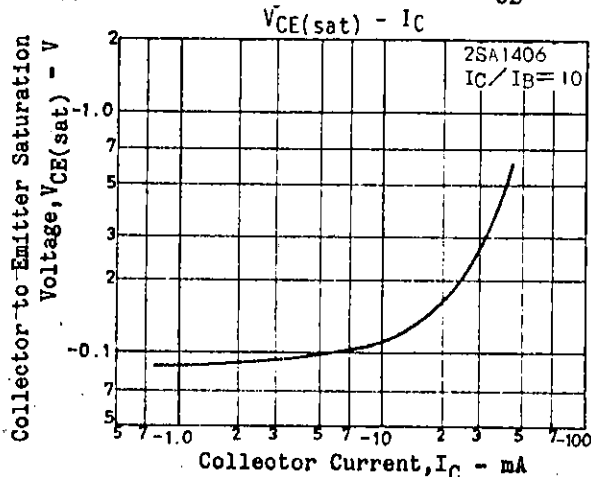
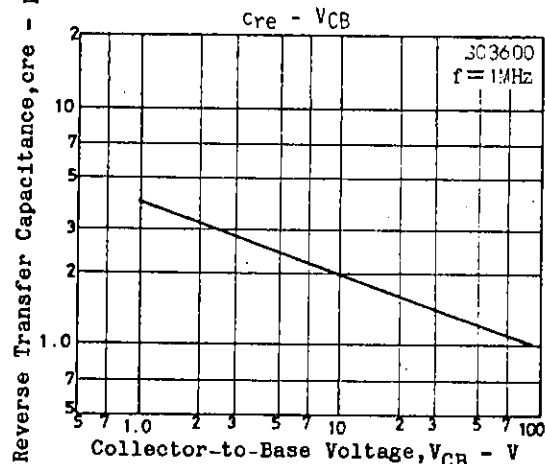
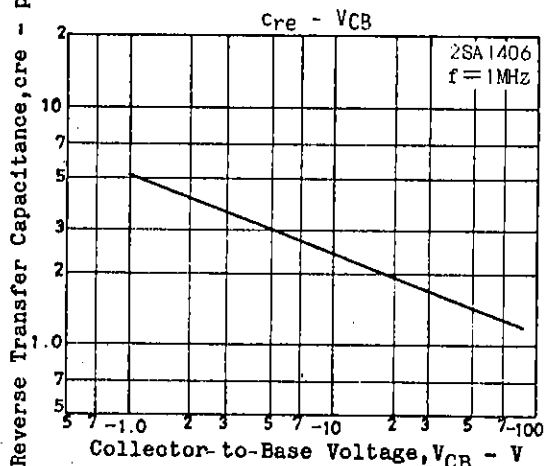
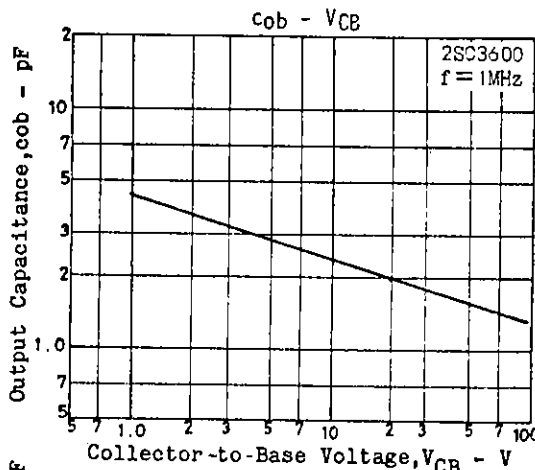
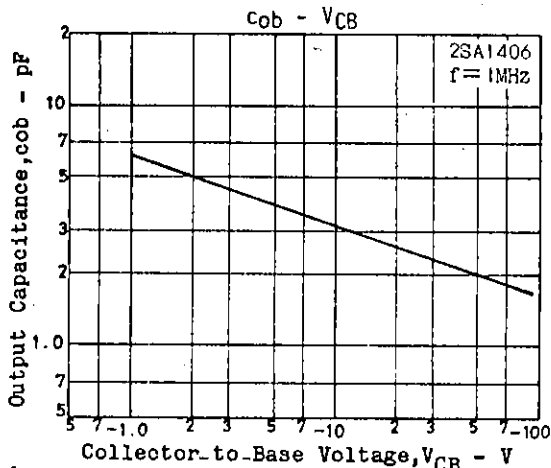
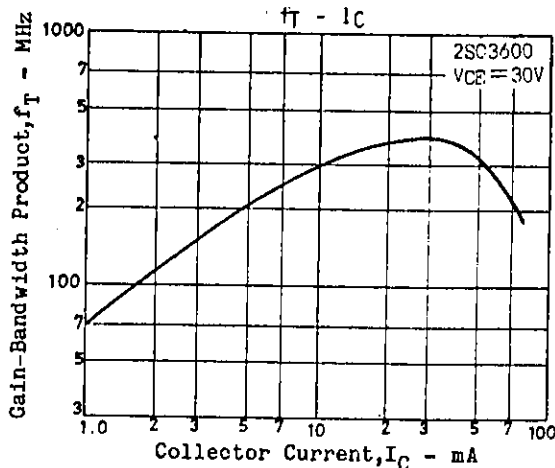
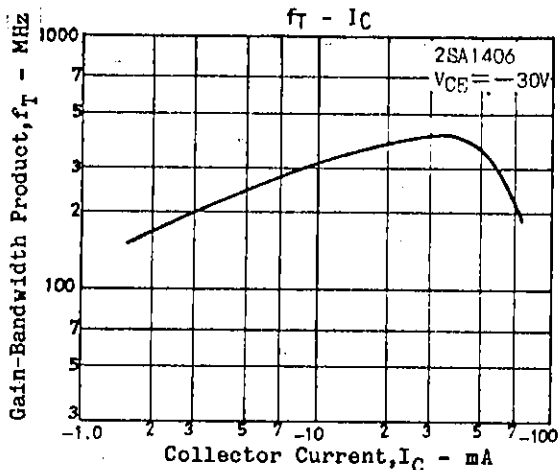
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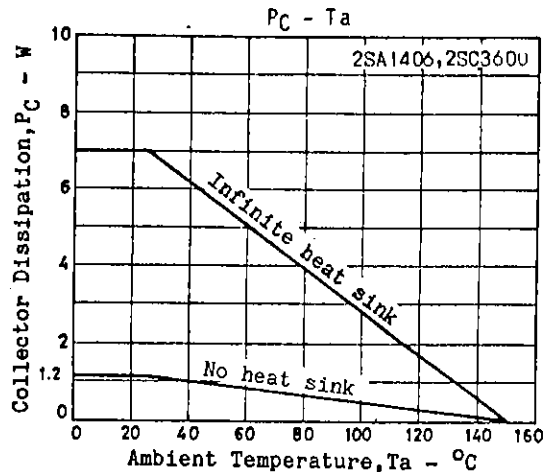
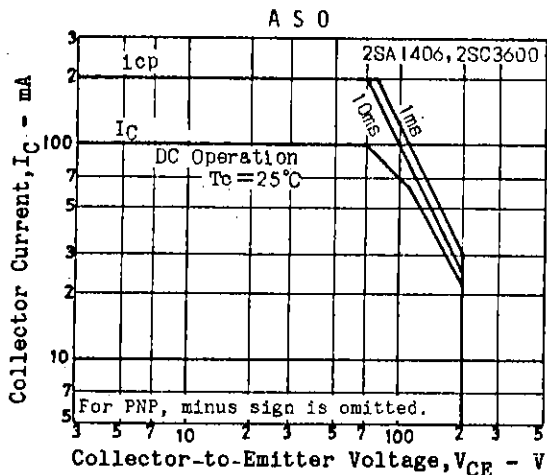
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		min	typ	max	unit
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C = (-)30\text{mA}, I_B = (-)3\text{mA}$		(-) $1.0$	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)10\mu\text{A}, I_E = 0$		(-) $200$	V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)1\text{mA}, R_{BE} = \infty$		(-) $200$	V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E = (-)100\mu\text{A}, I_C = 0$		(-) $4$	V
Output Capacitance	$c_{ob}$	$V_{CB} = (-)30\text{V}, f = 1\text{MHz}$		$1.8$	pF
				( $2.3$ )	pF
Reverse Transfer Capacitance $c_{re}$		$V_{CB} = (-)30\text{V}, f = 1\text{MHz}$		$1.4$	pF
				( $1.7$ )	pF



2SA1406/2SC3600





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