

Silicon PNP/NPN Epitaxial Planar Transistor
FOR HIGH-DEFINITION CRT DISPLAY, VIDEO OUTPUT

Features

- High breakdown voltage: $V_{CEO} \geq 300V$.
- Small reverse transfer capacitance and excellent high frequency characteristic $c_{re}=1.8pF(NPN)$, $2.3pF(PNP)$ $V_{CB}=30V$.
- Adoption of MBIT process.

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

Collector-to-Base Voltage	V_{CBO}	(-)300	V
Collector-to-Emitter Voltage	V_{CEO}	(-)300	V
Emitter-to-Base Voltage	V_{EB0}	(-)5	V
Collector Current	I_C	(-)100	mA
Peak Collector Current	i_{cp}	(-)200	mA
Allowable Collector	P_C	1.2	W
Dissipation	$T_c=25^{\circ}\text{C}$	7	W
Junction Temperature	T_j	150	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^{\circ}\text{C}$

Electrical Characteristics at Ta=25°C

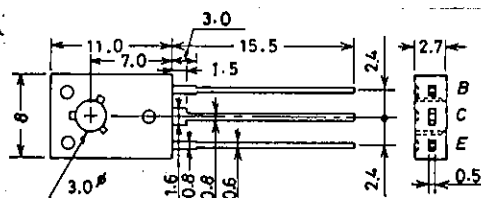
Collector Cutoff Current	I_{CBO}	$V_{CB}=(-)200V, I_E=0$	$(-)0.1$	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=(-)4V, I_C=0$	$(-)0.1$	μA
DC Current Gain	h_{FE}	$V_{CE}=(-)10V, I_C=(-)10mA$	40* 320*	
Gain Bandwidth Product	f_T	$V_{CE}=(-)30V, I_C=(-)10mA$	150	MHz
Output Capacitance	c_{ob}	$V_{CB}=(-)30V, f=1MHz$	2.6	pF
			(3.1)	
Reverse Transfer Capacitance	c_{re}	$V_{CB}=(-)30V, f=1MHz$	1.8	pF
			(2.3)	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)20mA, I_B=(-)2mA$	$(-)0.6$	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)20mA, I_B=(-)2mA$	$(-)1.0$	V
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu A, I_E=0$	$(-)300$	V
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1mA, R_{BE}=\infty$	$(-)300$	V
Base to Emitter Breakdown Voltage	$V_{(BR)EBO}$	$I_C=(-)10\mu A, I_C=0$	$(-)5$	V

* The 2SA1381/2SC3503 are classified by 10mA h_{FE} as follows:

40	C	80	60	D	120	100	E	200	160	F	320
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Package Dimensions 2009A

(unit:mm)

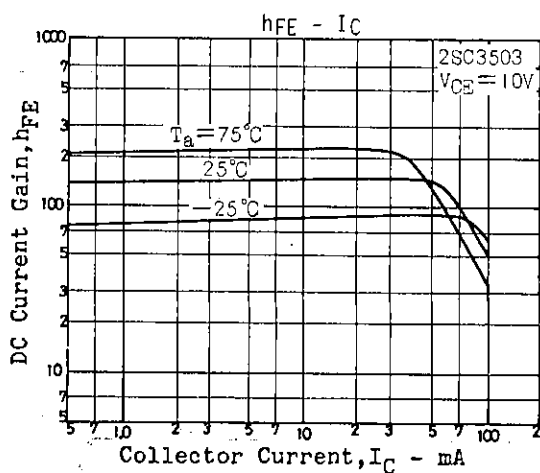
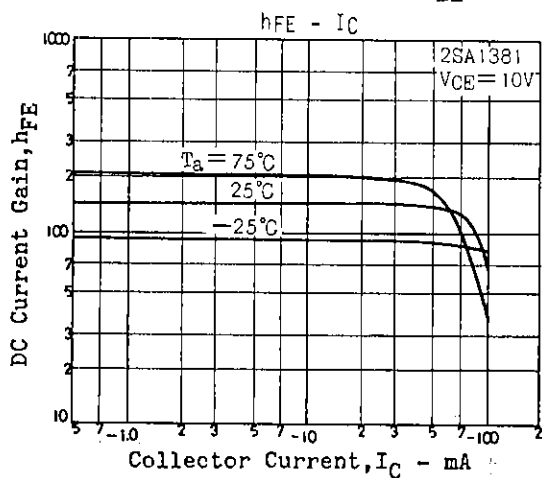
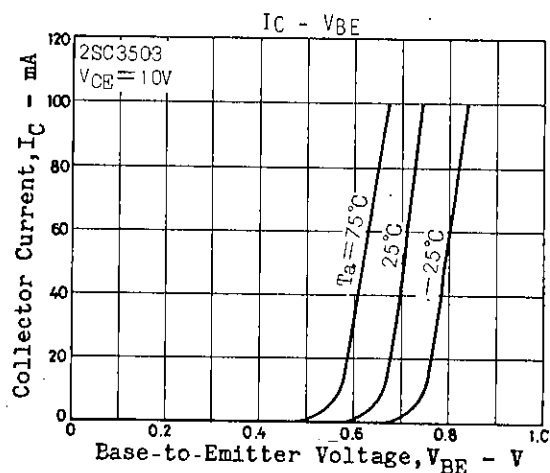
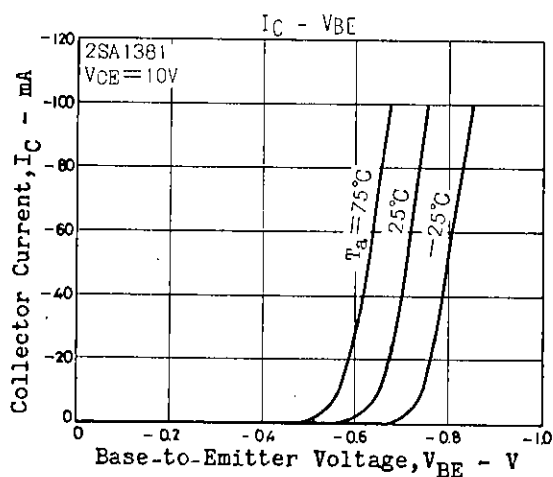
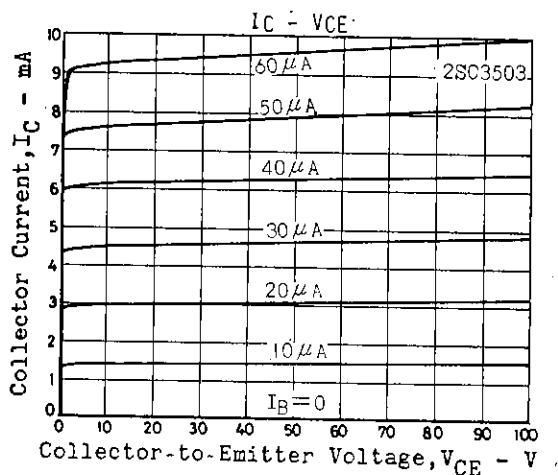
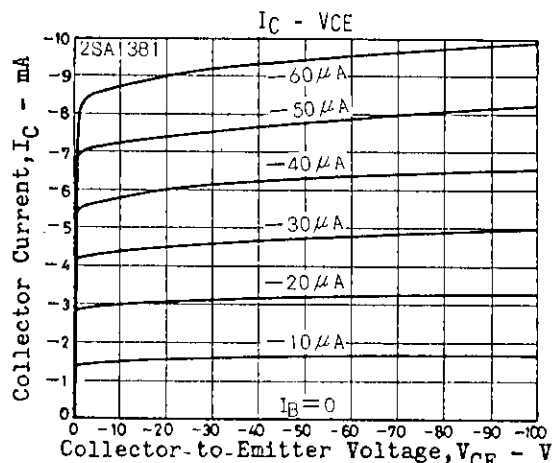
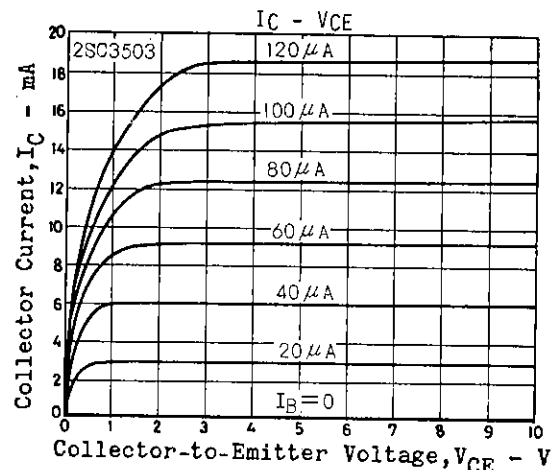
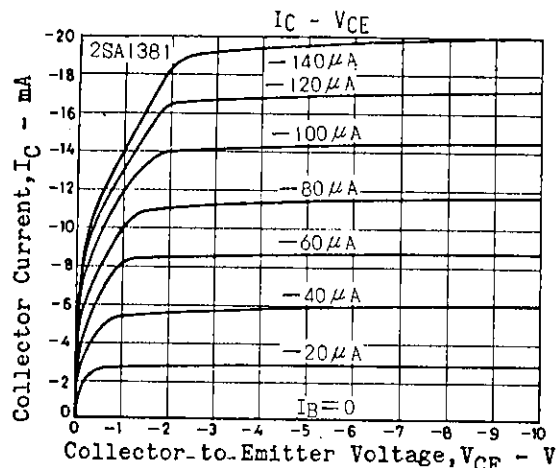


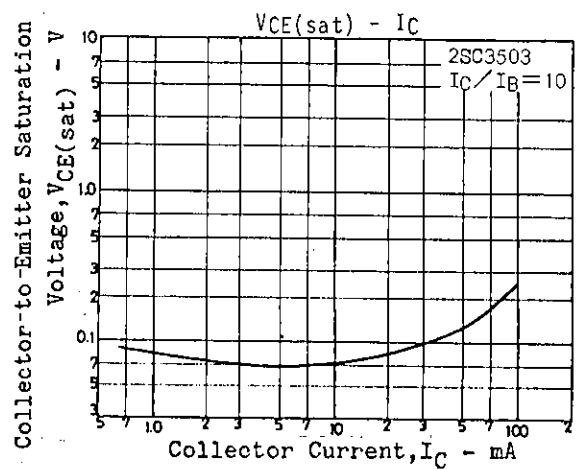
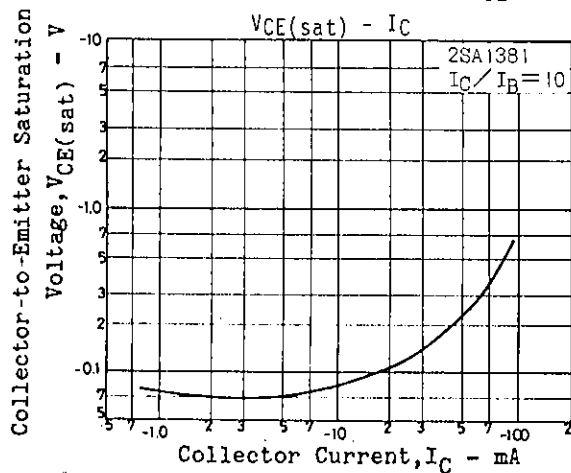
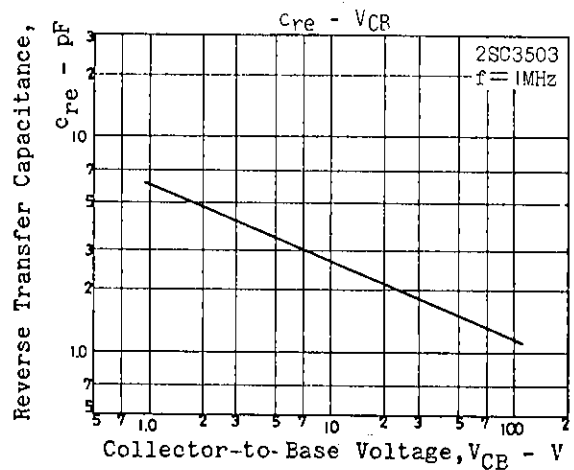
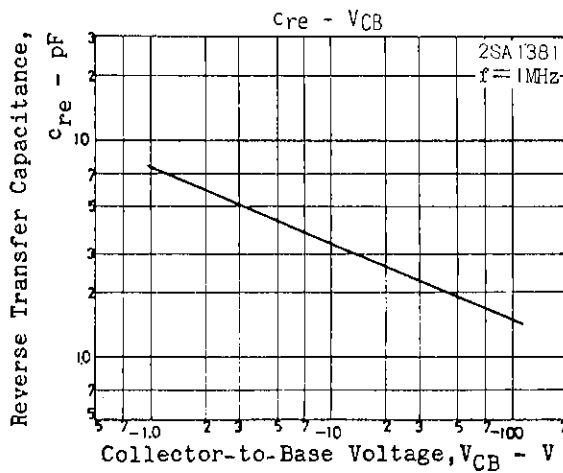
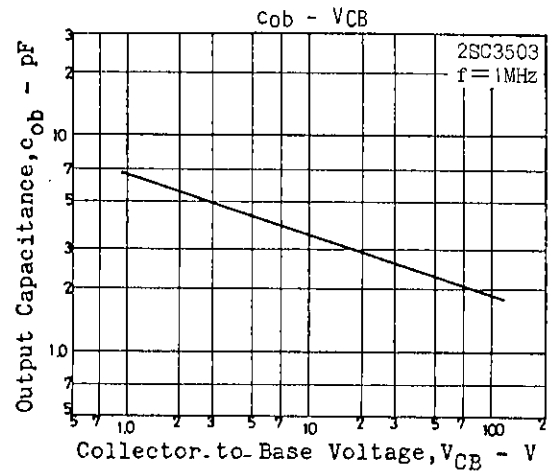
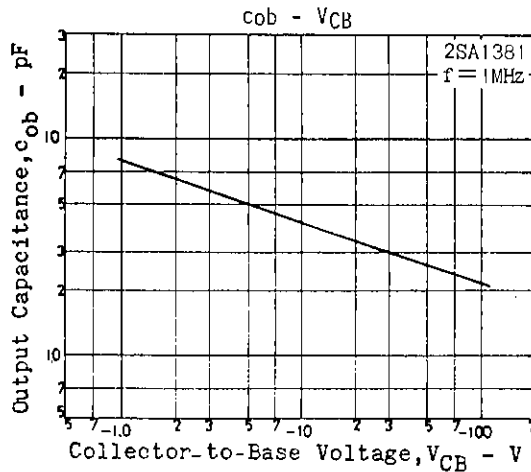
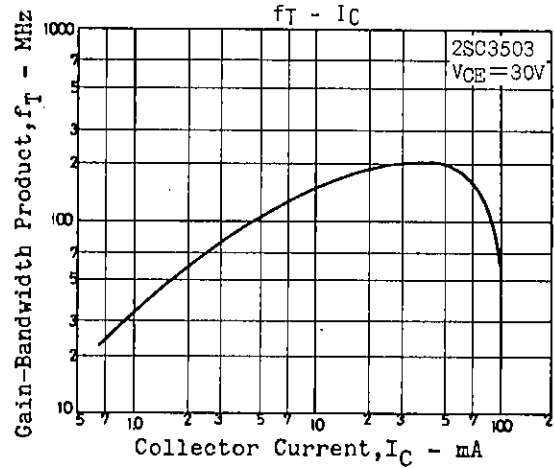
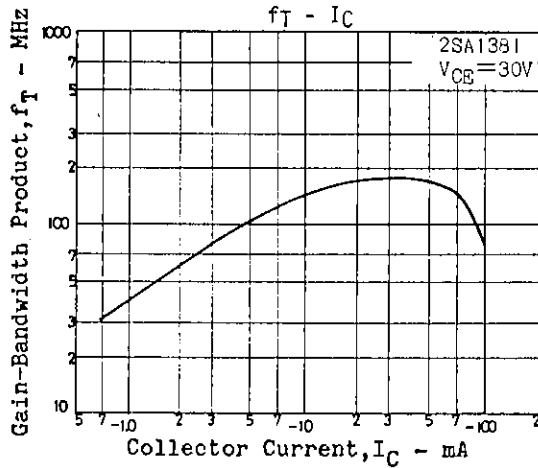
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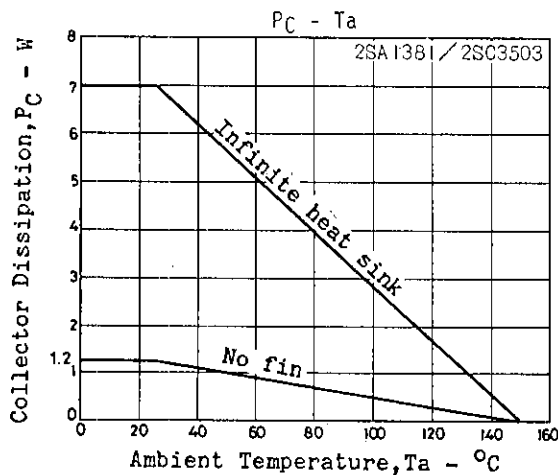
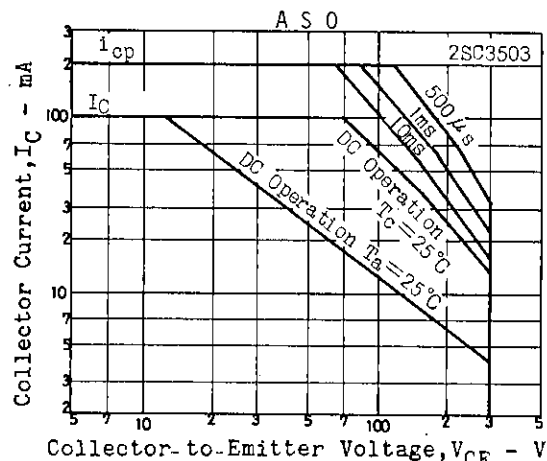
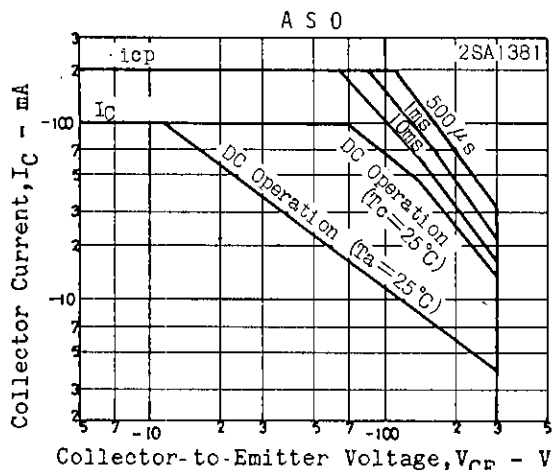
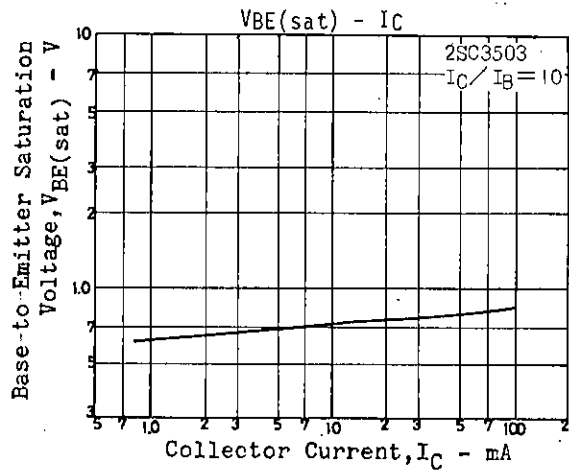
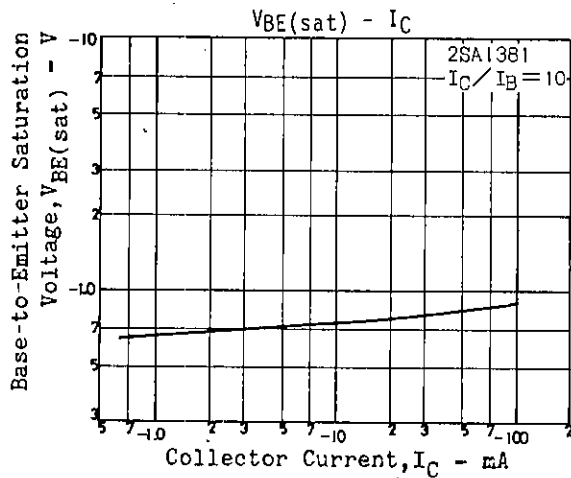
B: Base
C: Collector
E: Emitter

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