



## 2SA1539/2SC3954

### High-Definition CRT Display Video Output Applications

#### Applications

- High-definition CRT display video output, wide-band amplifier.

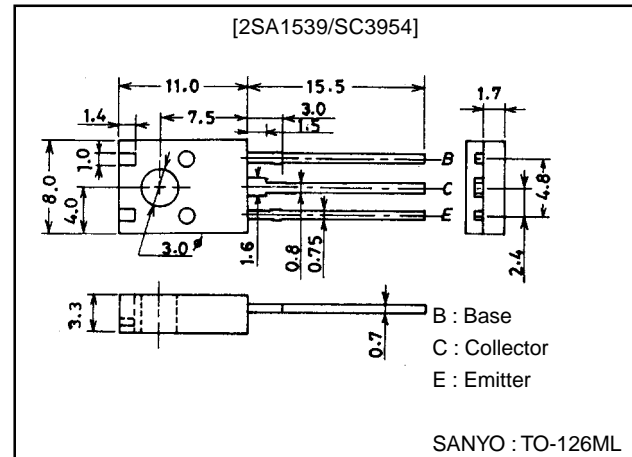
#### Features

- High  $f_T$  :  $f_T=500\text{MHz}$ .
- High breakdown voltage :  $V_{CEO}=120\text{Vmin}$ .
- Small reverse transfer capacitance and excellent HF response :  $C_{re}=2.7\text{pF/NPN}$ ,  $4.0\text{pF/PNP}$ .
- Complementary PNP and NPN types.
- Adoption of FBET process.
- Micaless type : TO-126 plastic package.

#### Package Dimensions

unit:mm

2042A



() : 2SA1539

#### Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CBO}$		(-120)	V
Collector-to-Emitter Voltage	$V_{CEO}$		(-120)	V
Emitter-to-Base Voltage	$V_{EBO}$		(-3)	V
Collector Current	$I_C$		(-300)	mA
Peak Collector Current	$I_{CP}$		(-600)	mA
Collector Dissipation	$P_C$		1.3	W
		$T_c=25^\circ\text{C}$	8	W
Junction Temperature	$T_j$		150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$		-55 to +150	$^\circ\text{C}$

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

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=(-)80\text{V}$ , $I_E=0$			(-0.1)	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=(-)2\text{V}$ , $I_C=0$			(-0.1)	$\mu\text{A}$
DC Current Gain	$h_{FE1}$	$V_{CE}=(-)10\text{V}$ , $I_C=(-)50\text{mA}$	40*		320*	
	$h_{FE2}$	$V_{CE}=(-)10\text{V}$ , $I_C=(-)200\text{mA}$	20			
Gain-Bandwidth Product	$f_T$	$V_{CE}=(-)10\text{V}$ , $I_C=(-)50\text{mA}$		400		MHz
Output Capacitance	$C_{ob}$	$V_{CB}=(-)30\text{V}$ , $f=1\text{MHz}$		3.1		pF
				(4.4)		pF
Reverse Transfer Capacitance	$C_{re}$	$V_{CB}=(-)30\text{V}$ , $f=1\text{MHz}$		2.7		pF
				(4.0)		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)50\text{mA}$ , $I_B=(-)5\text{mA}$			(-1.0)	V
Emitter-to-Base Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)50\text{mA}$ , $I_B=(-)5\text{mA}$			(-1.0)	V

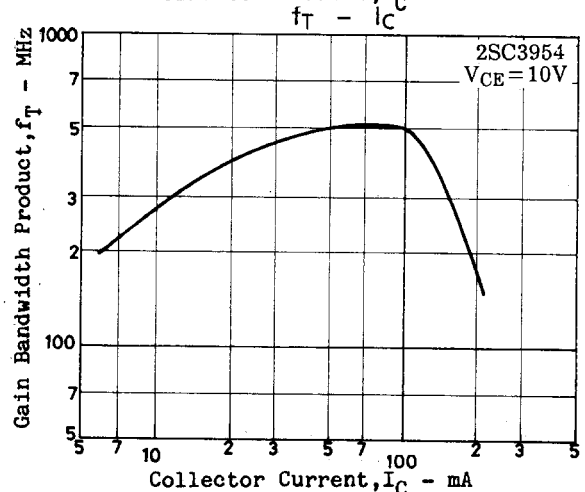
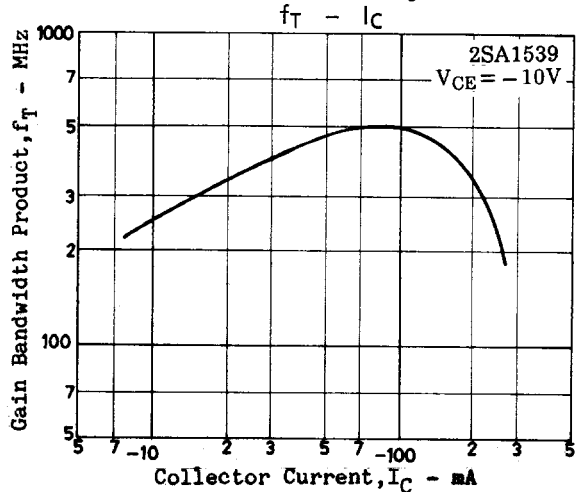
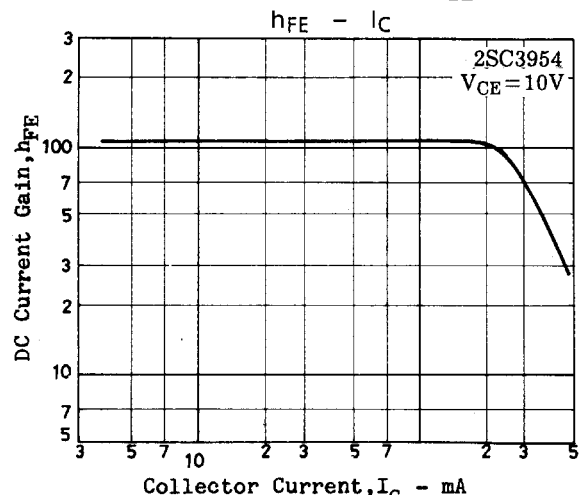
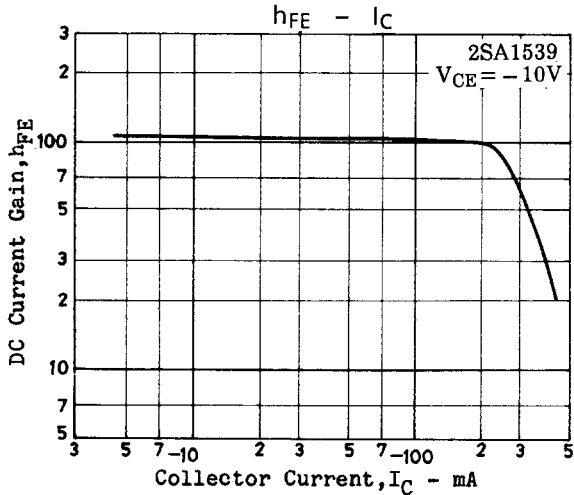
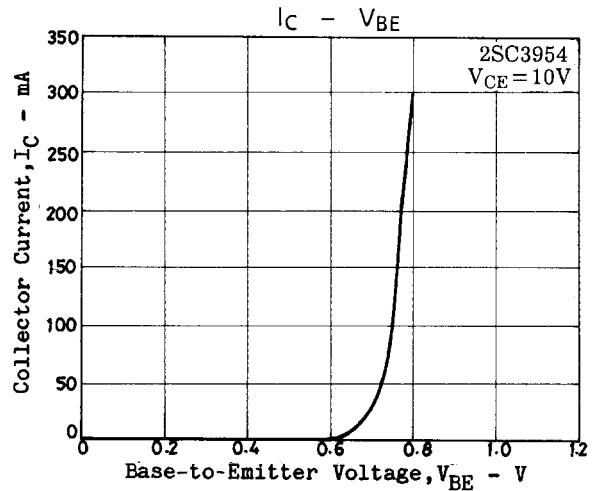
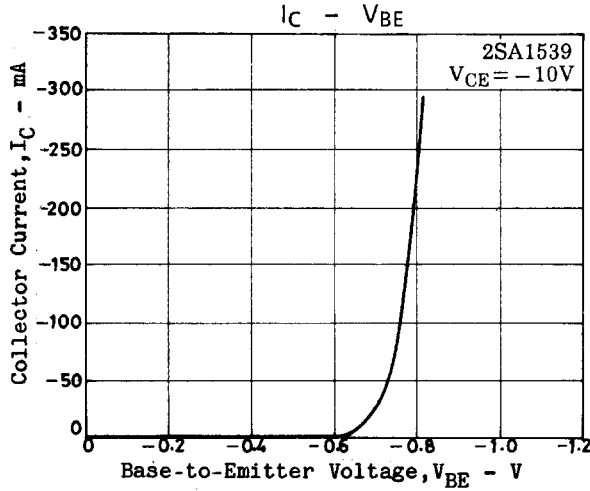
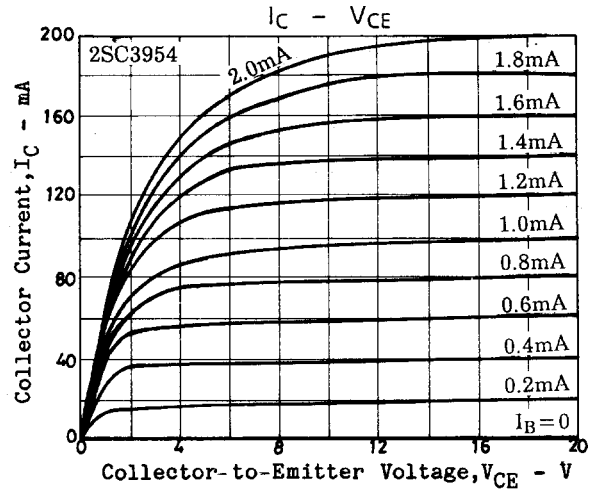
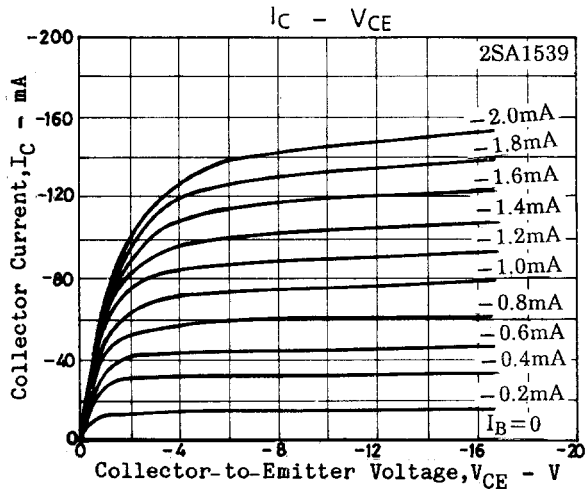
\*  $h_{FE1}$  : The 2SA1539/2SC3954 are classified by 50mA  $h_{FE}$  as follows :

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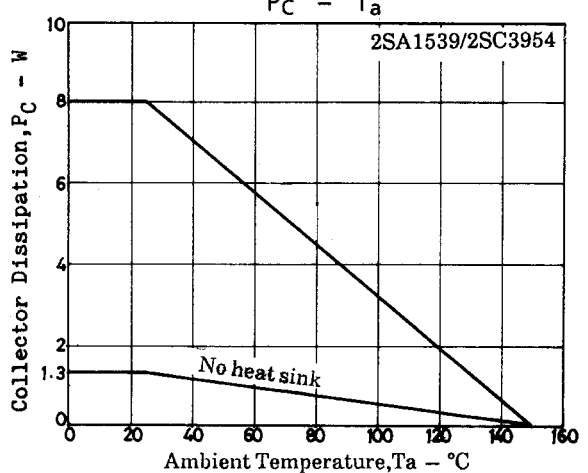
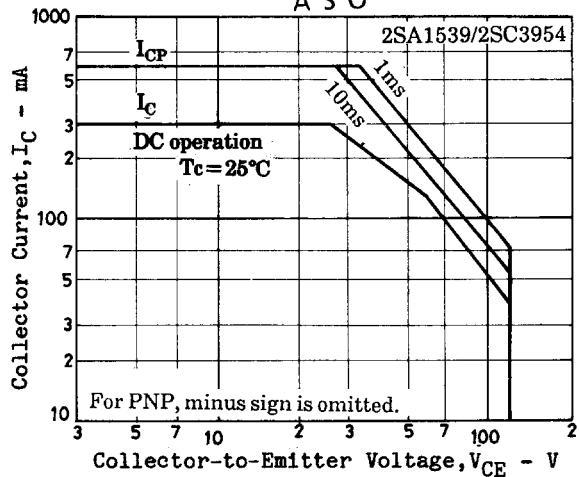
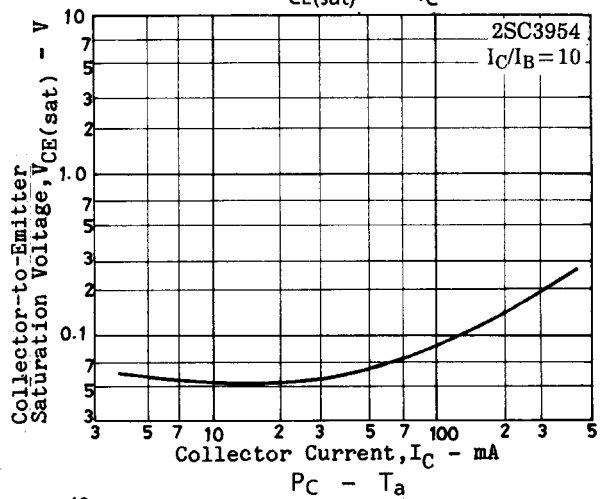
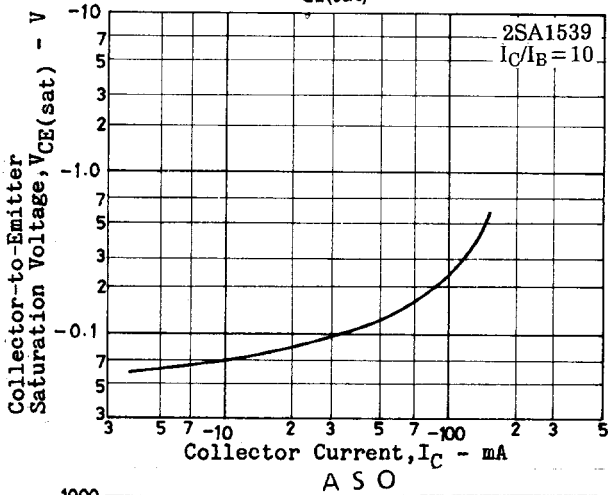
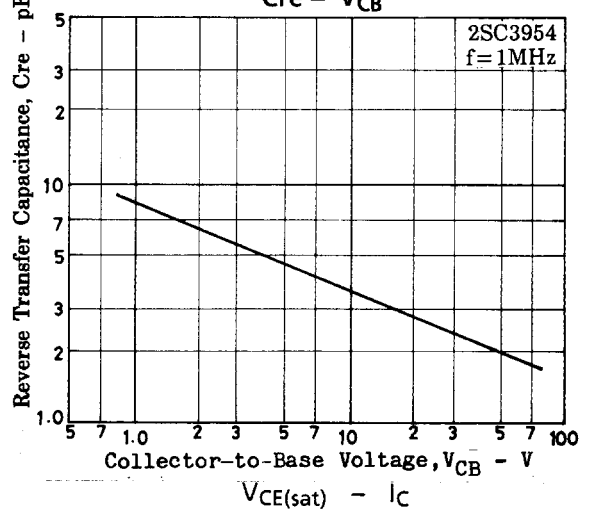
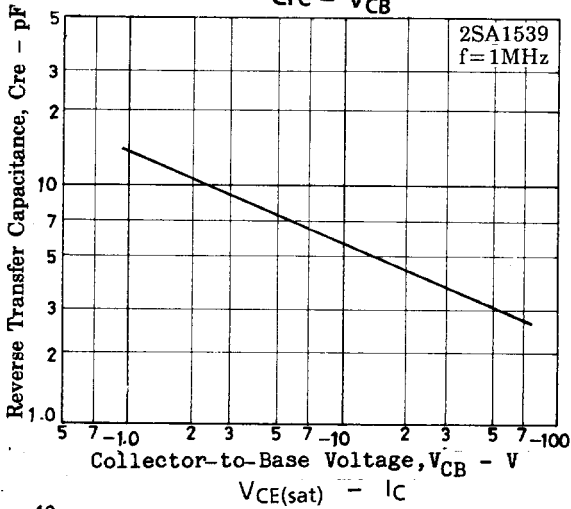
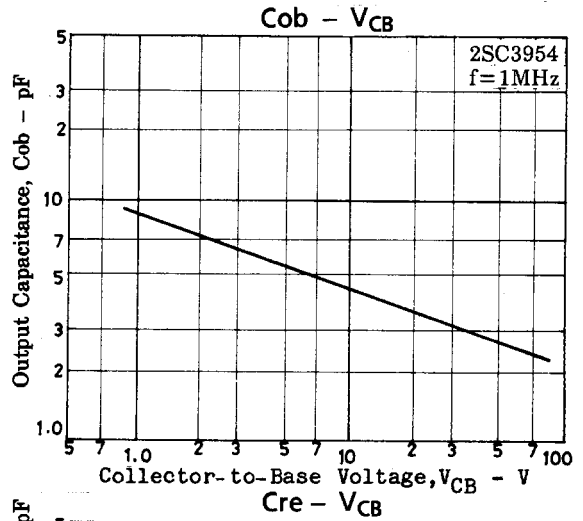
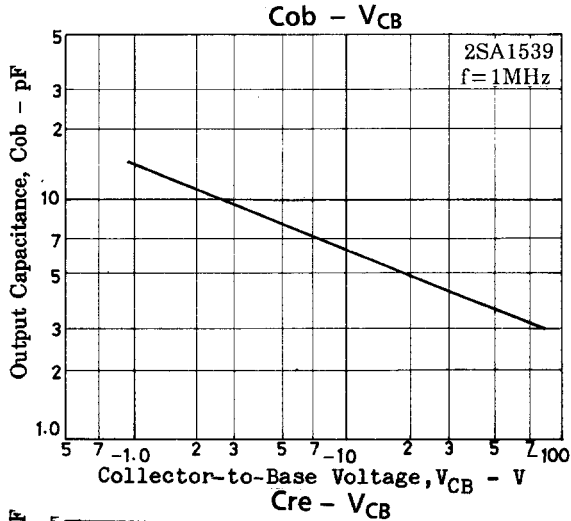
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