



2SA1539/2SC3954

High-Definition CRT Display Video Output Applications

Applications

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

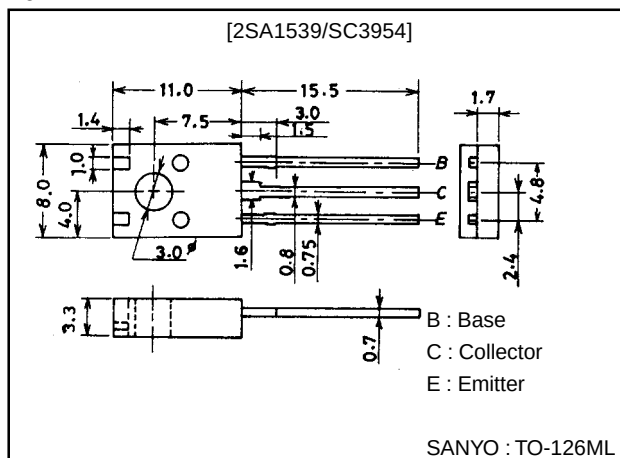
Features

- High f_T : $f_T=500\text{MHz}$.
- High breakdown voltage : $V_{CEO}=120\text{Vmin}$.
- Small reverse transfer capacitance and excellent HF response : $C_{re}=2.7\text{pF/NPN}$, 4.0pF/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 Ta = 25°C

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

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

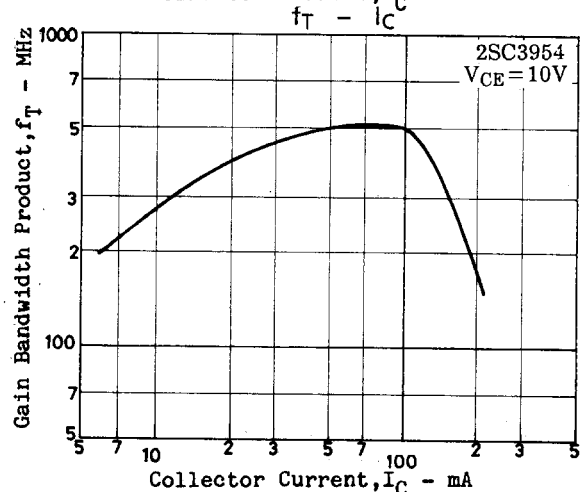
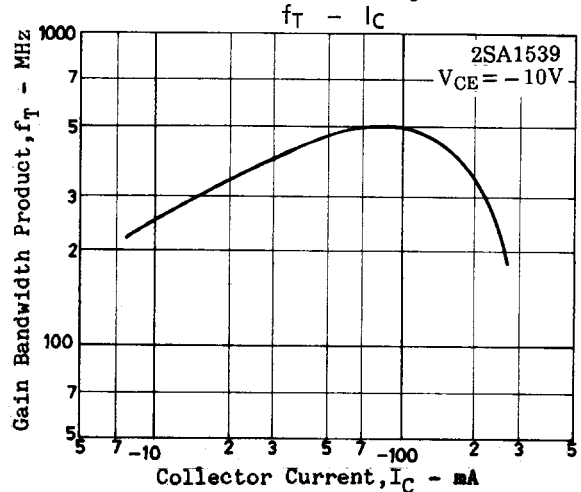
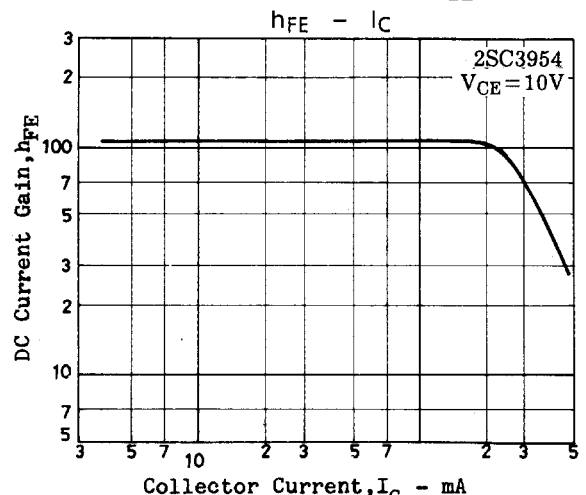
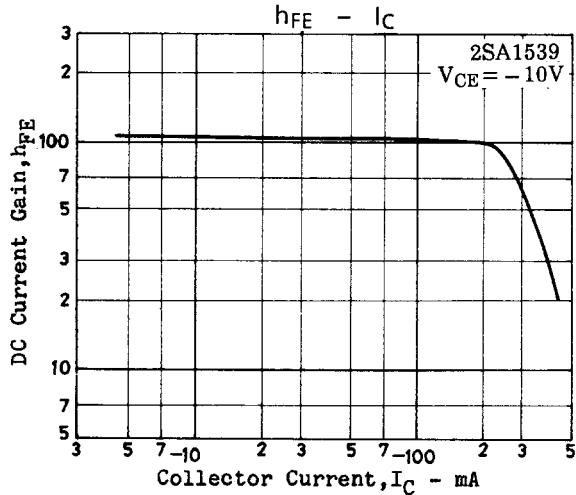
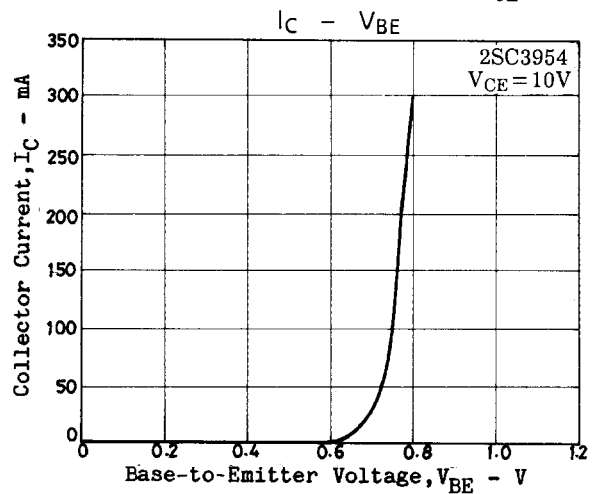
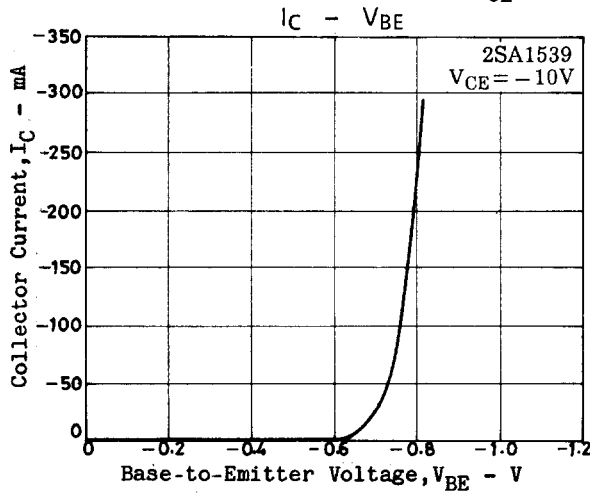
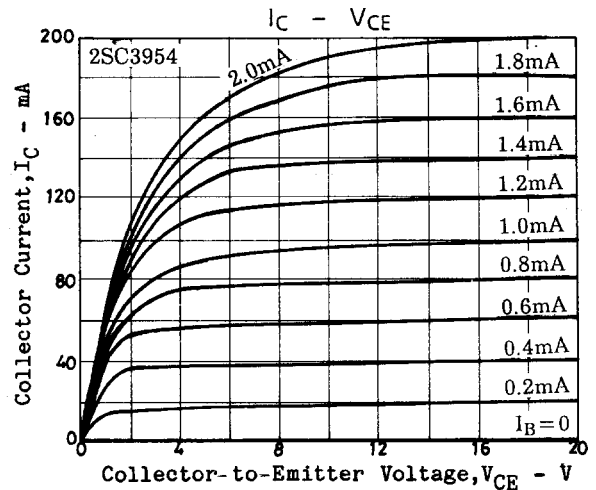
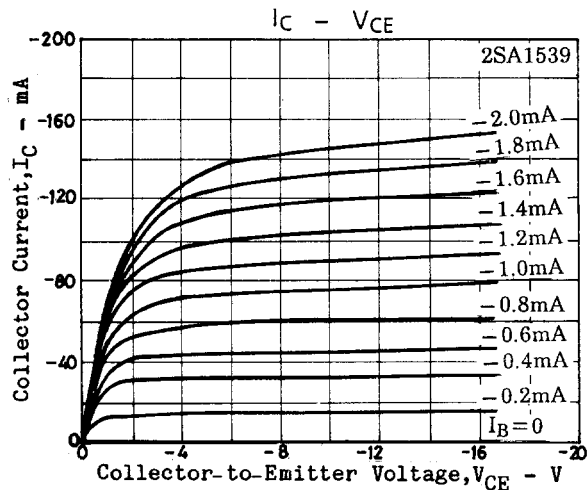
40	C	80	60	D	120	100	E	200	160	F	320
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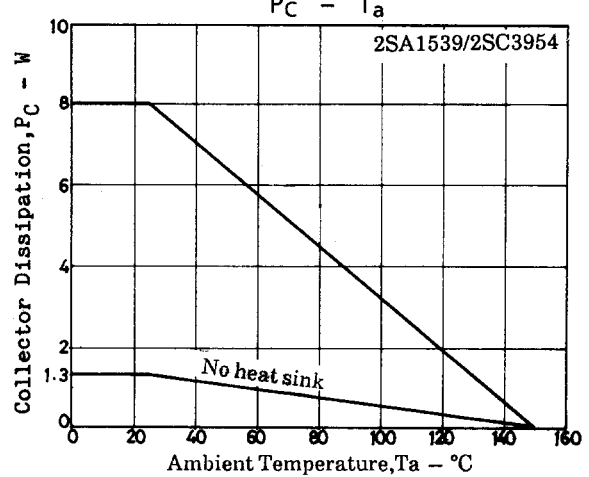
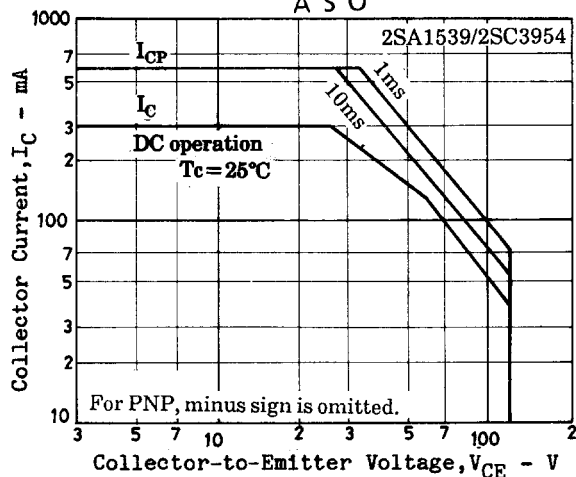
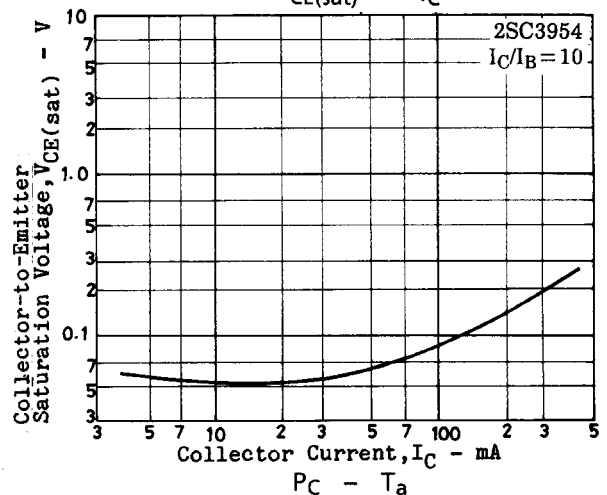
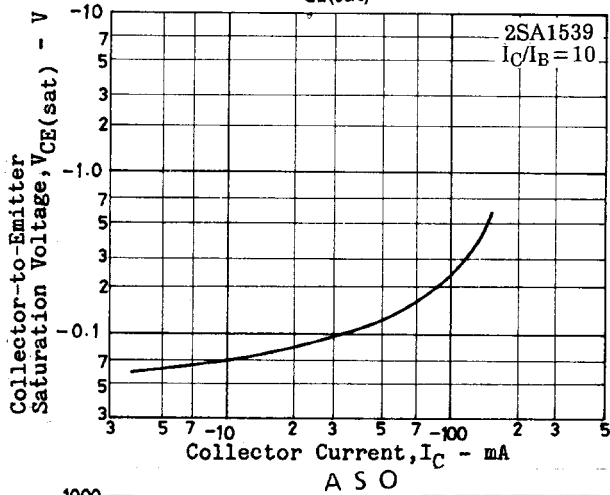
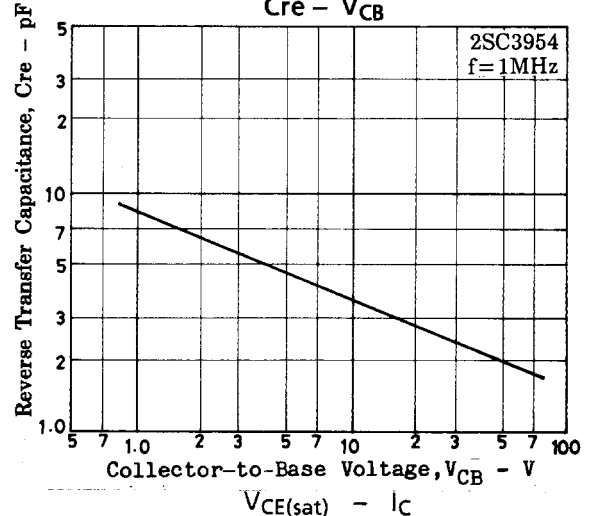
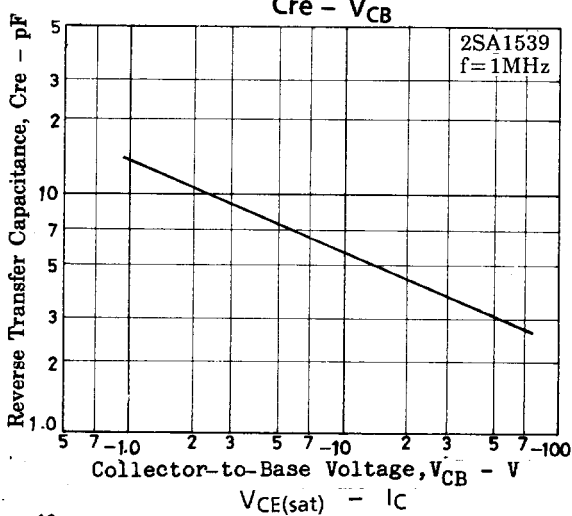
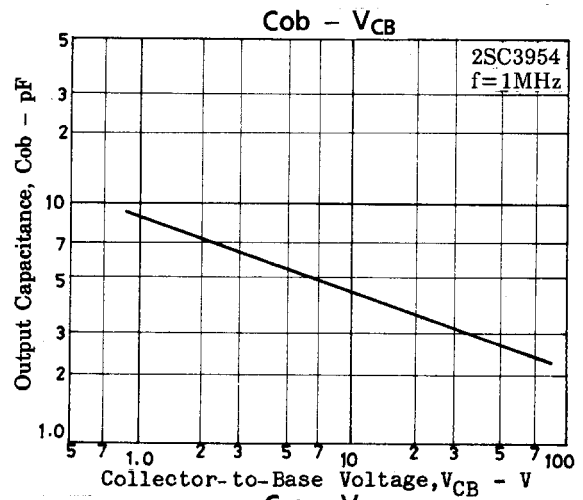
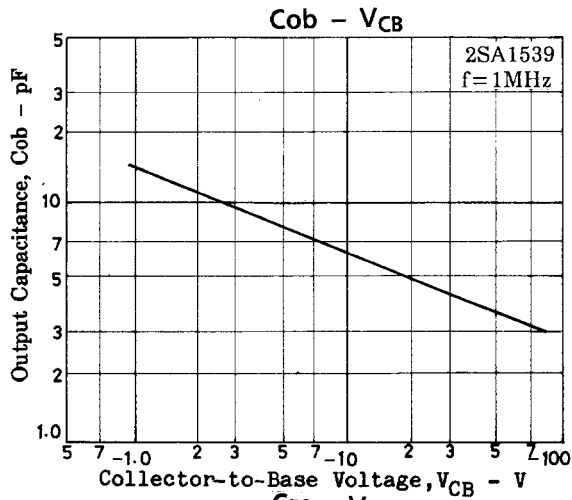
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