



2SA1537/2SC3952

High-Definition CRT Display Video Output Applications

Applications

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

Features

- High f_T : $f_T=700\text{MHz}$.
- High breakdown voltage : $V_{CEO}=70\text{Vmin}$.
- Small reverse transfer capacitance and excellent high-frequency characteristic :
 $C_{re}=3.1\text{pF/NPN}$, 4.8pF/PNP .
- Complementary PNP and NPN types.
- Adoption of FBET process.
- Micaless type.

() : 2SA1537

Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		(-) 80	V
Collector-to-Emitter Voltage	V_{CEO}		(-) 70	V
Emitter-to-Base Voltage	V_{EBO}		(-) 3	V
Collector Current	I_C		(-) 500	mA
Peak Collector Current	I_{CP}		(-) 1000	mA
Collector Dissipation	P_C		1.3	W
		$T_c=25^\circ\text{C}$	10	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}	$V_{CB}=(-)60\text{V}$, $I_E=0$			(-) 0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=(-)2\text{V}$, $I_C=0$			(-) 1.0	μA
DC Current Gain	h_{FE1}	$V_{CE}=(-)10\text{V}$, $I_C=(-)50\text{mA}$	40^*		320^*	
	h_{FE2}	$V_{CE}=(-)10\text{V}$, $I_C=(-)300\text{mA}$	60			
Gain-Bandwidth Product	f_T	$V_{CE}=(-)10\text{V}$, $I_C=(-)100\text{mA}$		700		MHz

* h_{FE1} : The 2SA1537/2SC3952 are classified by $50\text{mA } h_{FE}$ as follows :

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Rank	C	D	E	F
h_{FE}	40 to 80	60 to 120	100 to 200	160 to 320

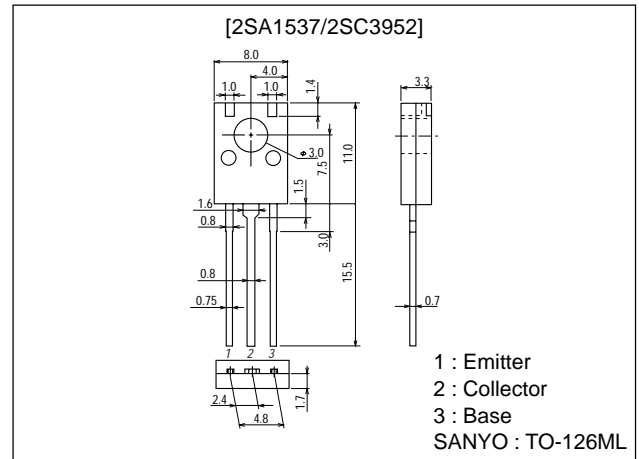
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Package Dimensions

unit:mm

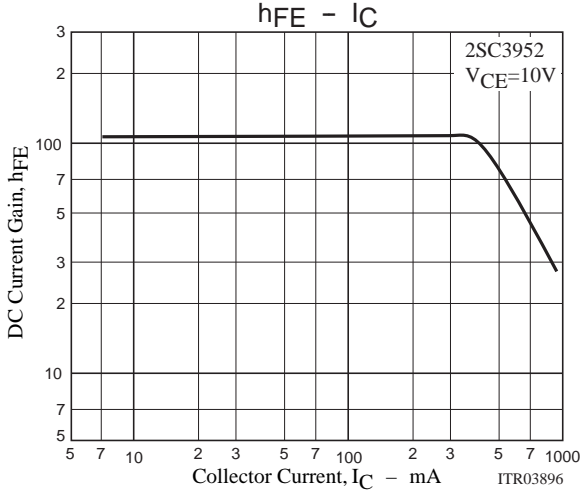
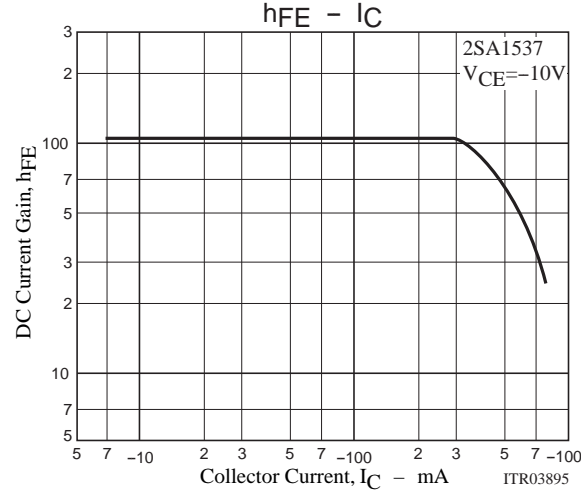
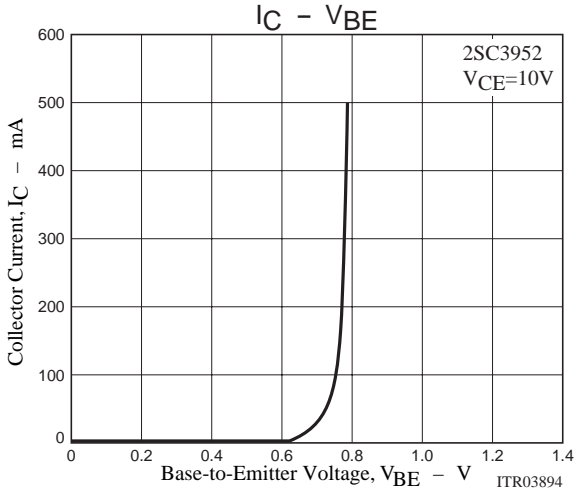
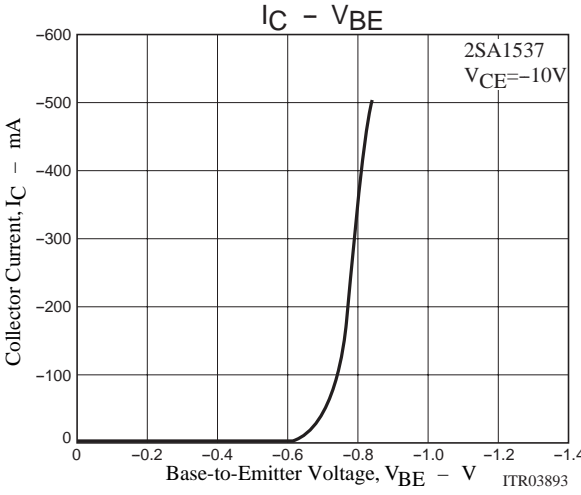
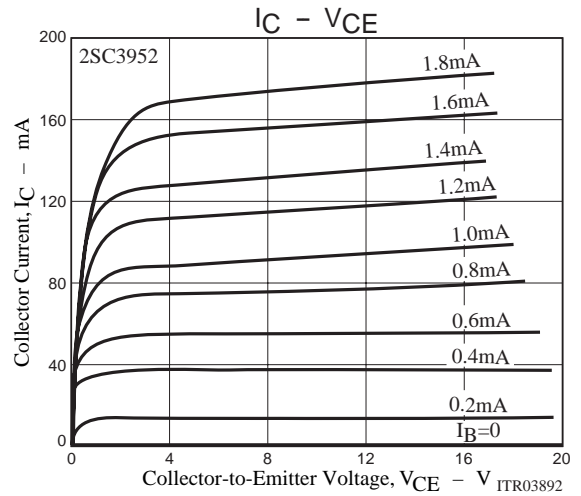
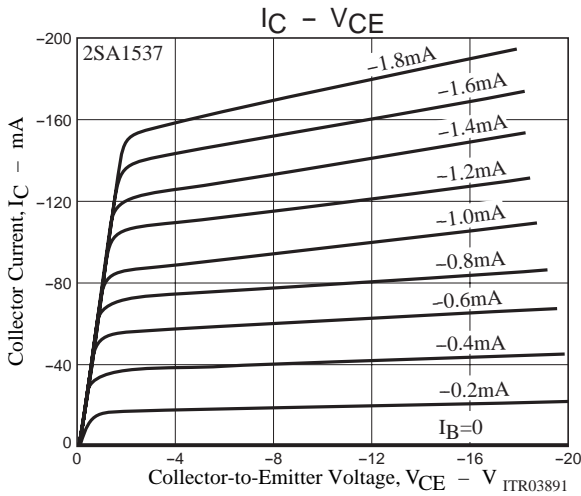
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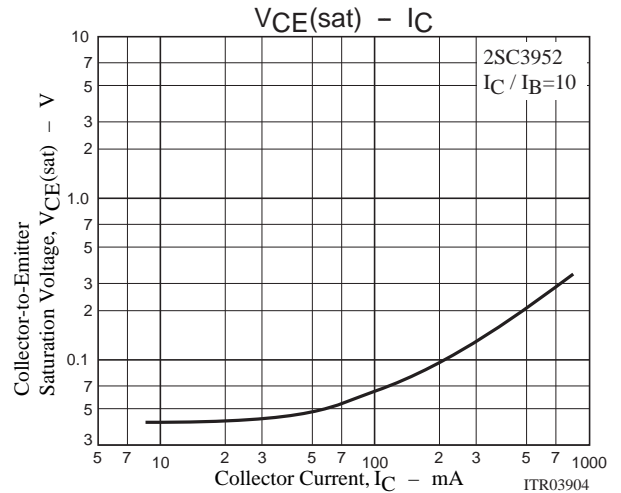
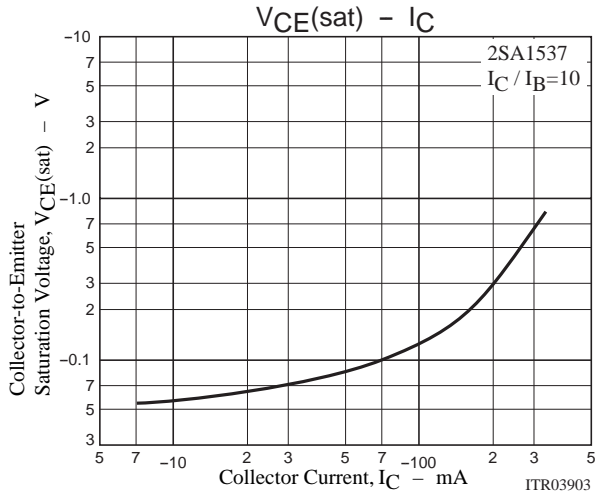
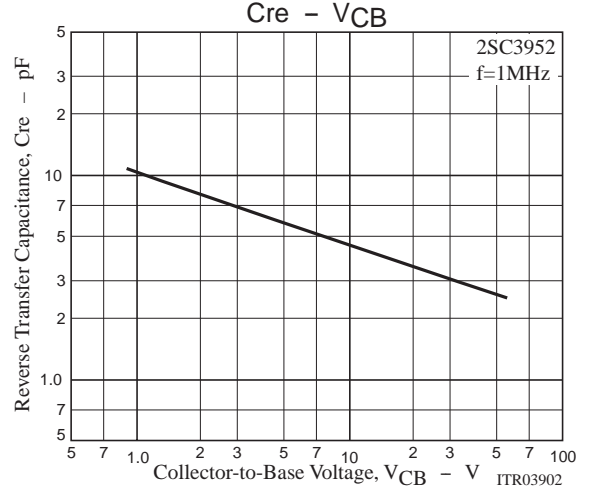
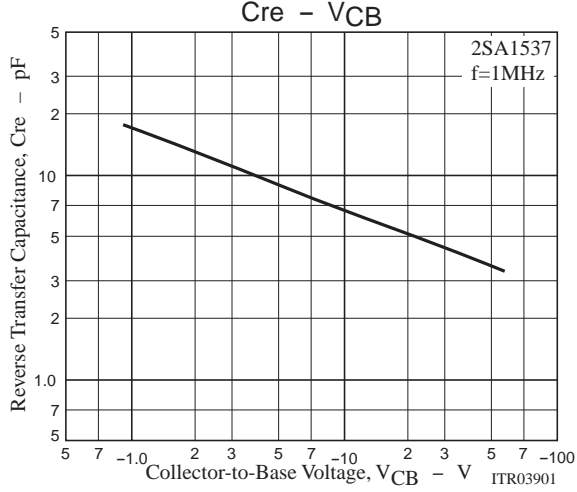
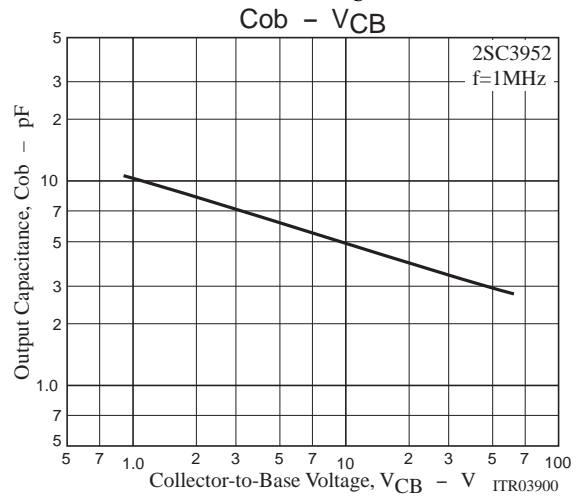
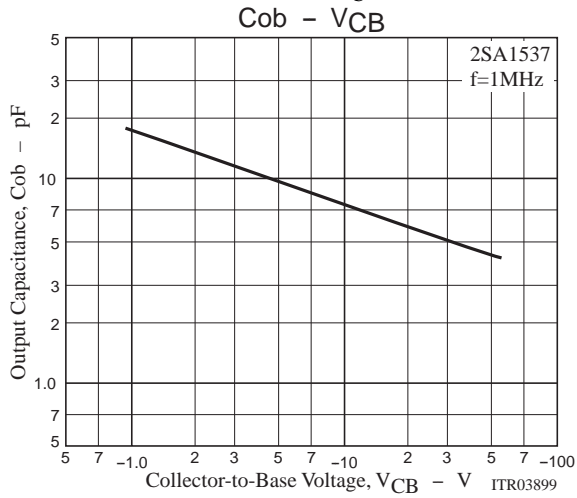
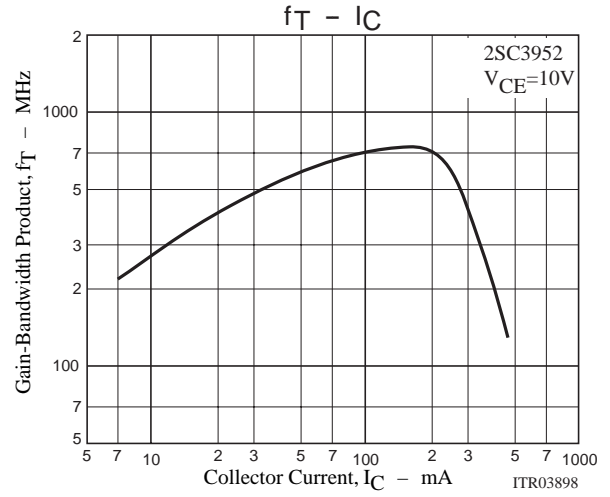
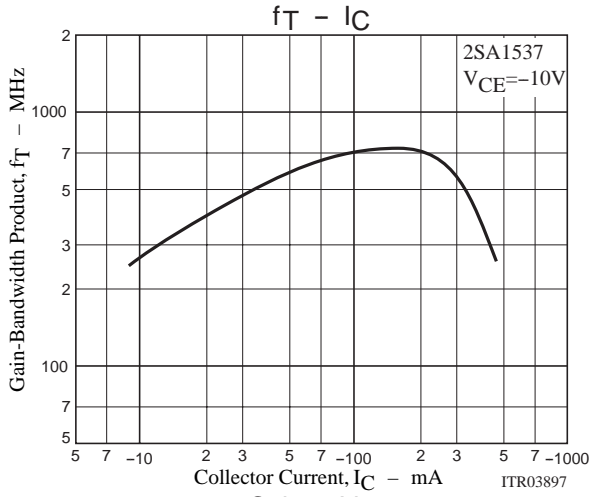
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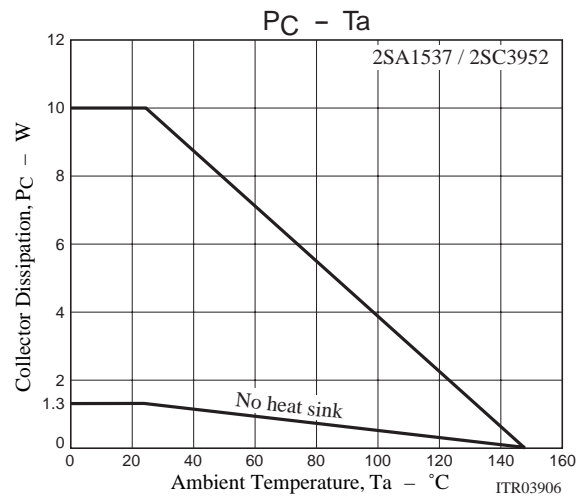
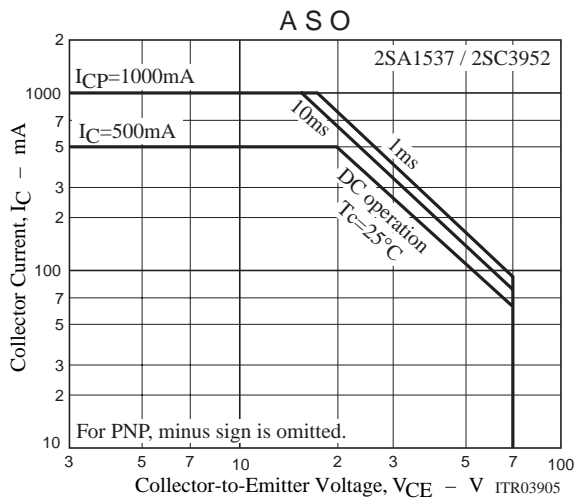
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output Capacitance	C_{ob}	$V_{CB}=(-)30V, f=1MHz$		3.6		pF
				(5.4)		pF
Reverse Transfer Capacitance	C_{re}	$V_{CB}=(-)30V, f=1MHz$		3.1		pF
				(4.8)		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)70mA, I_B=(-)7mA$			(-1.0)	V
Emitter-to-Base Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)70mA, I_B=(-)7mA$			(-1.0)	V



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