

High-Definition CRT Display Video Output Applications

Applications

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

Features

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

(): 2SA1539

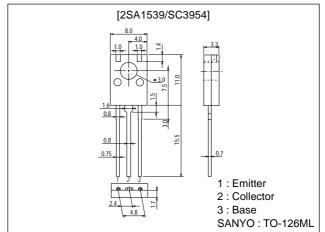
Specifications

Absolute Maximum Ratings at Ta = 25°C

Package Dimensions

unit:mm

2042B



Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CBO}		(-)120	V
Collector-to-Emitter Voltage	VCEO		(-)120	V
Emitter-to-Base Voltage	V _{EBO}		(–)3	V
Collector Current	IC		(–)300	mA
Peak Collector Current	I _{CP}		(–)600	mA
Collector Dissipation	PC		1.3	W
		Tc=25°C	8	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
	Symbol		min	typ	max	Offic
Collector Cutoff Current	ICBO	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 _{FE} 1	V _{CE} =(-)10V, I _C =(-)50mA	40*		320*	
	h _{FE} 2	V _{CE} =(-)10V, I _C =(-)200mA	20			
Gain-Bandwidth Product	fT	V _{CE} =(-)10V, I _C =(-)50mA		400		MHz

* $h_{FE}1$: The 2SA1539/2SC3954 are classified by 50mA $\,\,h_{FE}$ as follows :

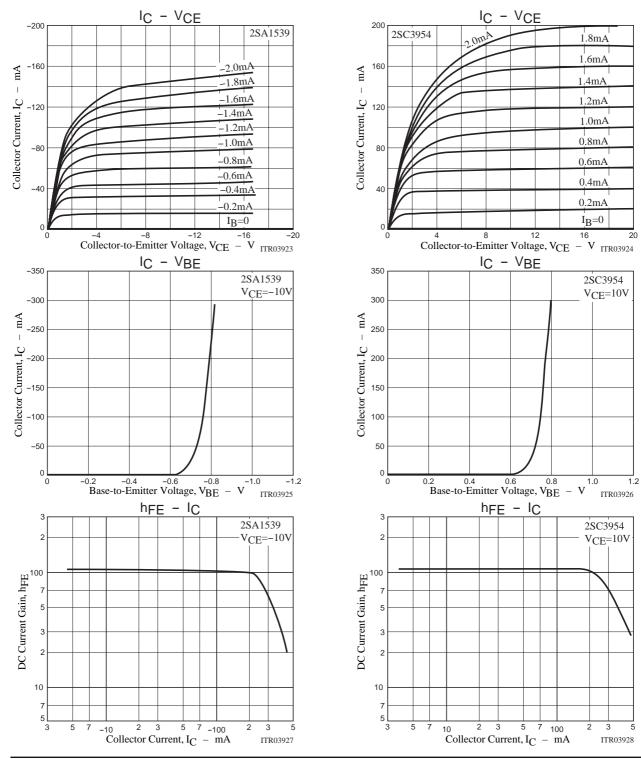
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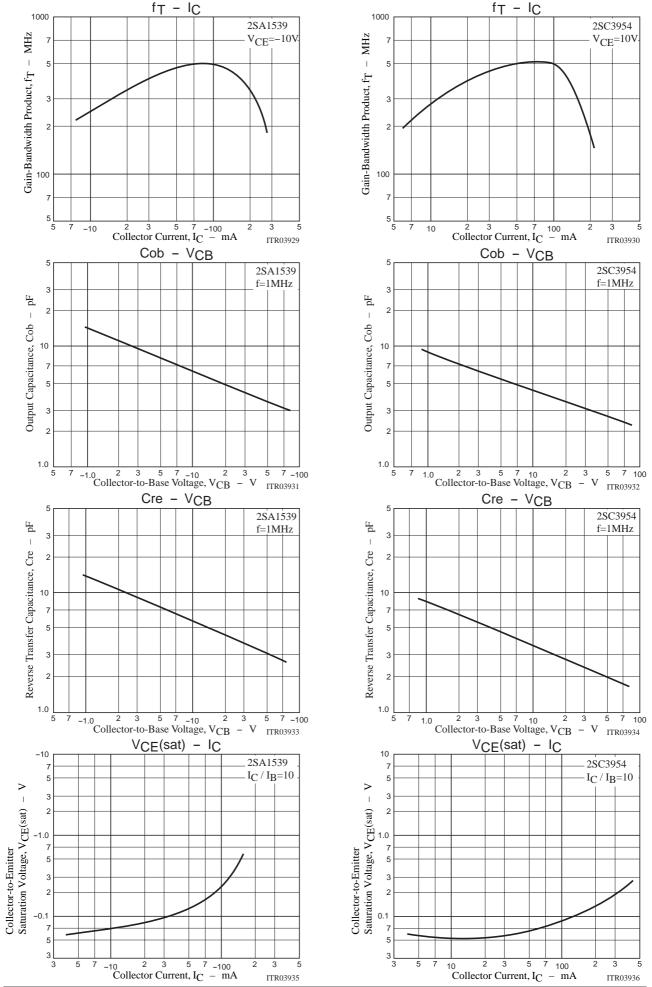
Rank	С	D	E	F
hFE	40 to 80	60 to 120	100 to 200	160 to 320

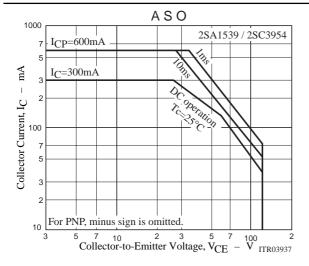
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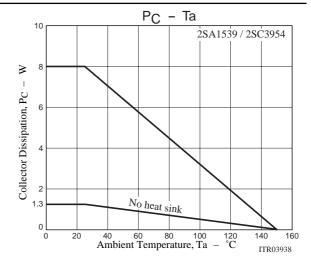
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	Offic
Output Capacitance	C _{ob}	V _{CB} =(-)30V, f=1MHz		3.1		pF
				(4.4)		pF
Reverse Transfer Capacitance	C _{re}	V _{CB} =(-)30V, f=1MHz		2.7		pF
				(4.0)		pF
Collector-to-Emitter Saturation 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









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