

	No.2438A	<h1 style="margin: 0;">2SA1539/2SC3954</h1> <p style="margin: 0;">PNP/NPN Epitaxial Planar Silicon Transistors</p> <p style="margin: 0;">High-Definition CRT Display Video Output Applications</p>
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Applications

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

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: T0126 plastic package

():PNP

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

Collector-to-Base Voltage	V_{CBO}	(-)120		unit
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
Storage Temperature	T_{stg}			-55 to +150
				$^\circ\text{C}$

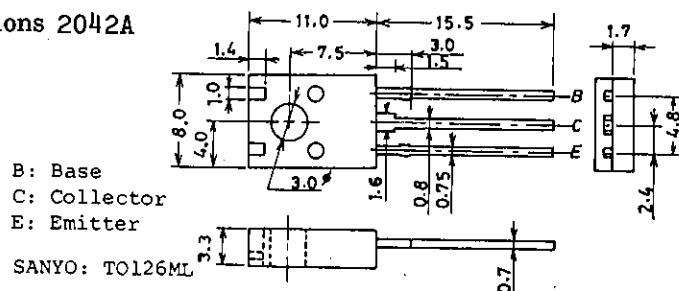
Electrical Characteristics at $T_a=25^\circ\text{C}$

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB}=(-)80\text{V}, I_E=0$			(-)0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=(-)2\text{V}, I_C=0$			(-)0.1	μA
DC Current Gain	h_{FE1}	$V_{CE}=(-)10\text{V}, I_C=(-)50\text{mA}$	40*		320*	
	h_{FE2}	$V_{CE}=(-)10\text{V}, I_C=(-)200\text{mA}$	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
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)50\text{mA}, I_B=(-)5\text{mA}$			(-)1.0	V
E-B Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)50\text{mA}, I_B=(-)5\text{mA}$			(-)1.0	V

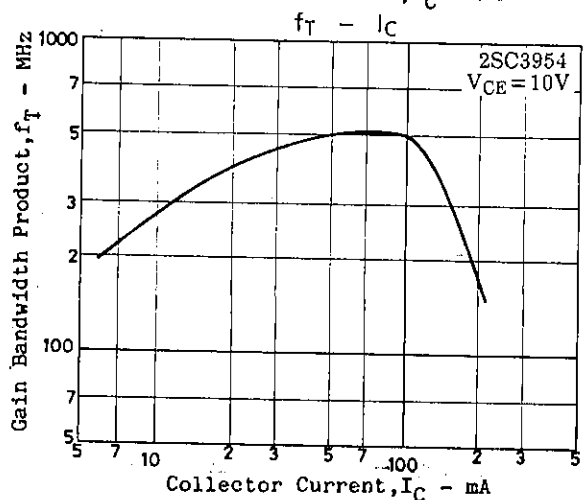
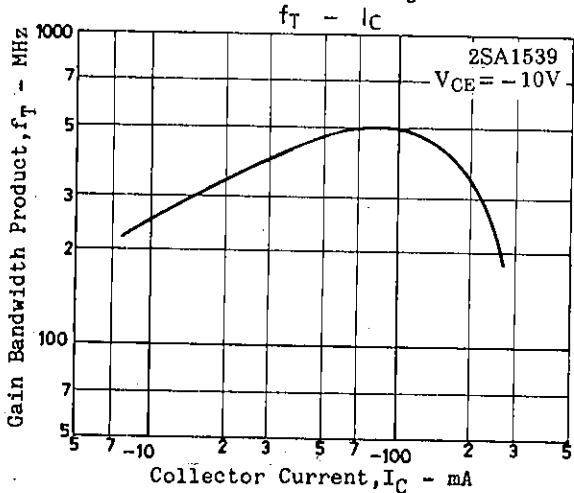
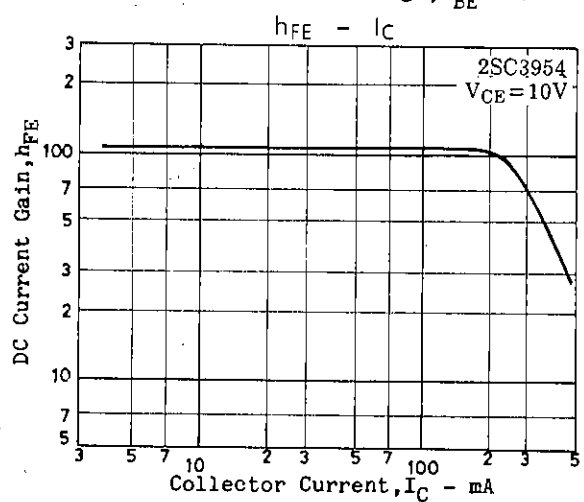
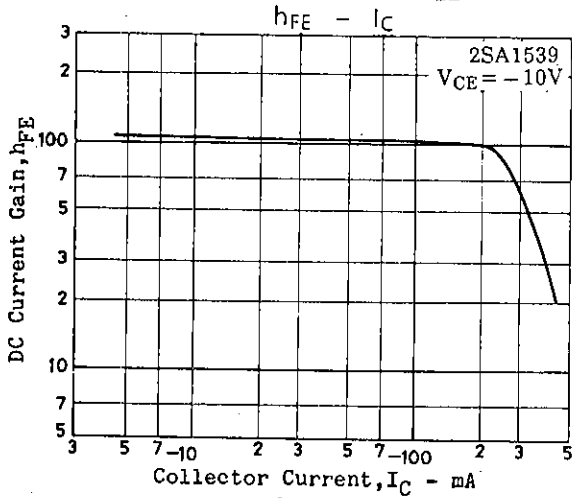
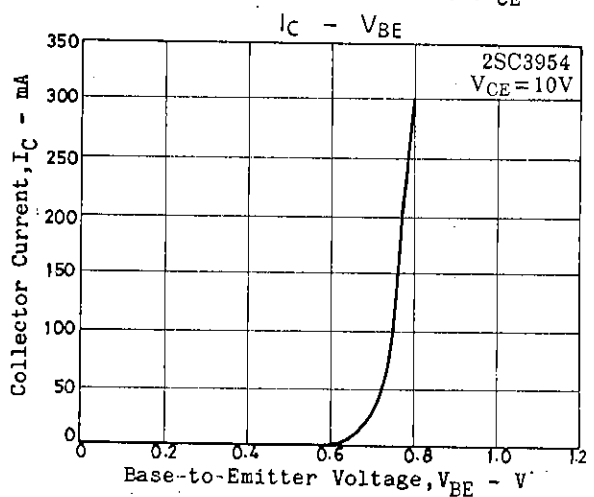
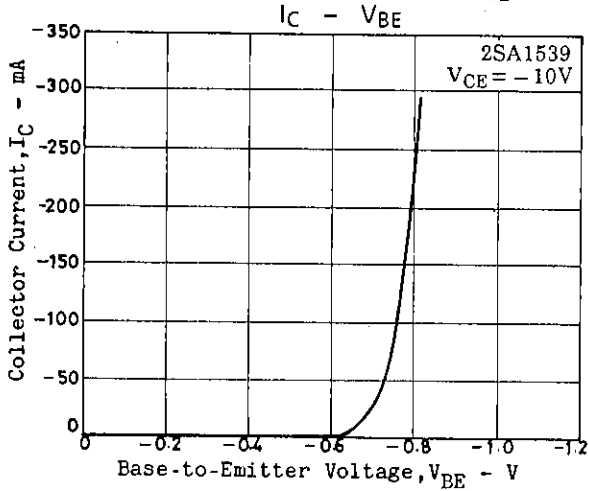
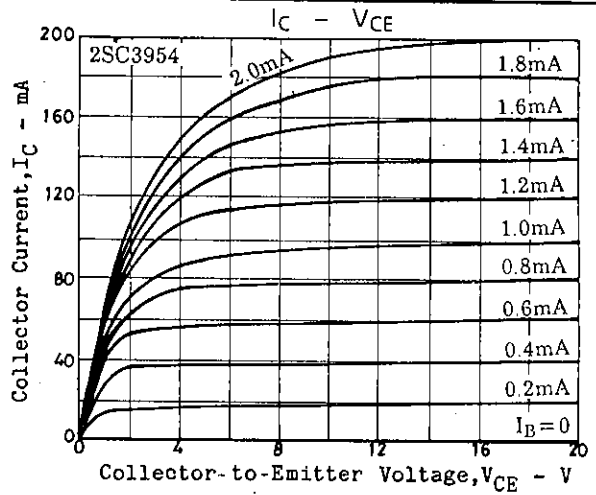
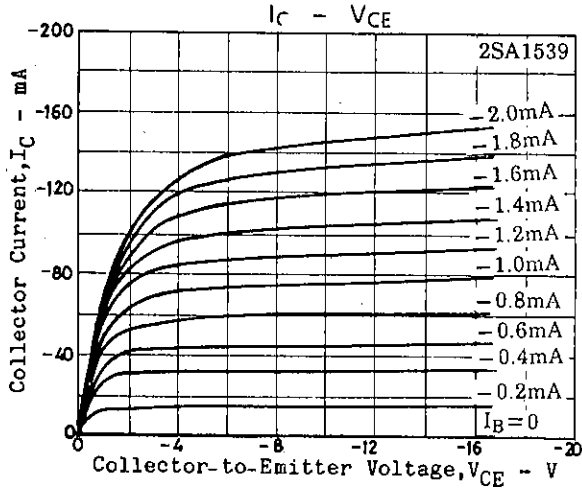
* h_{FE1} : The 2SA1539/2SC3954 are classified by 50mA h_{FE} as follows:

40	C	80	60	D	120	100	E	200	160	F	320
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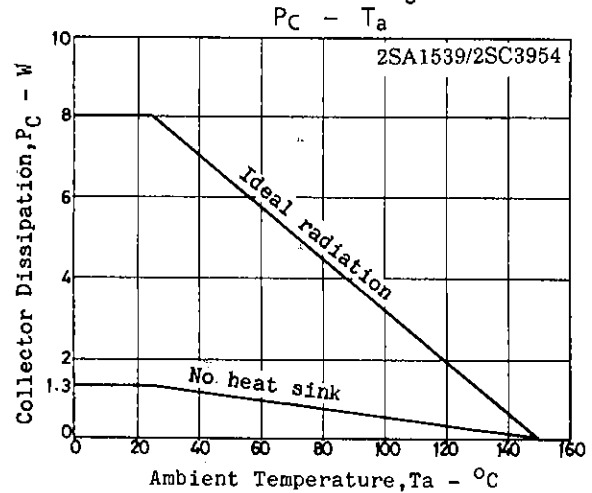
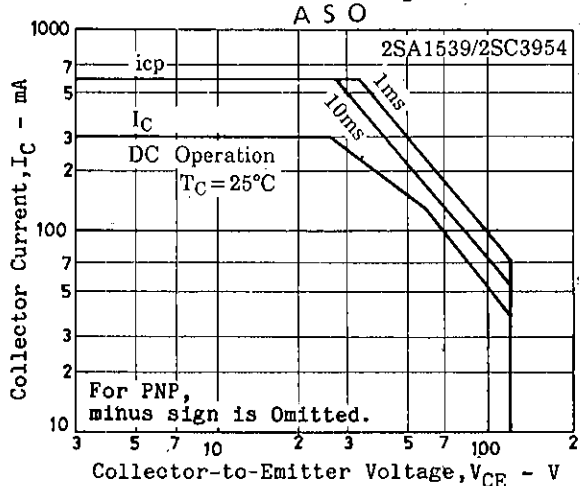
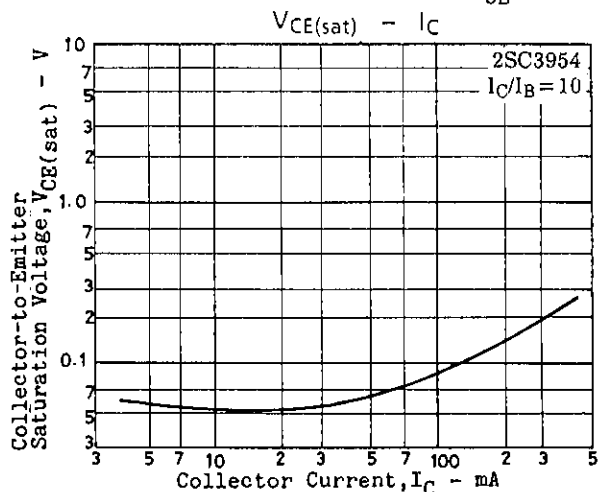
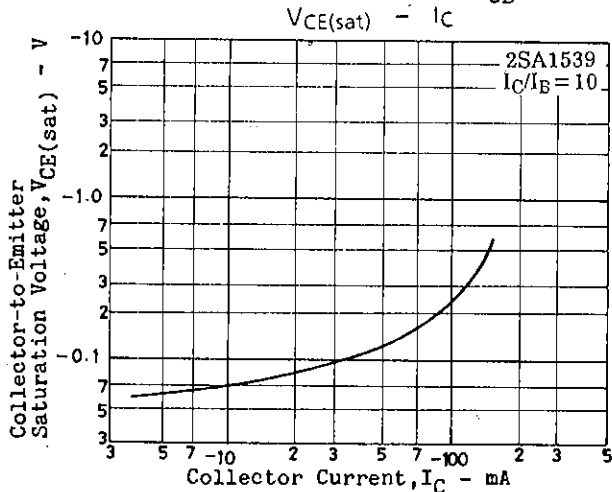
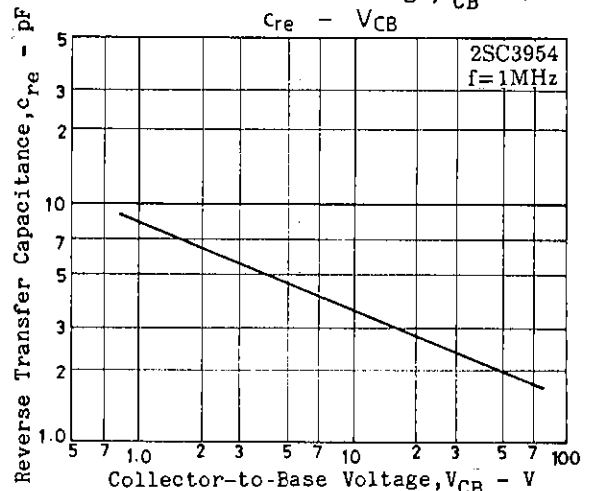
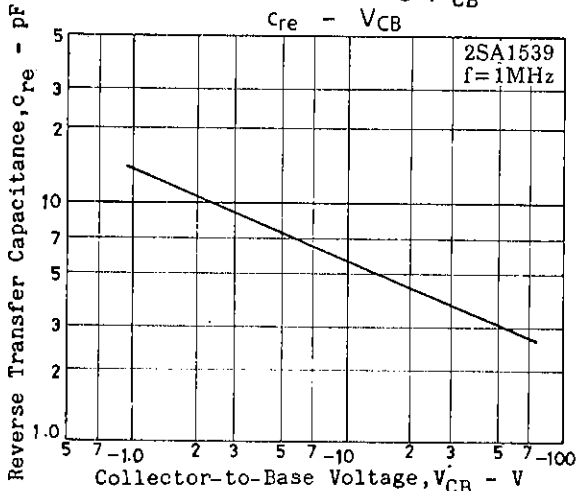
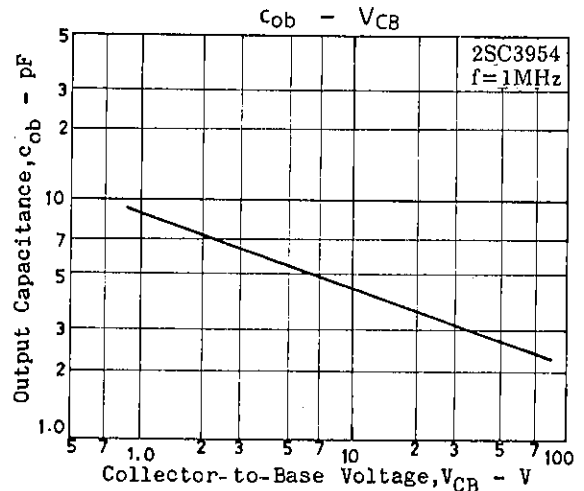
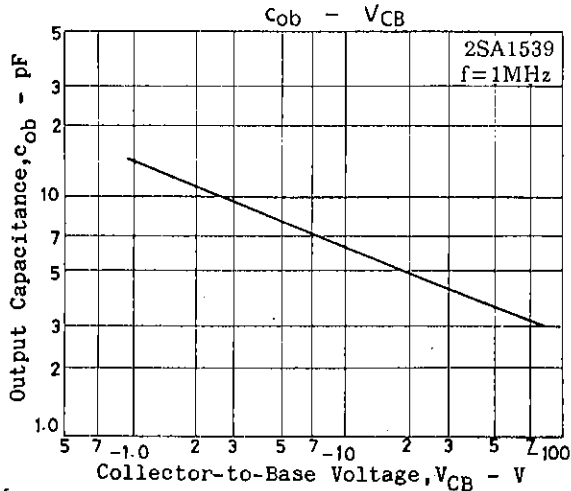
Package Dimensions 2042A
(unit: mm)



2SA1539/2SC3954



2SA1539/2SC3954



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