

No.2436B

# 2SA1537/2SC3952

PNP/NPN Epitaxial Planar Silicon Transistor

## High-Definition CRT Display Video Output Applications

**Applications**

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

**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:  $C_{re} = 3.1\text{pF/NPN}$ ,  $4.8\text{pF/PNP}$ .
- Complementary PNP and NPN types
- Adoption of FBET process
- Micaless type

( ) : PNP

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

Parameter	Symbol	Value	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
Collector Current (Pulse)	$I_{CP}$	(-)1000	mA
Collector Dissipation	$P_C$	1.3	W
		10	W
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

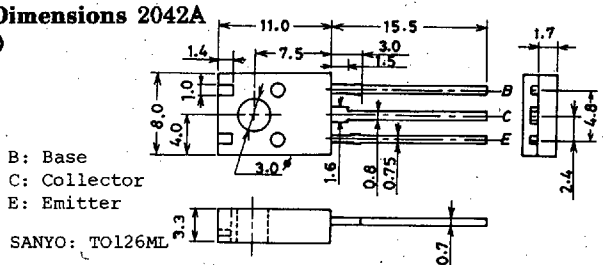
**Electrical Characteristics at  $T_a = 25^\circ\text{C}$**

Parameter	Symbol	Test Conditions	min	typ	max	unit
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = (-)60\text{V}, I_E = 0$			(-)0.1	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = (-)2\text{V}, I_C = 0$			(-)1.0	$\mu\text{A}$
DC Current Gain	$h_{FE1}$	$V_{CE} = (-)10\text{V}, I_C = (-)50\text{mA}$	40*		320*	
	$h_{FE2}$	$V_{CE} = (-)10\text{V}, I_C = (-)300\text{mA}$	60			
Gain-Bandwidth Product	$f_T$	$V_{CE} = (-)10\text{V}, I_C = (-)100\text{mA}$		700		MHz
Output Capacitance	$C_{ob}$	$V_{CB} = (-)30\text{V}, f = 1\text{MHz}$		3.6		pF
				(5.4)		pF
Reverse Transfer Capacitance	$C_{re}$	$V_{CB} = (-)30\text{V}, f = 1\text{MHz}$		3.1		pF
				(4.8)		pF
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)70\text{mA}, I_B = (-)7\text{mA}$			(-)1.0	V
E-B Saturation Voltage	$V_{BE(sat)}$	$I_C = (-)70\text{mA}, I_B = (-)7\text{mA}$			(-)1.0	V

\*  $h_{FE1}$ : The 2SA1537/2SC3952 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)



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