



SANYO Semiconductors

DATA SHEET

2SC3950 — NPN Epitaxial Planar Silicon Transistor

High-Definition CRT Display Video Output Applications

Applications

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

Features

- High f_T : $f_T=2.0\text{GHz}$.
- Large current capacity : $I_C=500\text{mA}$.
- Micaless type : TO-126 plastic package.

Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CB0}		30	V
Collector-to-Emitter Voltage	V_{CEO}		20	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
		$T_c=25^\circ\text{C}$	5	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}	$V_{CB}=20\text{V}, I_E=0\text{A}$			0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=2\text{V}, I_C=0\text{A}$			5.0	μA

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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
DC Current Gain	h_{FE1}	$V_{CE}=5V, I_C=50mA$	40*		200*	
	h_{FE2}	$V_{CE}=5V, I_C=500mA$	20			
Gain-Bandwidth Product	f_T	$V_{CE}=5V, I_C=100mA$		2.0		GHz
Output Capacitance	C_{ob}	$V_{CB}=10V, f=1MHz$		6.0		pF
Reverse Transfer Capacitance	C_{re}	$V_{CB}=10V, f=1MHz$		4.6		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=300mA, I_B=30mA$		0.3	0.8	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=300mA, I_B=30mA$		0.9	1.2	V

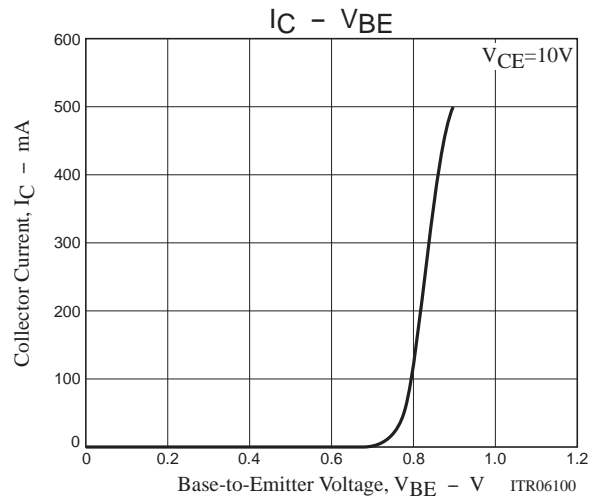
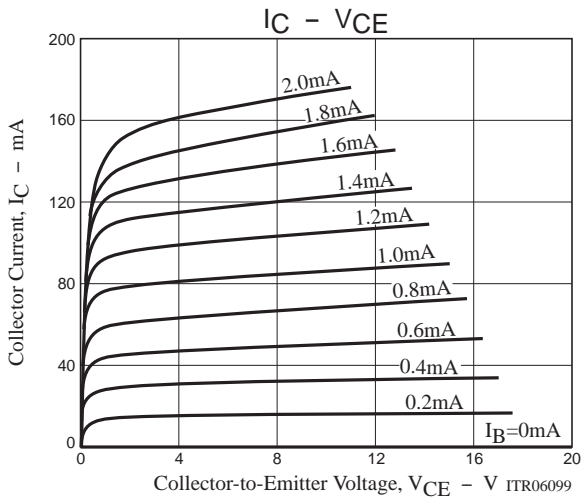
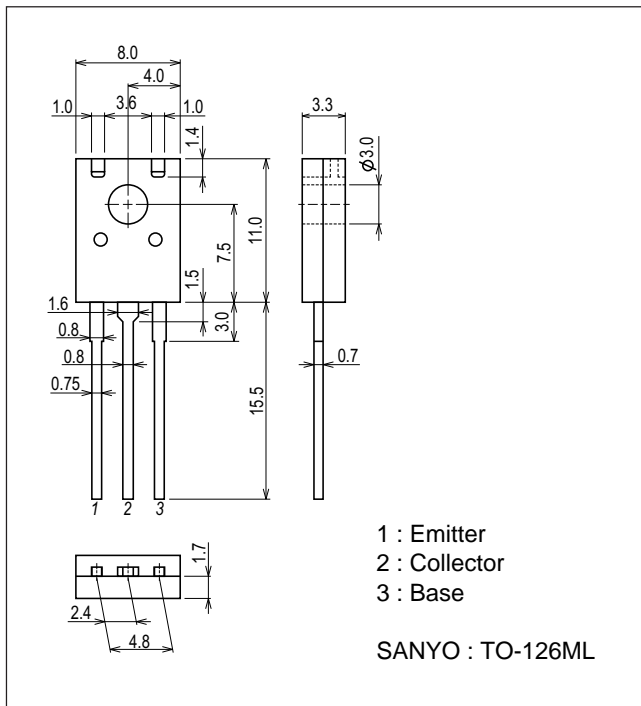
* h_{FE1} : The 2SC3950 is classified by 50mA h_{FE} as follows :

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

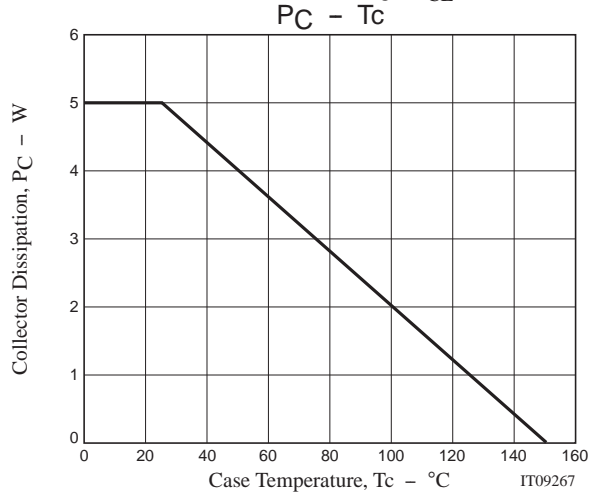
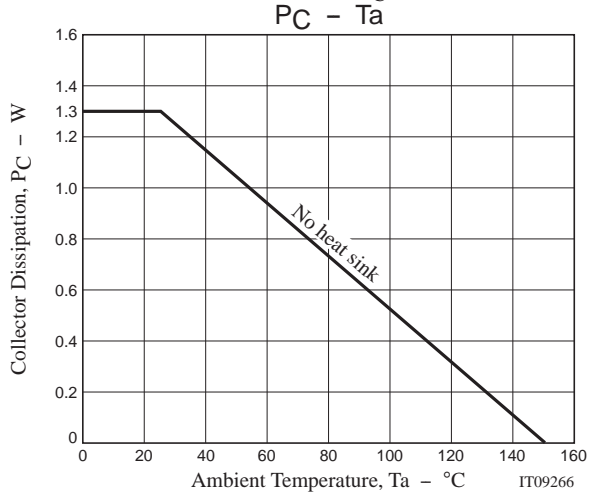
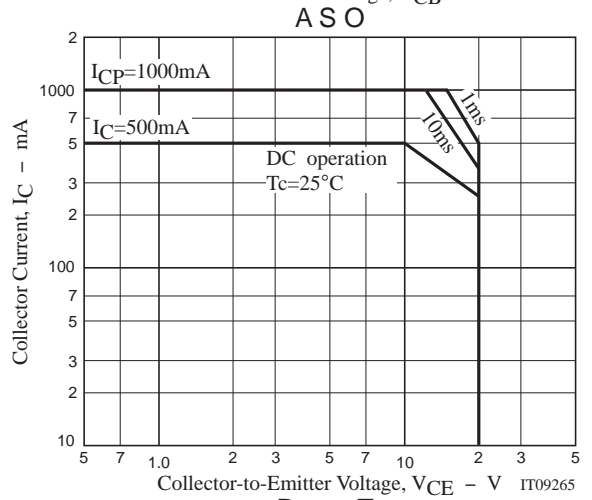
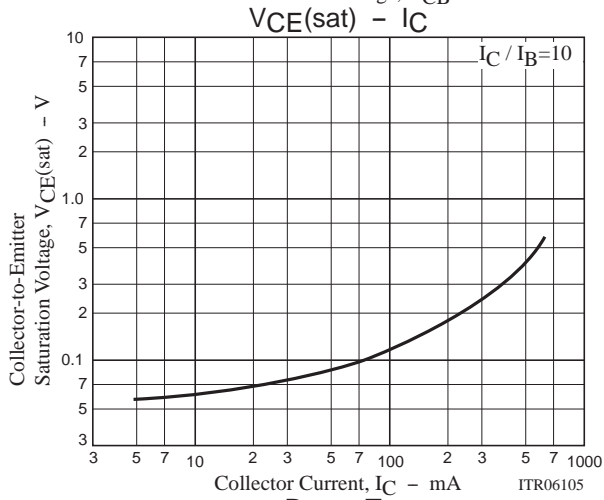
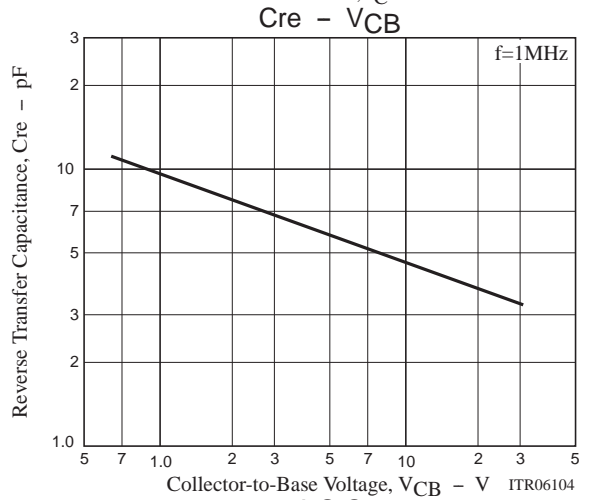
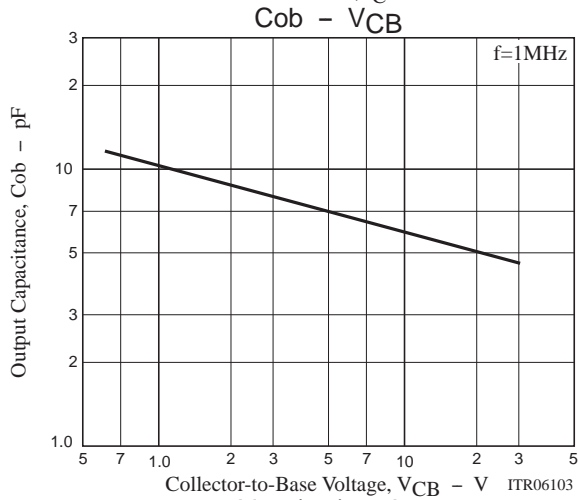
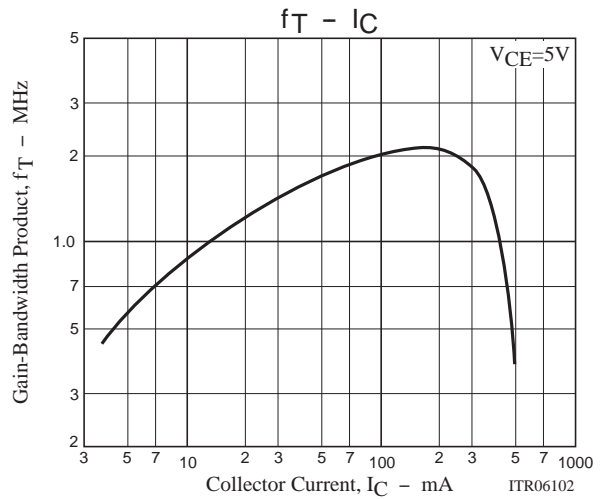
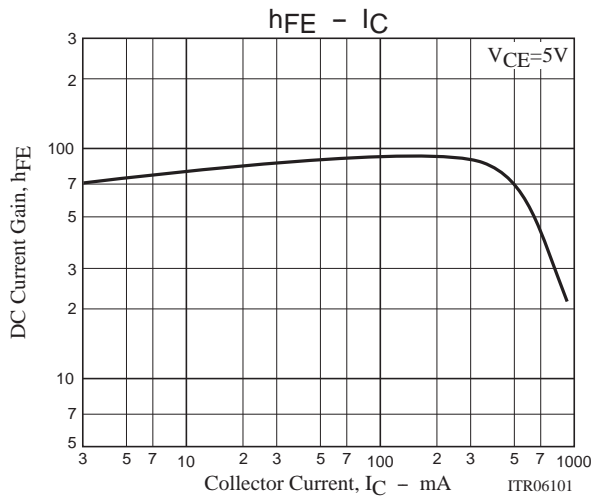
Package Dimensions

unit : mm (typ)

7516A-002



2SC3950



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