

NPN Epitaxial Planar Silicon Transistor

SANYO

2SC3504

**High-Definition CRT Display,
Video Output Applications**

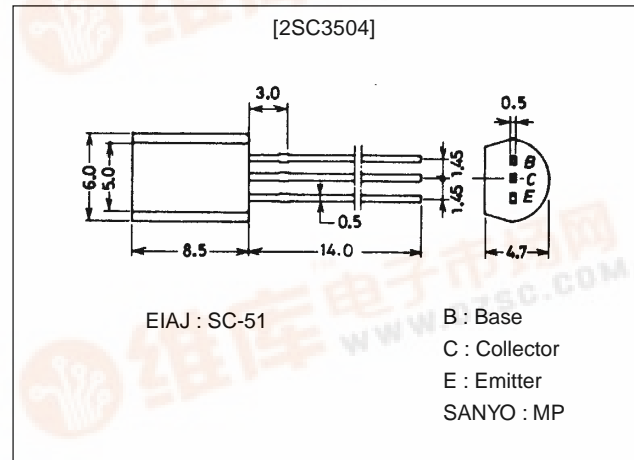
Features

- High f_T .
- Small reverse transfer capacitance.

Package Dimensions

unit:mm

2006A



Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		70	V
Collector-to-Emitter Voltage	V_{CEO}		60	V
Emitter-to-Base Voltage	V_{EBO}		4	V
Collector Current	I_C		50	mA
Collector Current (Pulse)	I_{CP}		100	mA
Collector Dissipation	P_C		900	mW
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}	$V_{CB}=40\text{V}, I_E=0$			0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=3\text{V}, I_C=0$			1.0	μA
DC Current Gain	h_{FE}	$V_{CE}=10\text{V}, I_C=10\text{mA}$	60*		320*	
Gain-Bandwidth Product	f_T	$V_{CE}=10\text{V}, I_C=10\text{mA}$	300	500		MHz
Base-to-Collector Time Constant	$\tau_{bb}C_c$	$V_{CE}=10\text{V}, I_C=10\text{mA}$		8	20	ps
Reverse Transfer Capacitance	C_{re}	$V_{CB}=10\text{V}, f=1\text{MHz}$		1.0	1.6	pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=20\text{mA}, I_B=2\text{mA}$			0.5	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=20\text{mA}, I_B=2\text{mA}$			1.0	V

* : The 2SC3504 is classified by 10mA h_{FE} as follows :

60	D	120	100	E	200	160	F	320
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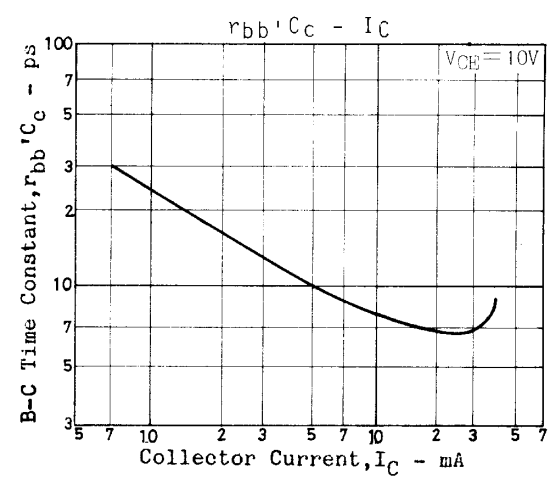
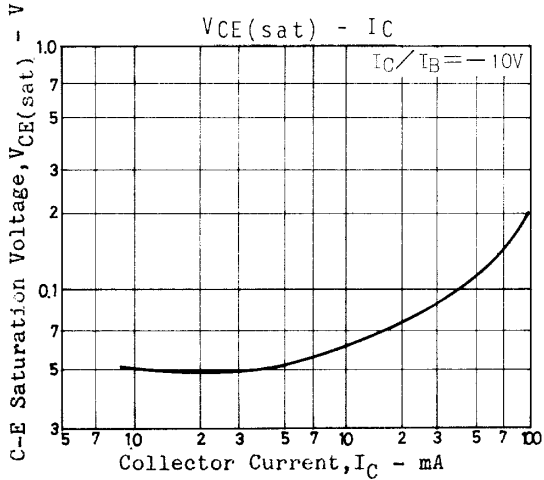
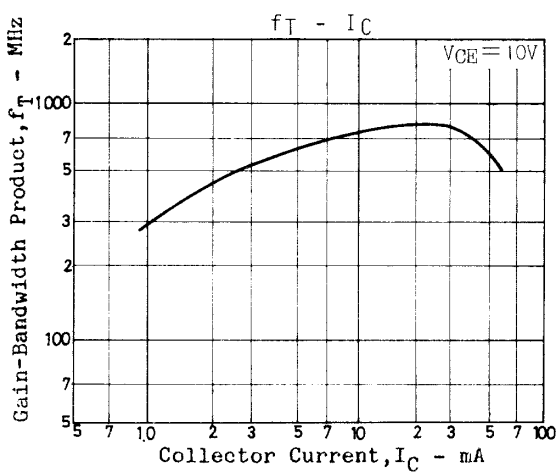
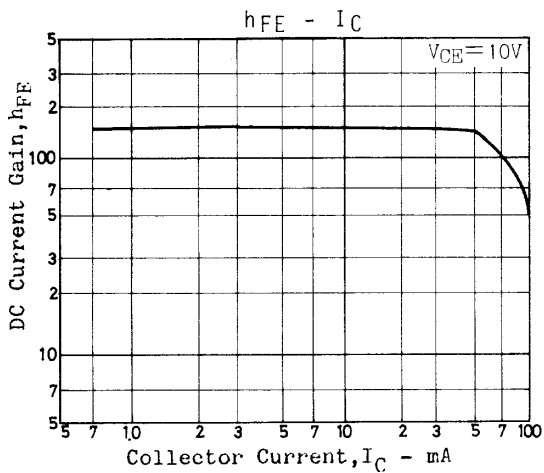
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2SC3504

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0$	70			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1mA, R_{BE}=\infty$	60			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	4			V



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