

**2SC4504**

## High-Definition CRT Display Video Output Driver Applications

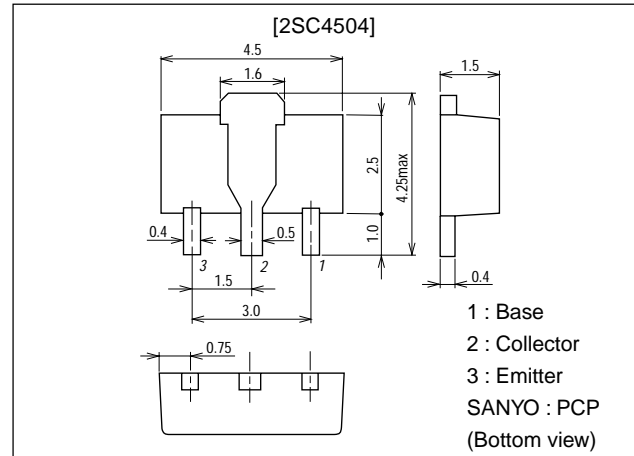
### Features

- High  $f_T$  ( $f_T=2.2\text{GHz}$  typ)
- Large current ( $I_C=300\text{mA}$ )
- Adoption of FBET process.

### Package Dimensions

unit:mm

2038A



### Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CBO}$		30	V
Collector-to-Emitter Voltage	$V_{CEO}$		20	V
Emitter-to-Base Voltage	$V_{EBO}$		3	V
Collector Current	$I_C$		300	mA
Collector Current (Pulse)	$I_{CP}$		600	mA
Collector Dissipation	$P_C$		0.5	W
		Mounted on ceramic board (250mm <sup>2</sup> ×0.8mm)	1.3	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	$I_{CBO}$	$V_{CB}=20\text{V}, I_E=0$			0.1	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=2\text{V}, I_C=0$			5.0	$\mu\text{A}$
DC Current Gain	$h_{FE1}$	$V_{CE}=5\text{V}, I_C=50\text{mA}$	40*		200*	
	$h_{FE2}$	$V_{CE}=5\text{V}, I_C=300\text{mA}$	20			
Gain-Bandwidth Product	$f_T$	$V_{CE}=5\text{V}, I_C=50\text{mA}$		2.2		GHz

\* : The 2SC4504 is classified by 50mA  $h_{FE}$  as follows :

Marking : CM

 $h_{FE}$  rank : C, D, E

40	C	80	60	D	120	100	E	200
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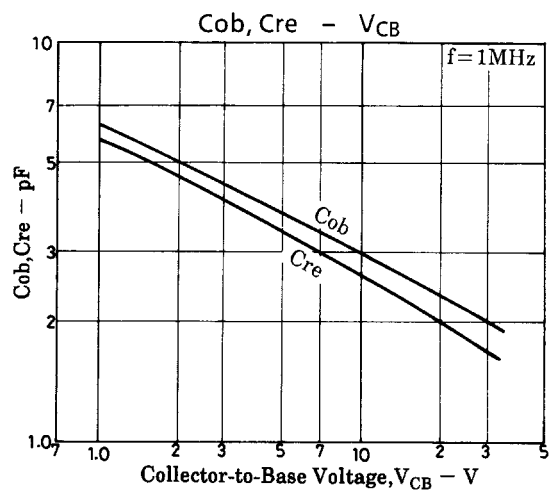
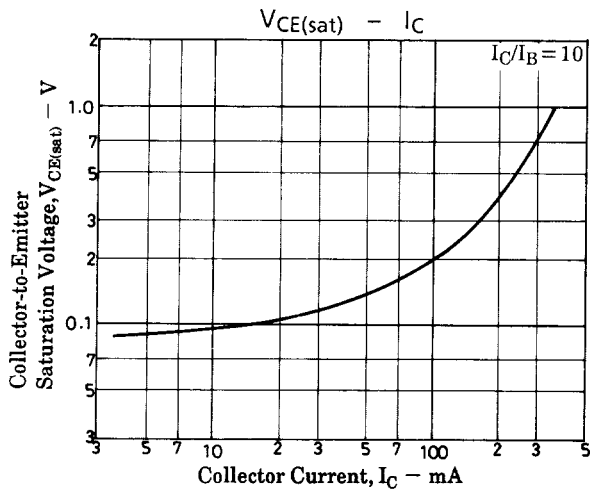
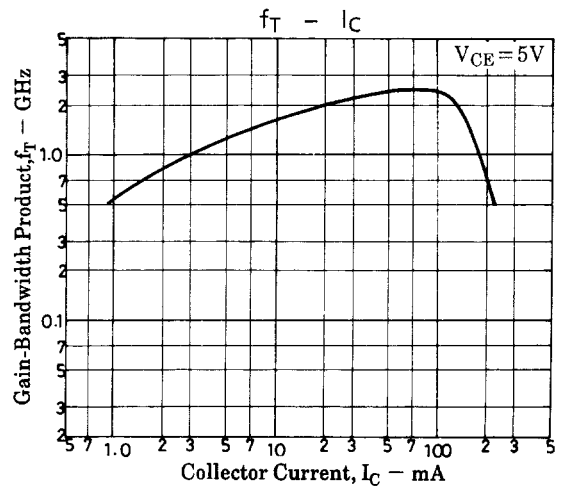
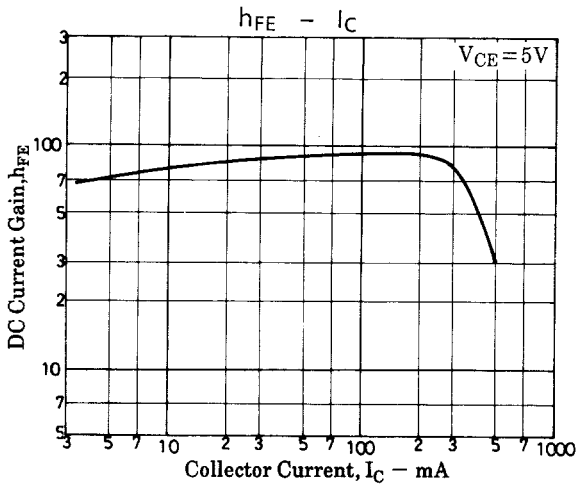
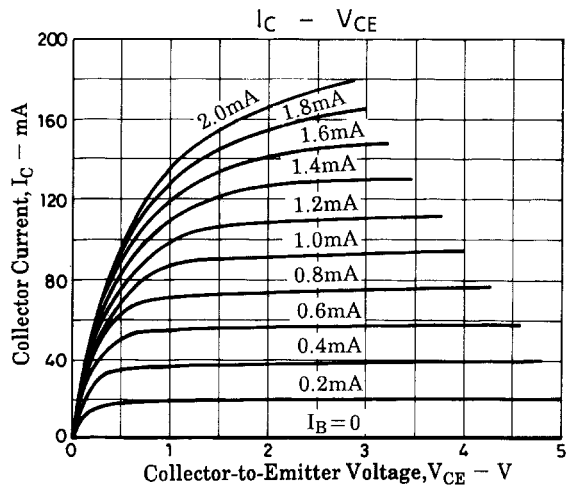
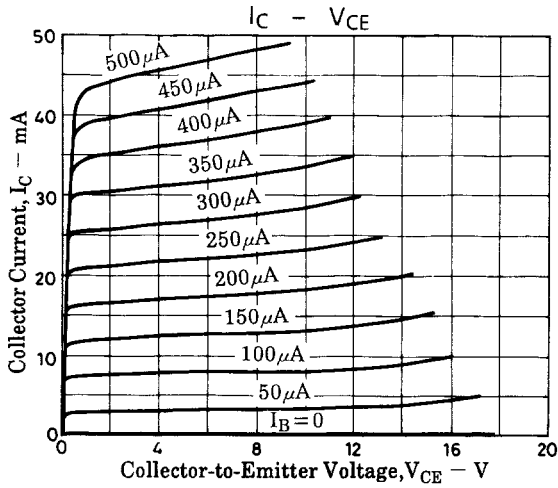
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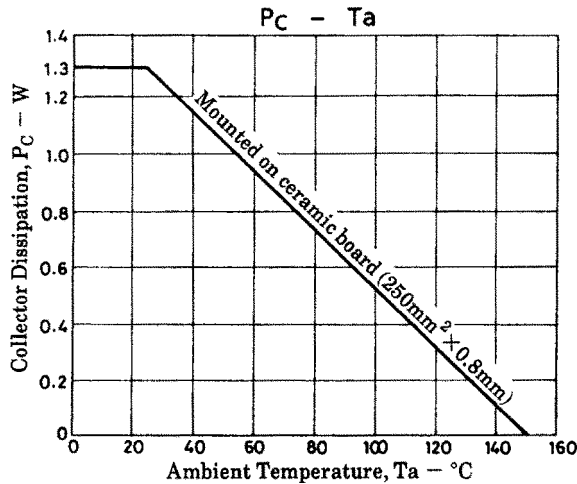
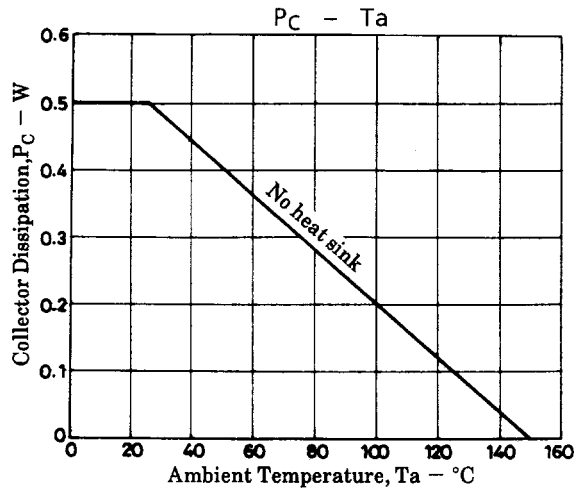
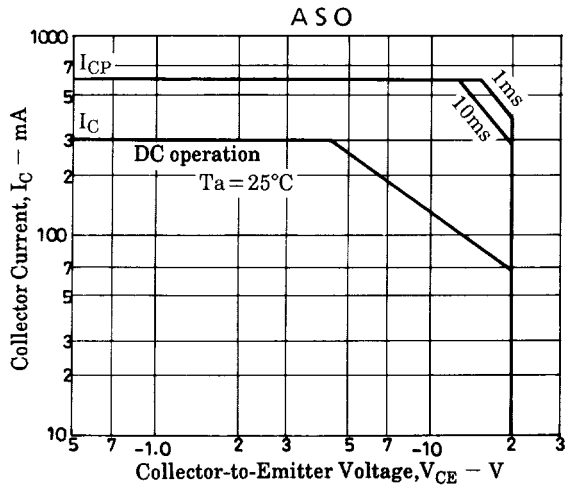
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# 2SC4504

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output Capacitance	$C_{ob}$	$V_{CB}=10V, f=1MHz$		2.9		pF
Reverse Transfer Capacitance	$C_{re}$	$V_{CB}=10V, f=1MHz$		2.6		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=100mA, I_B=10mA$	0.15	0.5		V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=100mA, I_B=10mA$	0.9	1.2		V



## 2SC4504



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