

**2SC4271**

## High-Definition CRT Display Video Output Applications

### Applications

- Wide-band amplifiers.
- High frequency drivers.

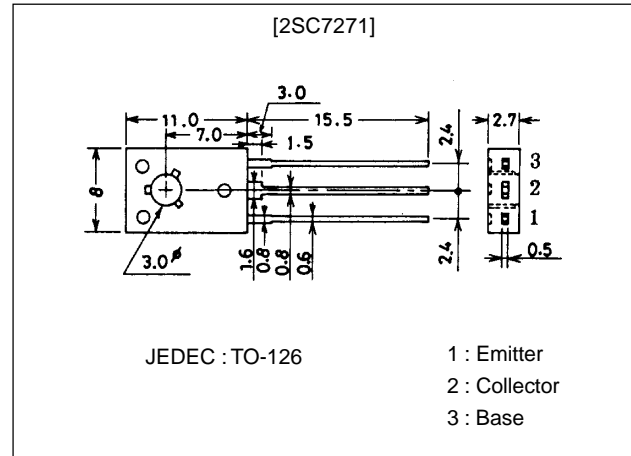
### Features

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

### Package Dimensions

unit:mm

2009B



### 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	$P_C$		1.2	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	$I_{CBO}$	$V_{CB}=20\text{V}, I_E=0$			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
Output Capacitance	$C_{ob}$	$V_{CB}=10\text{V}, f=1\text{MHz}$		3.9		pF
Reverse Transfer Capacitance	$C_{re}$	$V_{CB}=10\text{V}, f=1\text{MHz}$		3.2		pF

\* : The 2SC4271 is classified by 50mA  $h_{FE}$  as follows :

40	C	80	60	D	120	100	E	200
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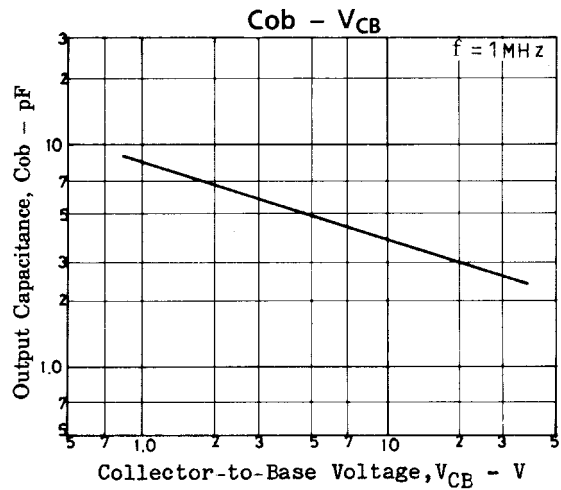
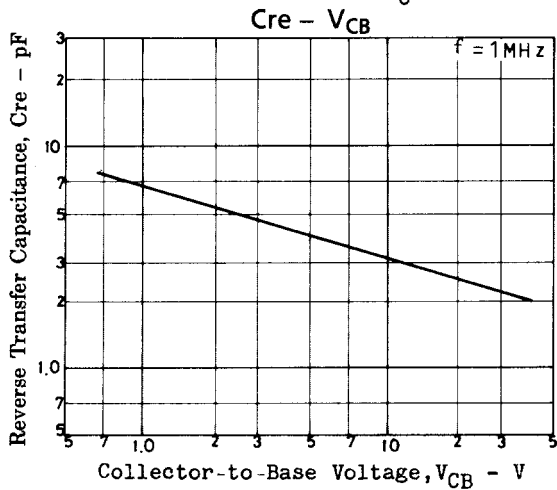
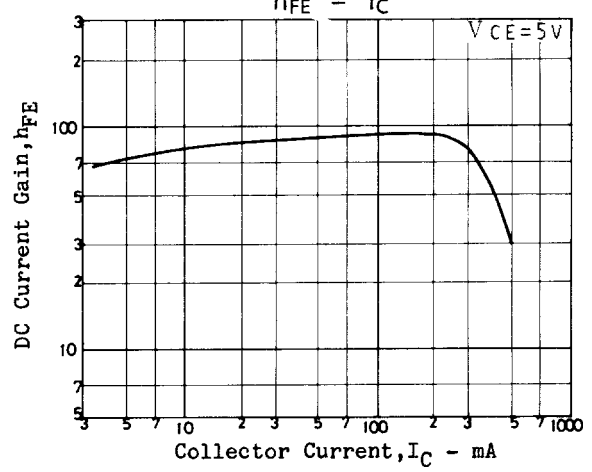
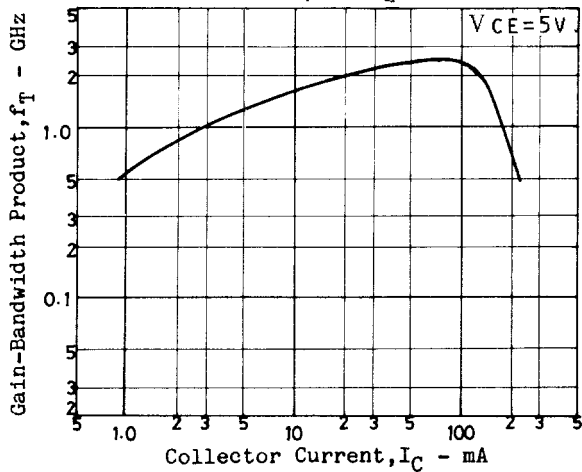
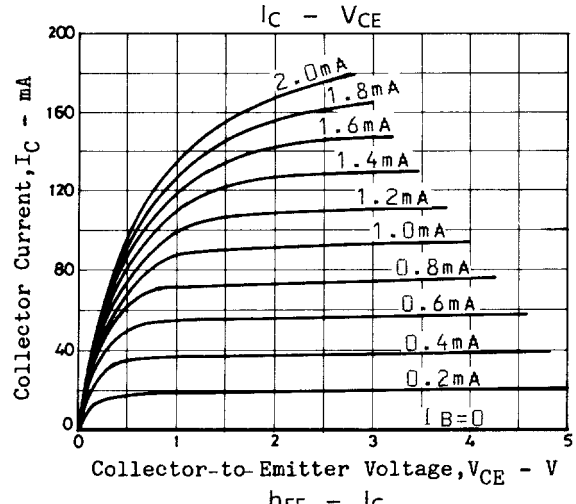
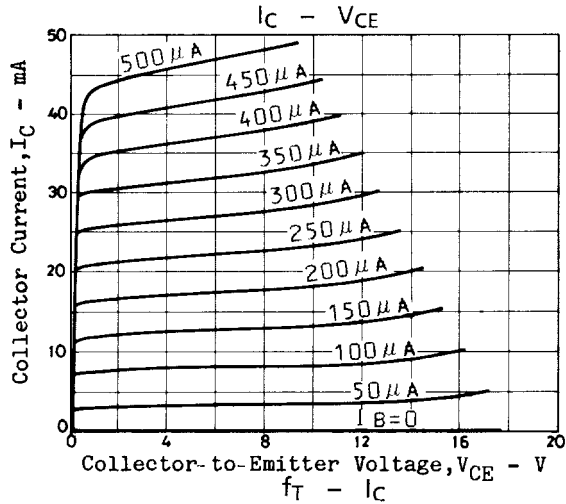
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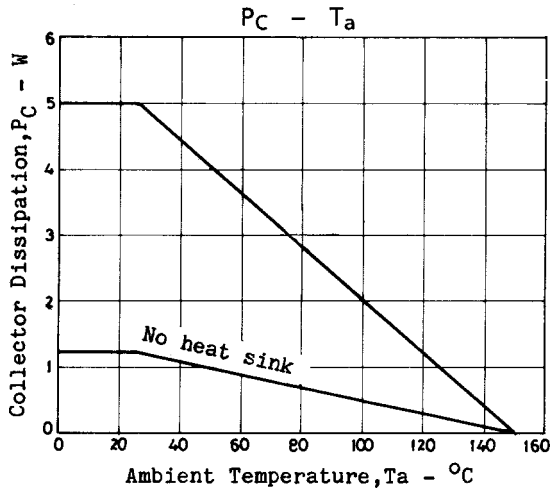
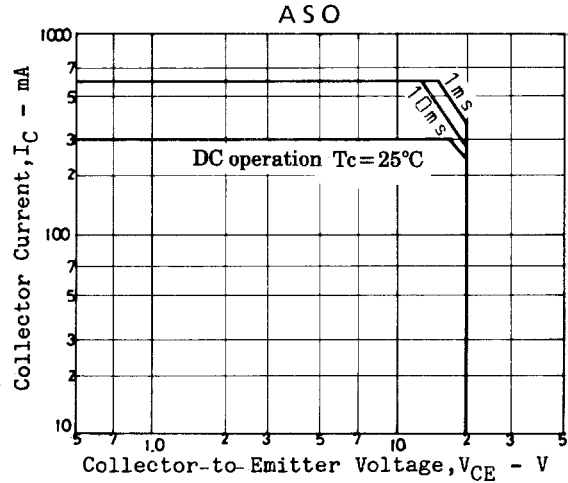
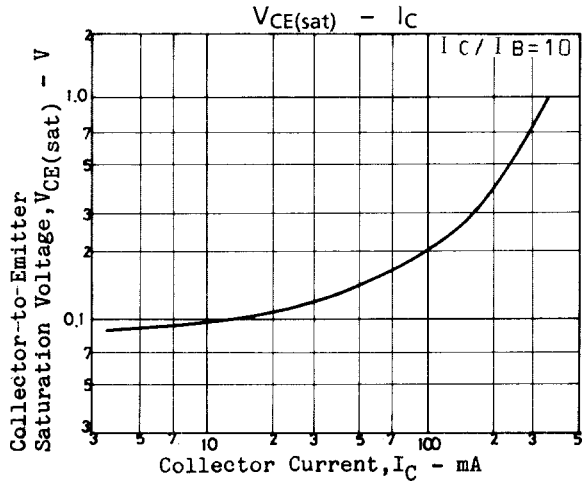
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=100mA, I_B=10mA$		0.2	0.6	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=100mA, I_B=10mA$		0.9	1.2	V



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