

**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.

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		300	mA
Collector Current (Pulse)	I_{CP}		600	mA
Collector Dissipation	P_C	$T_c=25^\circ\text{C}$	1.2	W
			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	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=2\text{V}, I_C=0$			5.0	μA
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 2SC4271 is classified by 50mA h_{FE} as follows :

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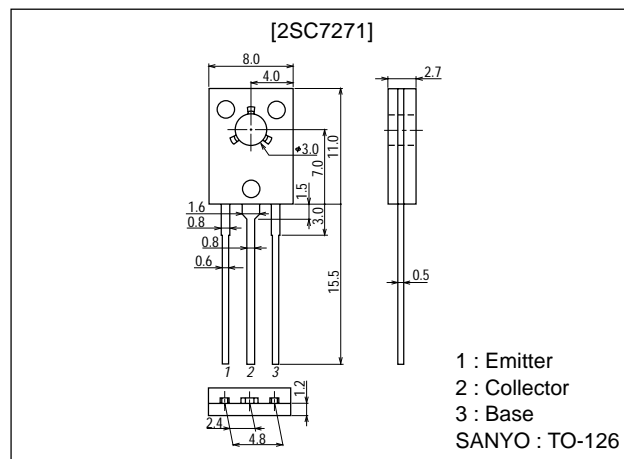
Rank	C	D	E
h_{FE}	40 to 80	60 to 120	100 to 200

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Package Dimensions

unit:mm

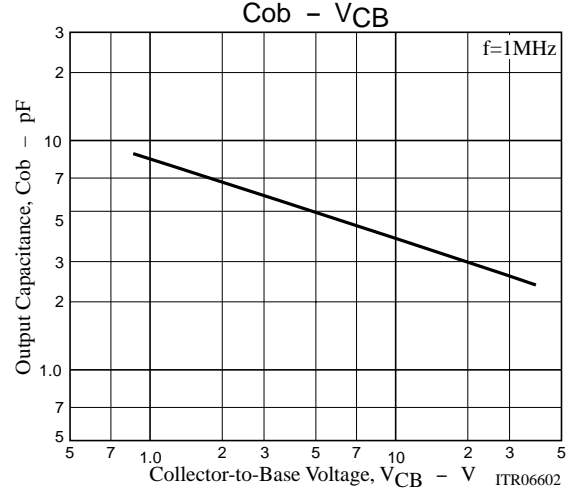
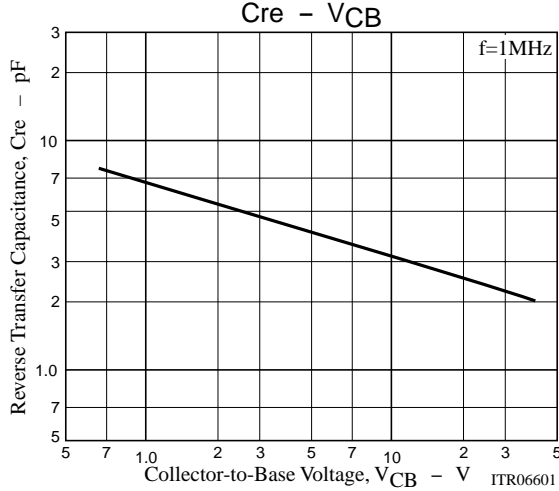
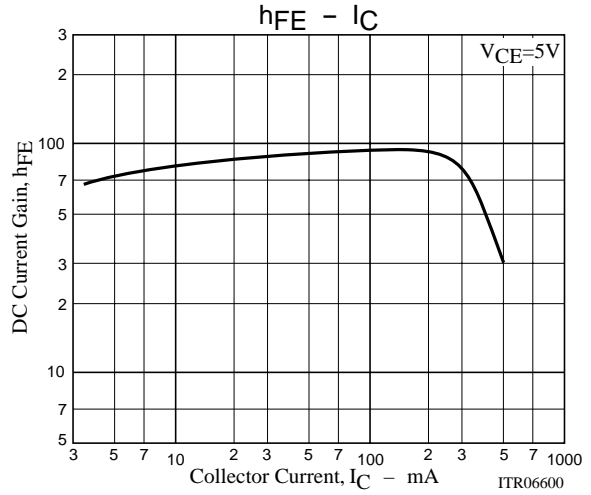
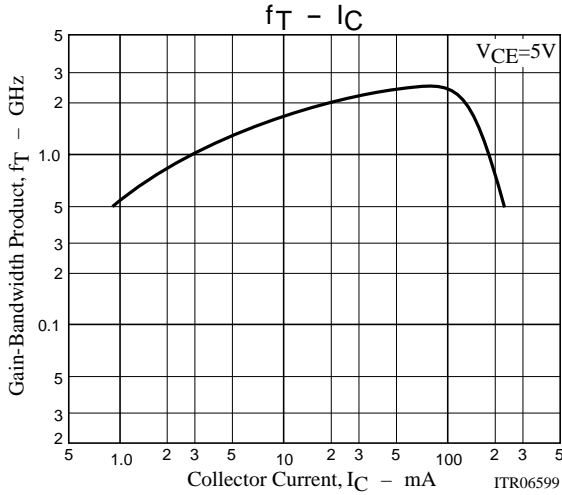
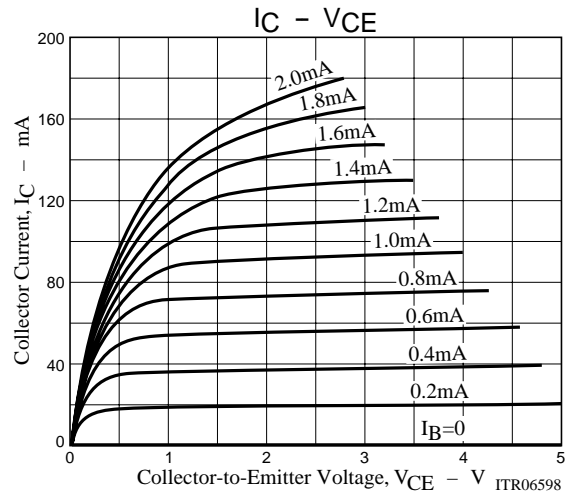
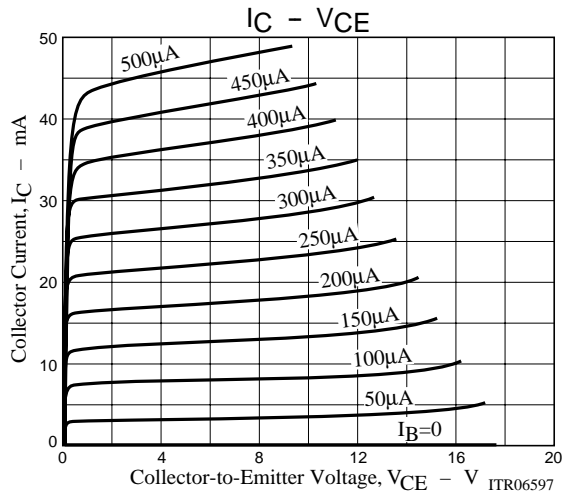
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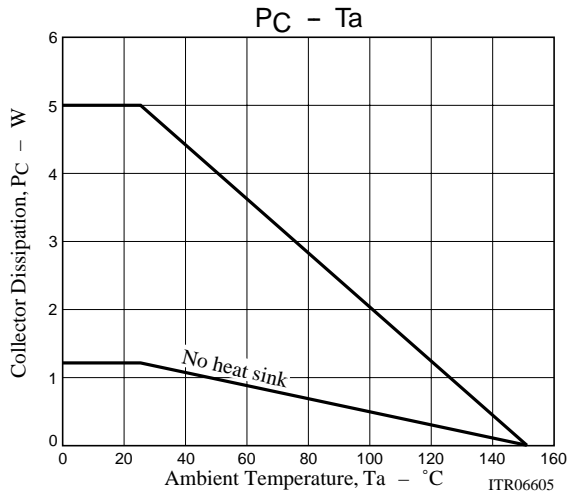
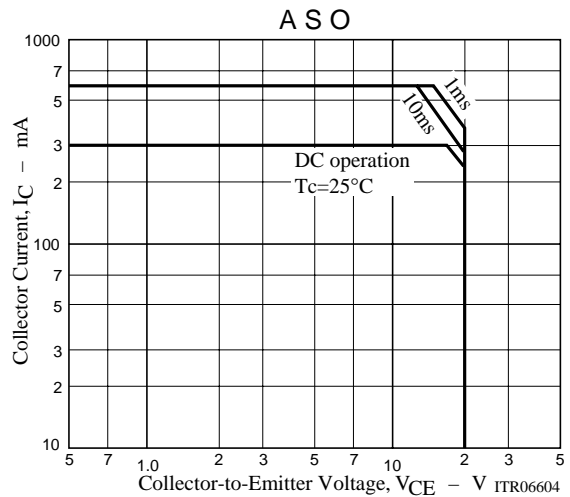
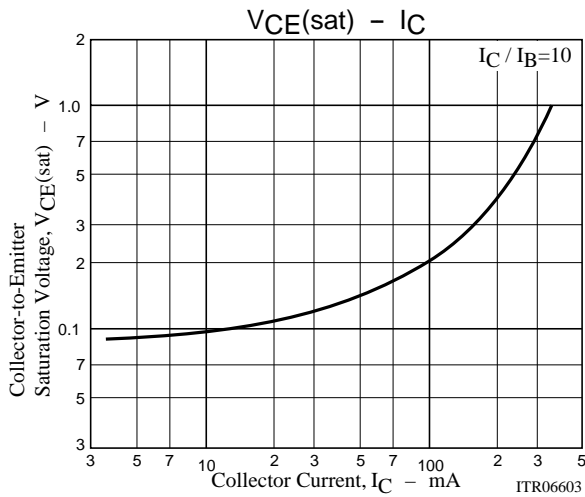
2SC4271

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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output Capacitance	C_{ob}	$V_{CB}=10V, f=1MHz$		3.9		pF
Reverse Transfer Capacitance	C_{re}	$V_{CB}=10V, f=1MHz$		3.2		pF
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



2SC4271



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