



## 2SA1777/2SC4623

### Very High-Definition CRT Display Video Output Applications

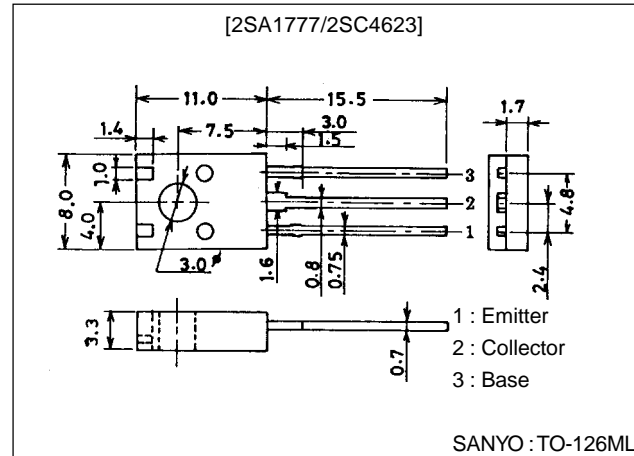
#### Features

- High  $f_T$  :  $f_T=400\text{MHz}$  (typ).
- High breakdown voltage :  $V_{CEO}\geq 250\text{V}$  (min).
- High current.
- Small reverse transfer capacitance and excellent high-frequency characteristic :  
 $C_{re}=3.4\text{pF}$  (NPN),  $4.2\text{pF}$  (PNP).
- Complementary pair with the 2SA1777/2SC4623.
- Adoption of FBET process.

#### Package Dimensions

unit:mm

2042B



() : 2SA1777

#### Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CBO}$		(-)250	V
Collector-to-Emitter Voltage	$V_{CEO}$		(-)250	V
Emitter-to-Base Voltage	$V_{EBO}$		(-)3	V
Collector Current	$I_C$		(-)300	mA
Collector Current (Pulse)	$I_{CP}$		(-)600	mA
Collector Dissipation	$P_C$		1.3	W
		$T_c=25^\circ\text{C}$	10	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	$I_{CBO}$	$V_{CB}=(-)150\text{V}$ , $I_E=0$			(-)0.1	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=(-)2\text{V}$ , $I_C=0$			(-)1.0	$\mu\text{A}$
DC Current Gain	$h_{FE1}$	$V_{CE}=(-)10\text{V}$ , $I_C=(-)50\text{mA}$	40*		200*	
	$h_{FE2}$	$V_{CE}=(-)10\text{V}$ , $I_C=(-)250\text{mA}$	20			
Gain-Bandwidth Product	$f_T$	$V_{CE}=(-)30\text{V}$ , $I_C=(-)100\text{mA}$		400		MHz
Output Capacitance	$C_{ob}$	$V_{CB}=(-)30\text{V}$ , $f=1\text{MHz}$		(5.0)		pF
				4.2		pF
Reverse Transfer Capacitance	$C_{re}$	$V_{CB}=(-)30\text{V}$ , $f=1\text{MHz}$		(4.2)		pF
				3.4		pF

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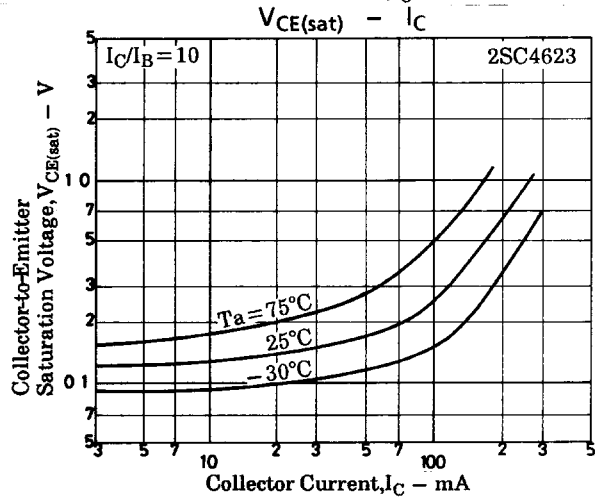
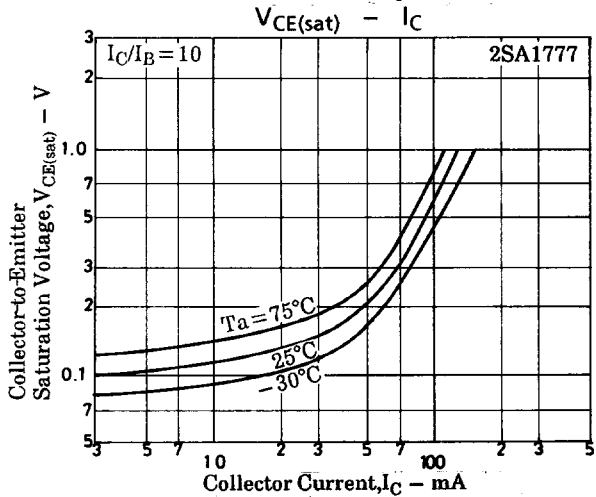
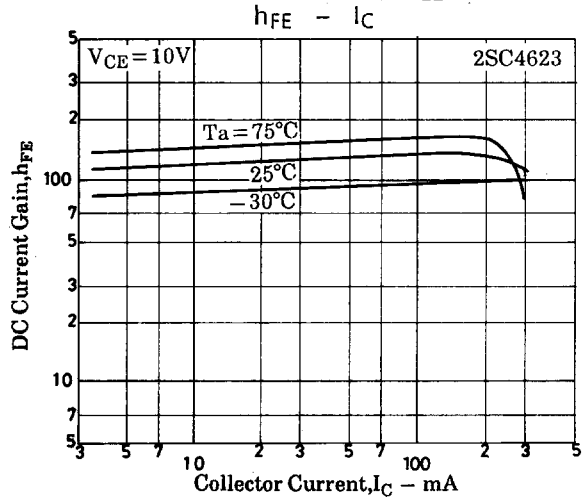
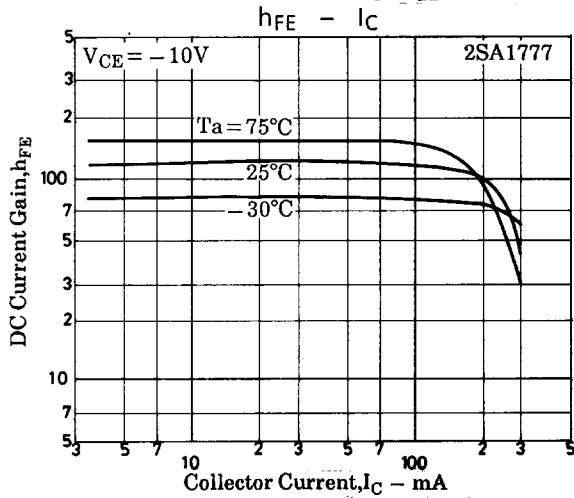
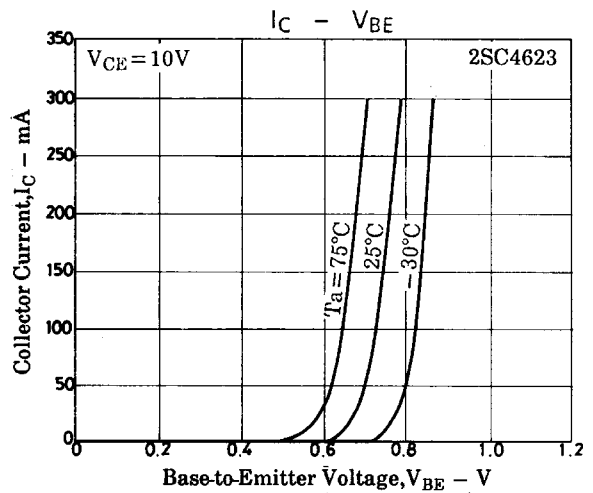
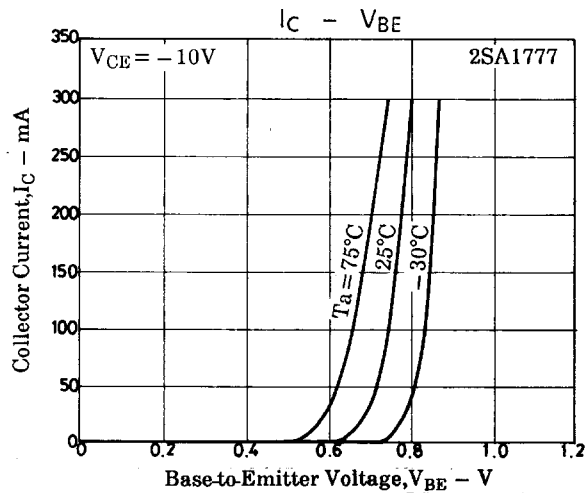
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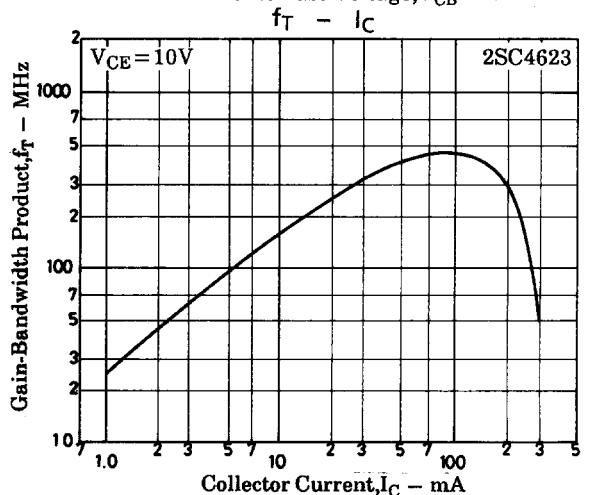
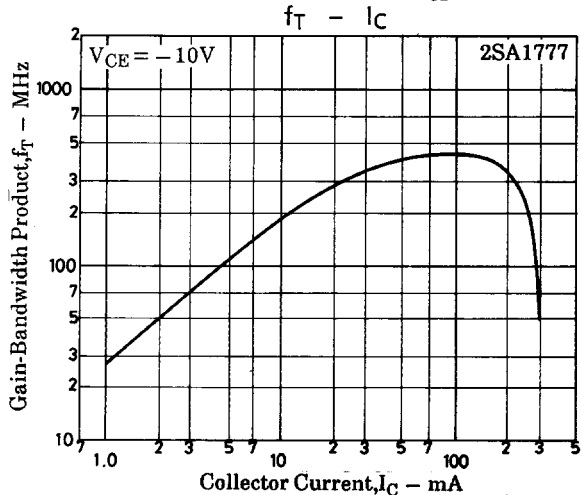
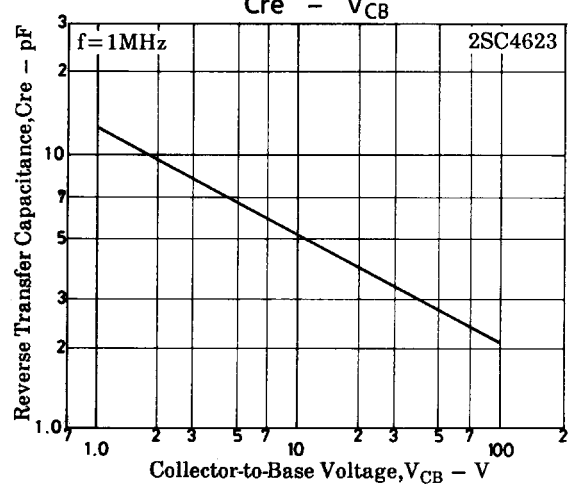
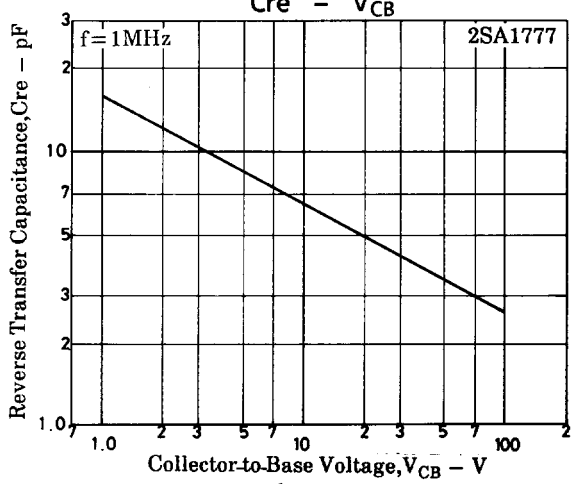
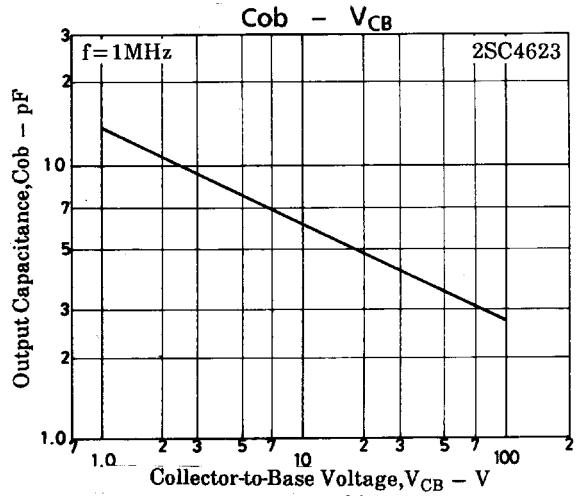
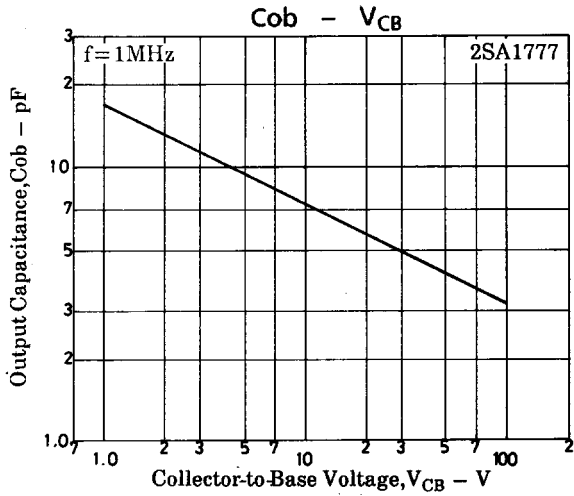
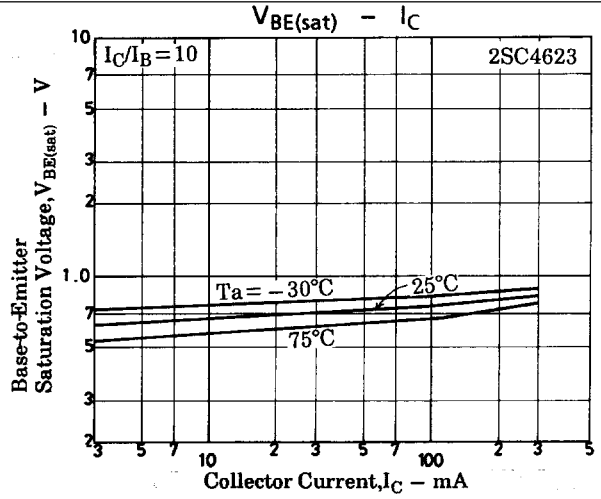
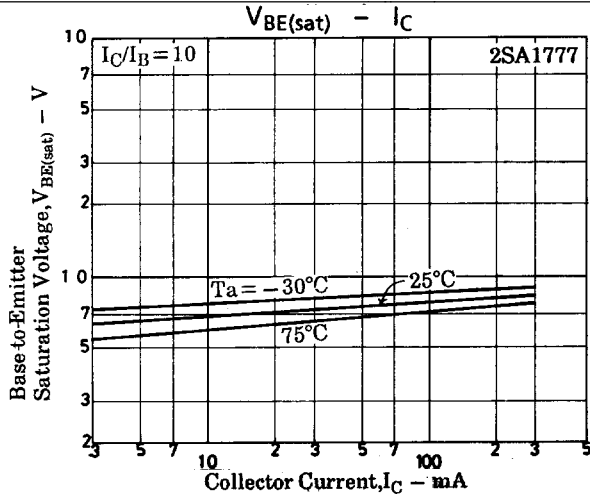
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)50\text{mA}, I_B=(-)5\text{mA}$			(-) $1.0$	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)50\text{mA}, I_B=(-)5\text{mA}$			(-) $1.0$	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu\text{A}, I_E=0$	(-) $250$			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1\text{mA}, R_{BE}=\infty$	(-) $250$			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=(-)10\mu\text{A}, I_C=0$	(-) $3$			V

\* : The 2SA1777/2SC4623 are classified by 50mA  $h_{FE}$  as follows :

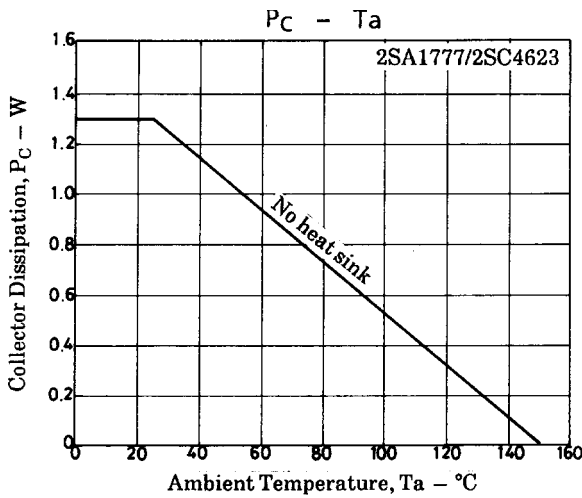
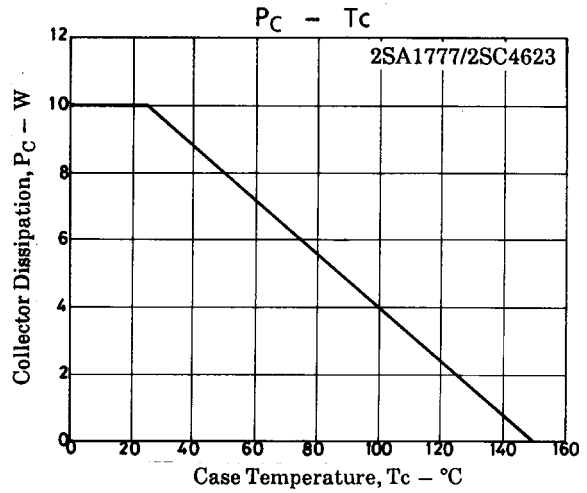
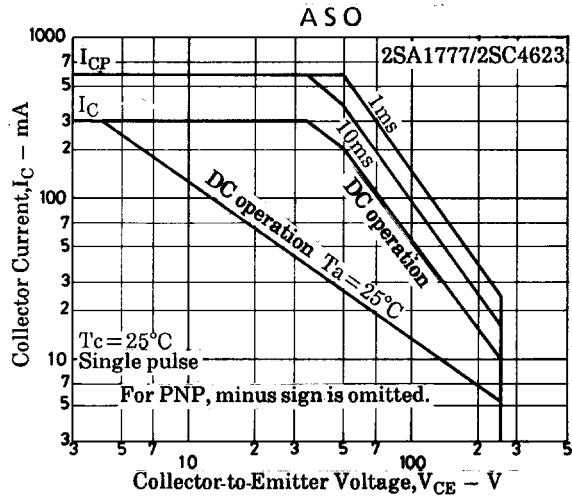
40	C	80	60	D	120	100	E	200
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