



2SA1777/2SC4623

Very High-Definition CRT Display Video Output Applications

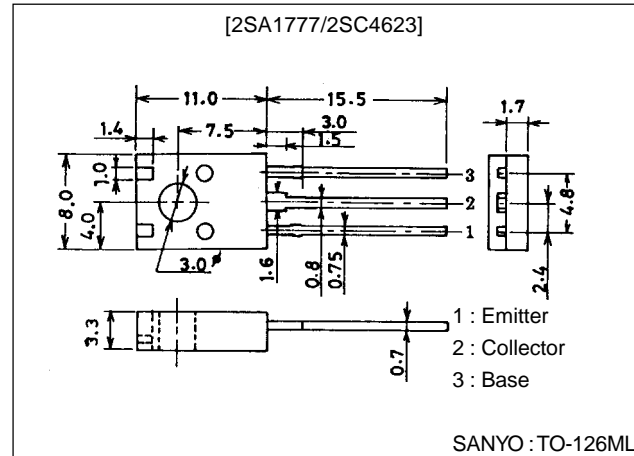
Features

- 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), 4.2pF (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	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=(-)2\text{V}$, $I_C=0$			(-)1.0	μA
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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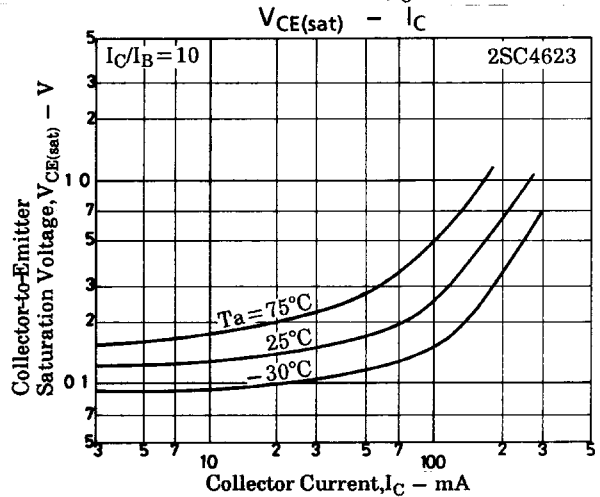
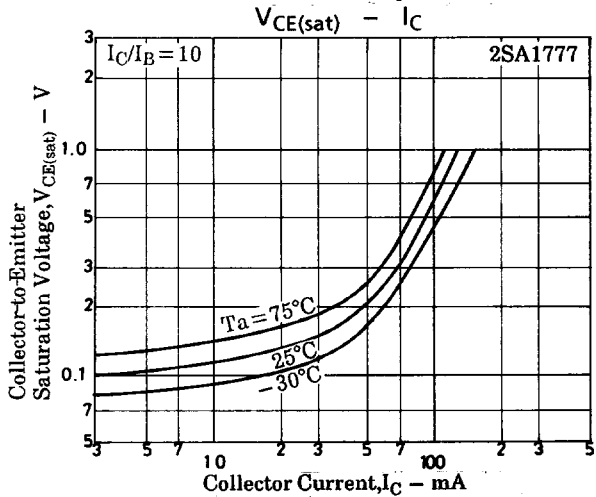
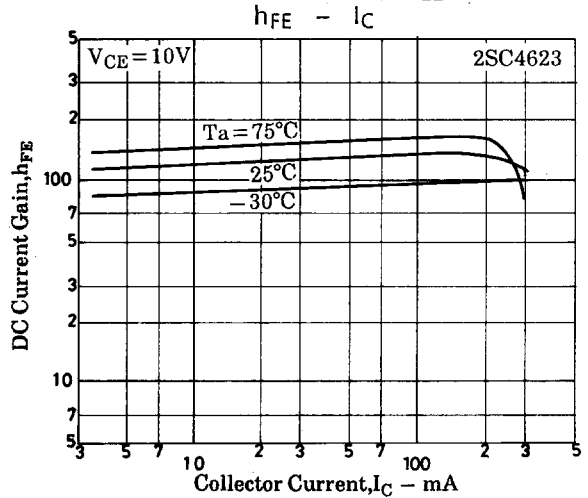
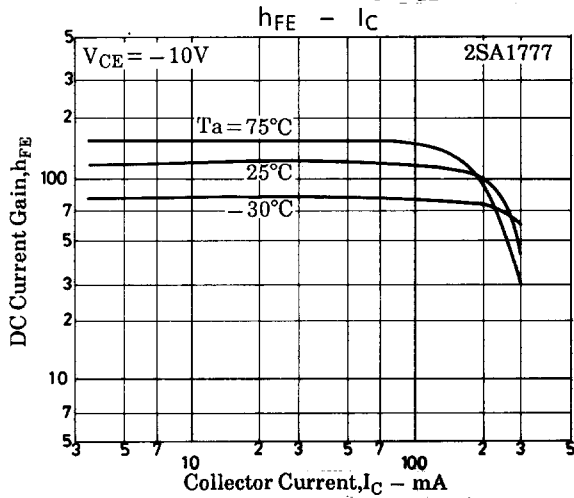
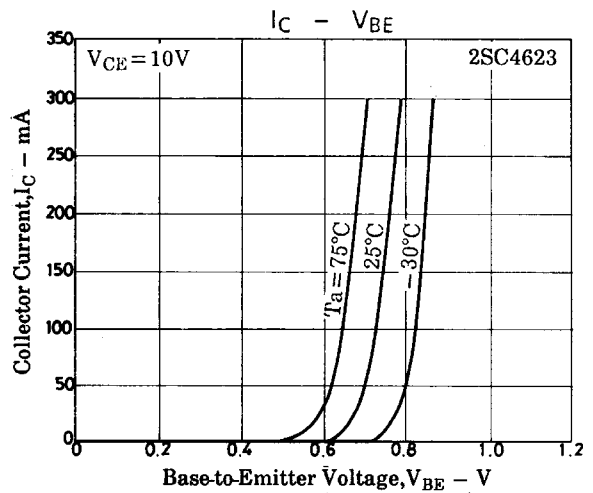
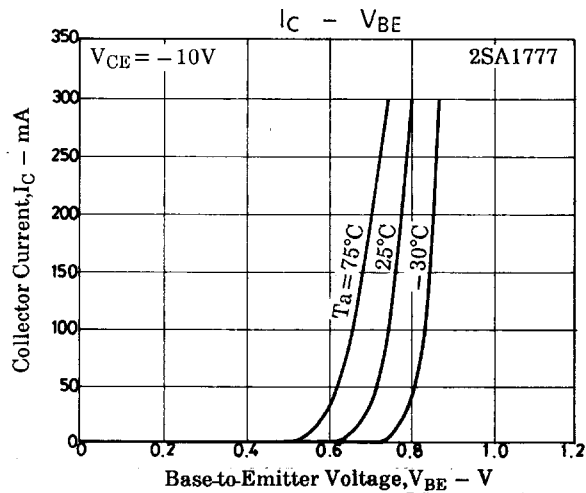
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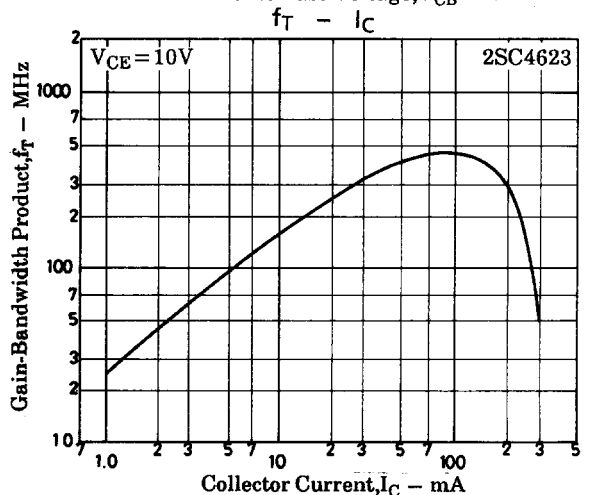
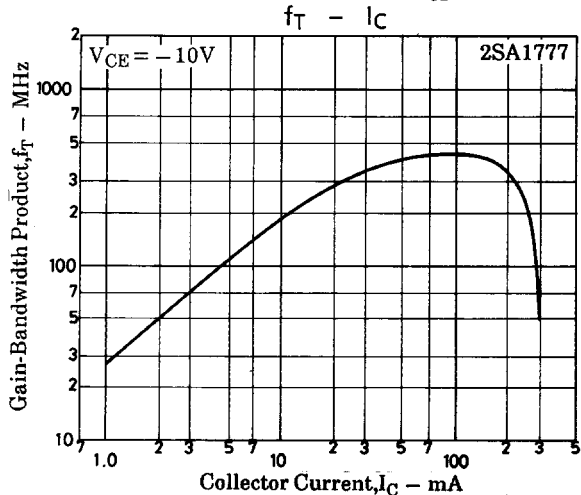
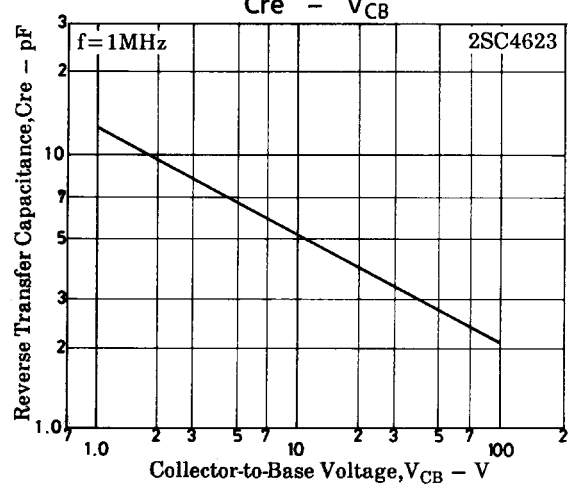
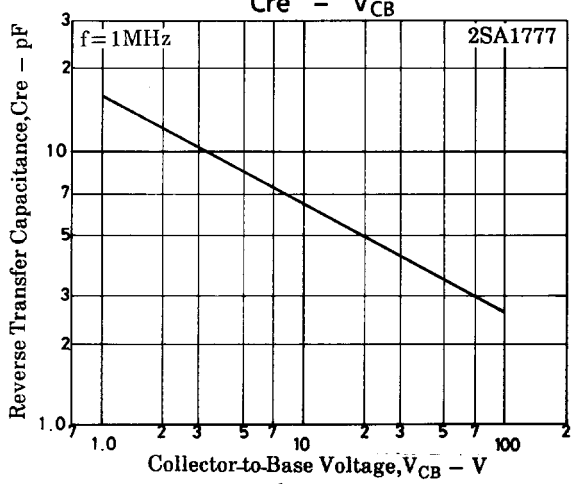
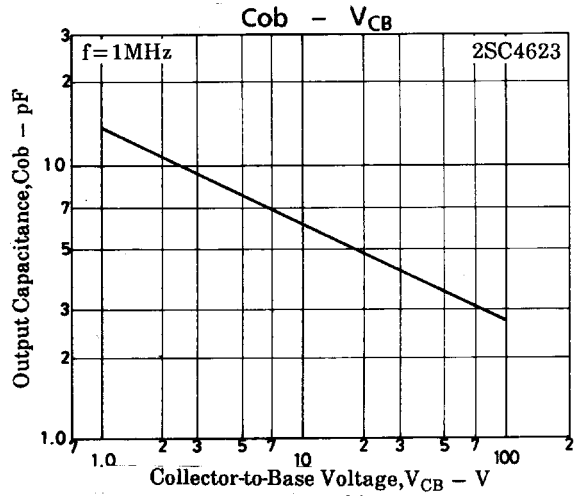
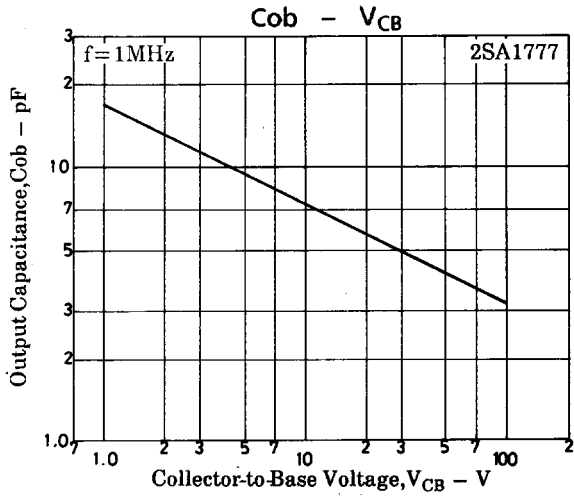
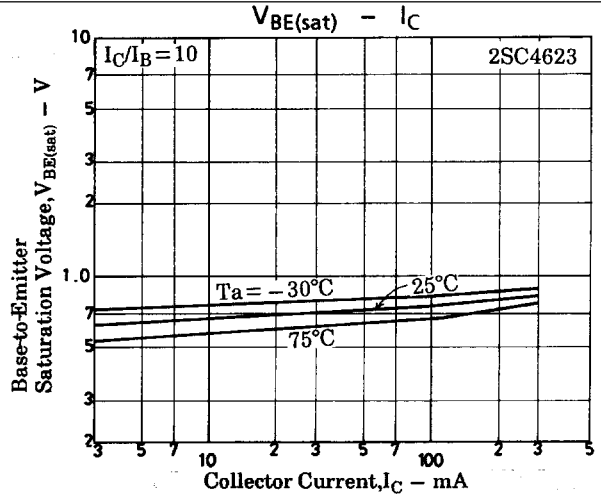
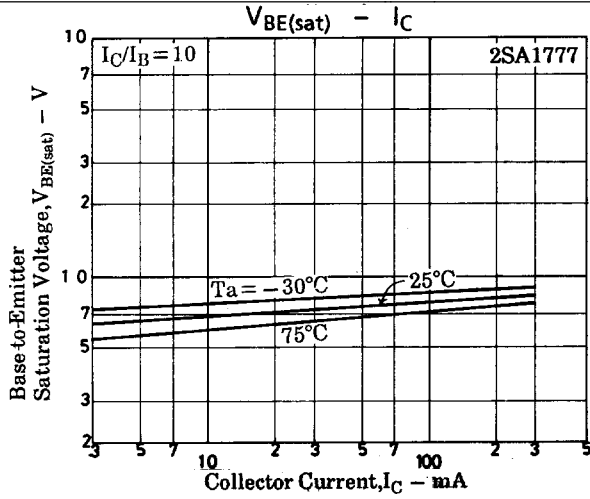
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)50\text{mA}, I_B=(-)5\text{mA}$			(-) 1.0	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)50\text{mA}, I_B=(-)5\text{mA}$			(-) 1.0	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu\text{A}, I_E=0$	(-) 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 :

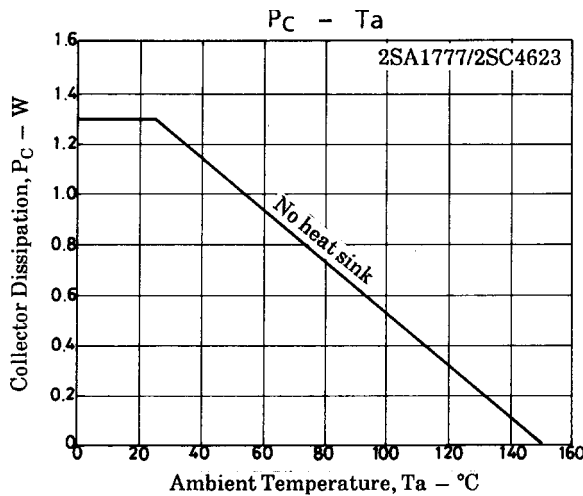
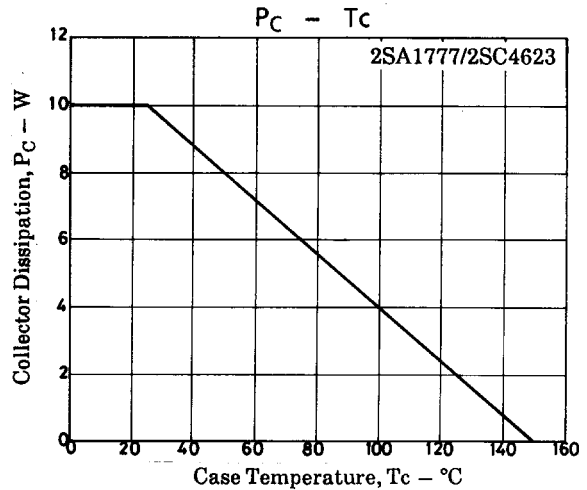
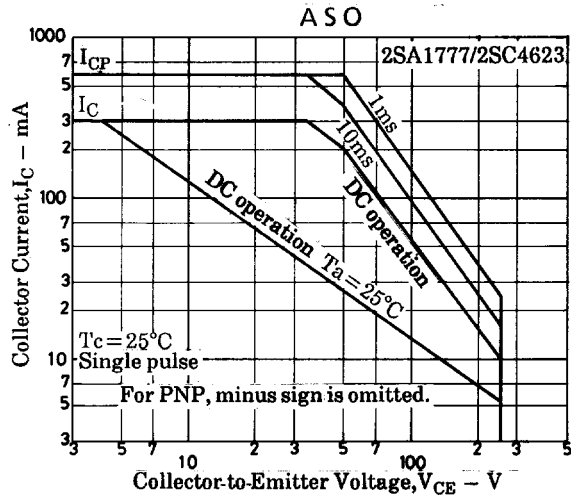
40	C	80	60	D	120	100	E	200
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