



## 2SA1696/2SC4473

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

#### Applications

- High-definition CRT display video output, wide-band amplifier.

#### Features

- High  $f_T$  :  $f_T=500\text{MHz}$ .
- High breakdown voltage :  $V_{CEO}=120\text{V min.}$
- Small reverse transfer capacitance and excellent high frequency characteristic :  
 $C_{re}=2.7\text{pF/NPN, } 4.0\text{pF/PNP.}$
- Complementary PNP and NPN types.
- Adoption of FBET process.
- Micaless type.

( ) : 2SA1696

#### Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CBO}$		(-120	V
Collector-to-Emitter Voltage	$V_{CEO}$		(-120	V
Emitter-to-Base Voltage	$V_{EBO}$		(-3	V
Collector Current	$I_C$		(-400	mA
Collector Current (Pulse)	$I_{CP}$		(-600	mA
Collector Dissipation	$P_C$		1.8	W
		$T_c=50^\circ\text{C}$	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	$h_{FE1}$	$V_{CE}=(-)10\text{V, } I_C=(-)10\text{mA}$	40*		320*	
	$h_{FE2}$	$V_{CE}=(-)10\text{V, } I_C=(-)100\text{mA}$	20			
Gain-Bandwidth Product	$f_T$	$V_{CE}=(-)30\text{V, } I_C=(-)50\text{mA}$		300		MHz

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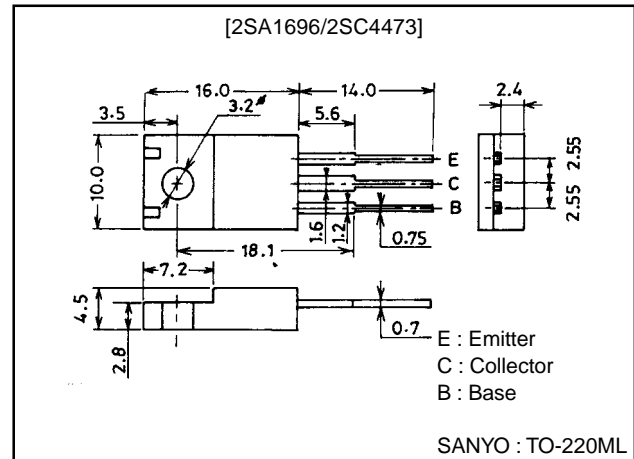
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#### Package Dimensions

unit:mm

2041



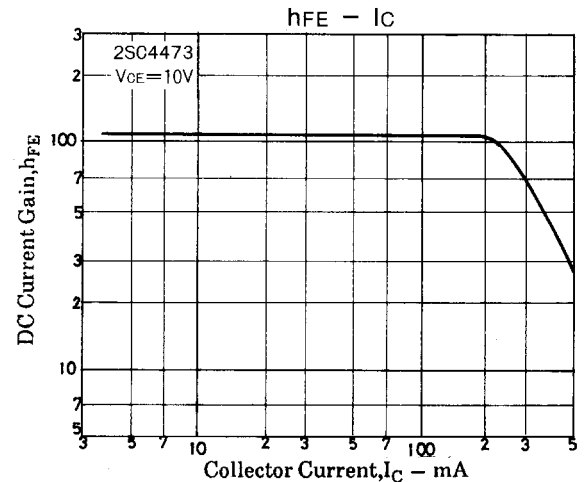
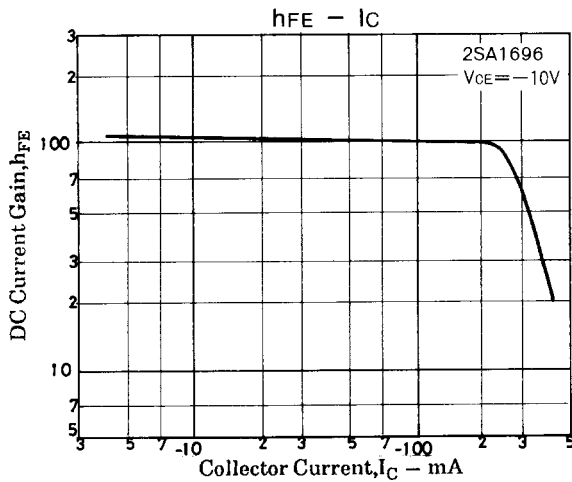
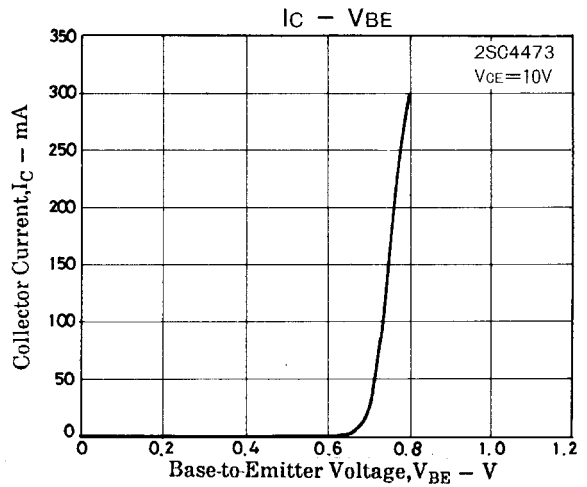
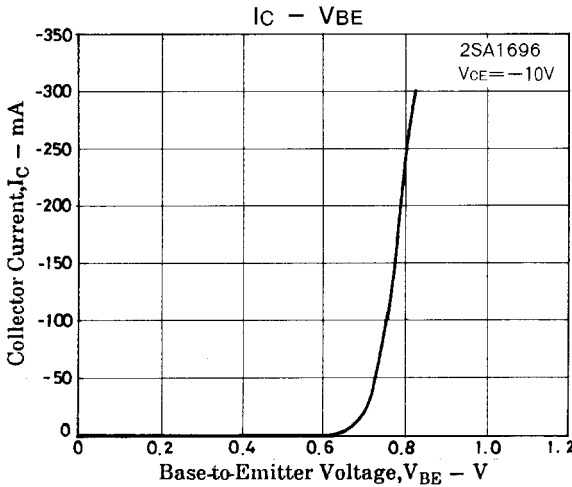
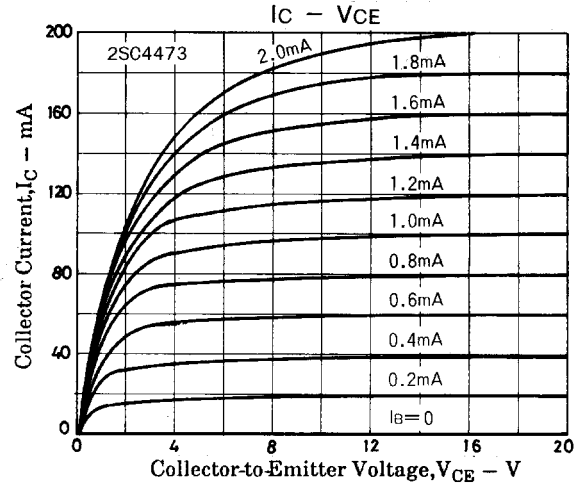
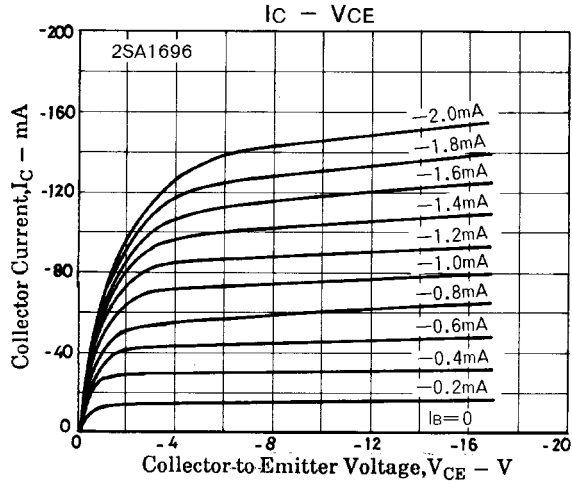
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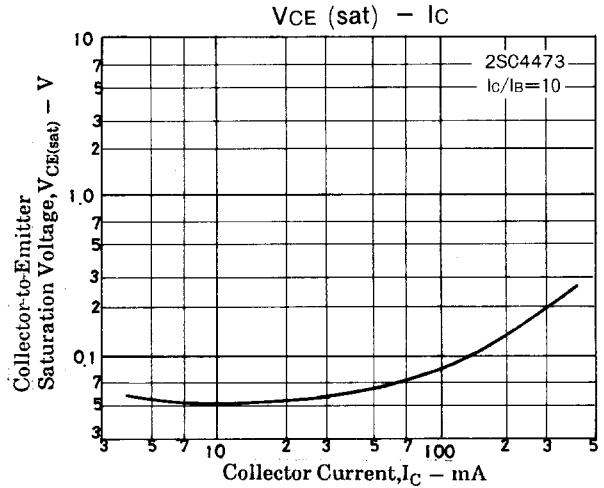
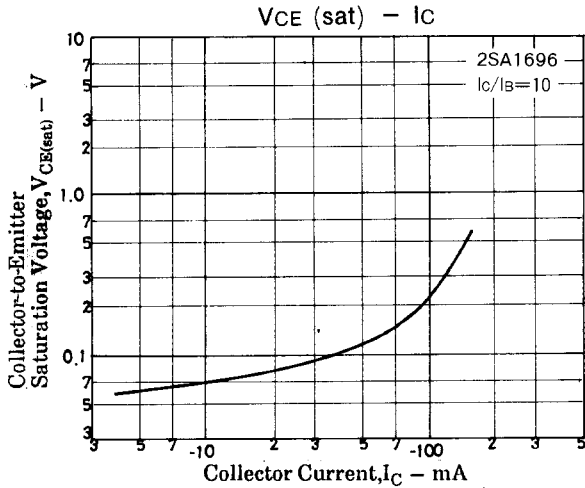
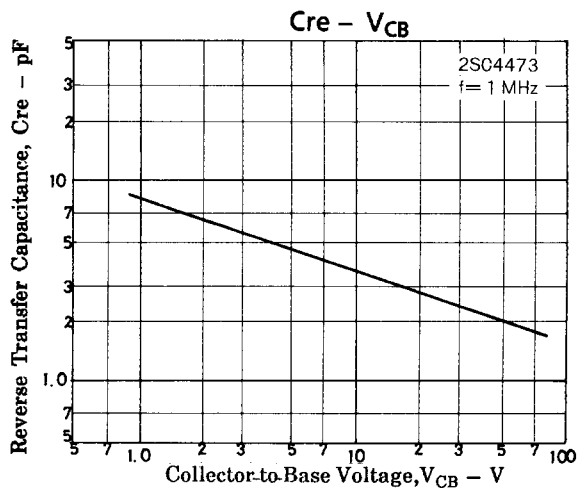
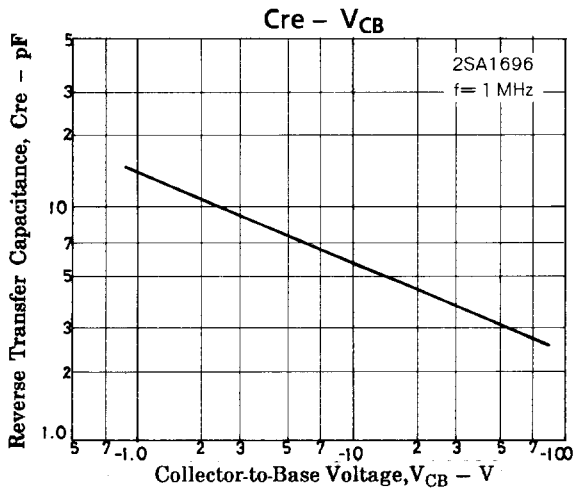
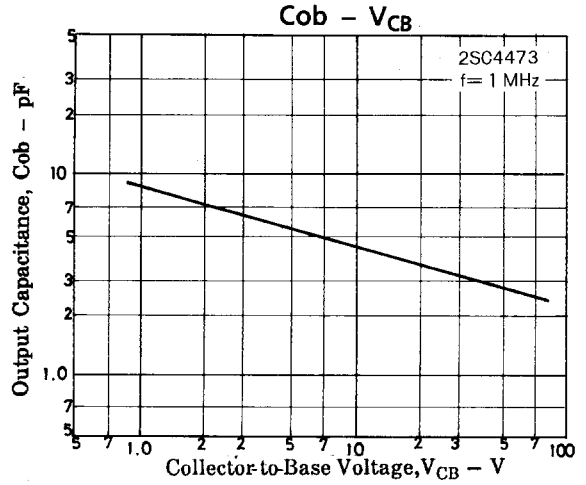
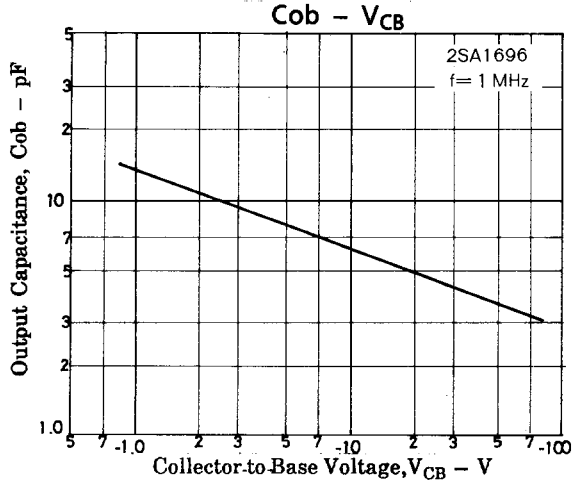
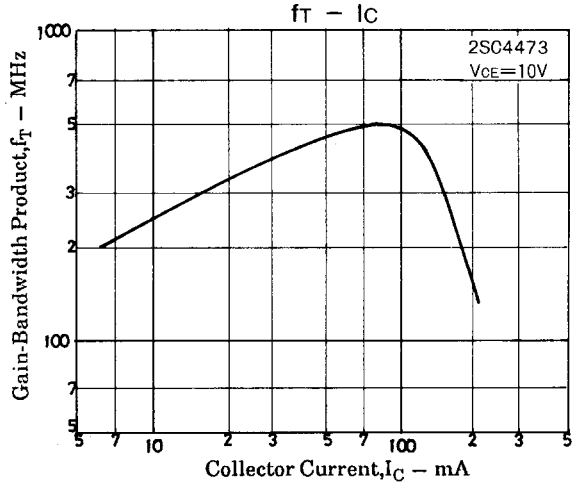
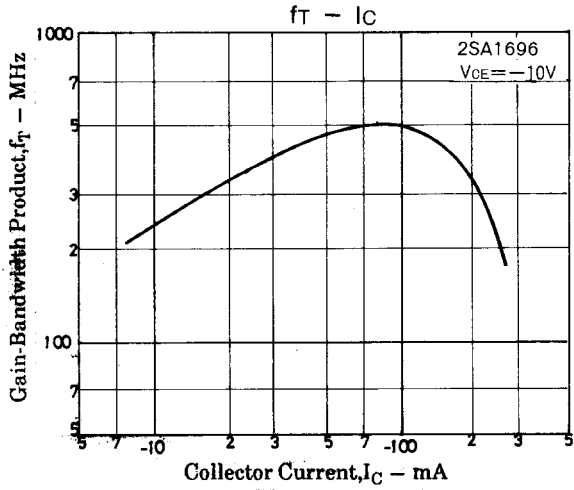
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output Capacitance	$C_{ob}$	$V_{CB}=(-)30V, f=1MHz$		3.1		pF
Reverse Transfer Capacitance	$C_{re}$	$V_{CB}=(-)30V, f=1MHz$		(4.4)		pF
				2.7		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)50mA, I_B=(-)5mA$			(-1.0)	V
Emitter-to-Base Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)50mA, I_B=(-)5mA$			(-1.0)	V

\*  $h_{FEI}$  : The 2SA1696/2SC4473 are classified by 50mA  $h_{FE}$  as follows :

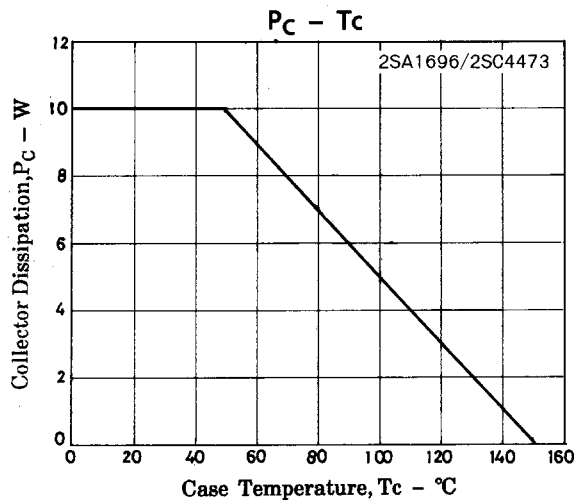
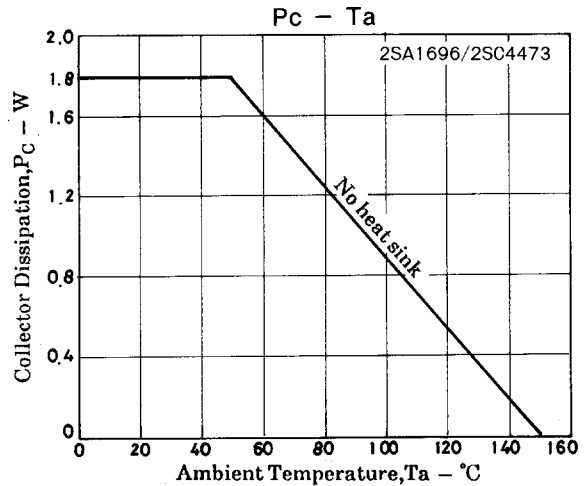
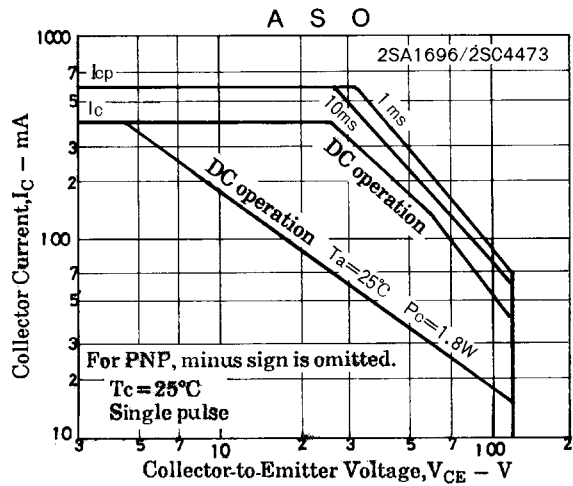
40 C 80	60 D 120	100 E 200	160 F 320
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