

**SANYO****2SA1403/2SC3597****Ultrahigh-Definition CRT Display  
Video Output Applications****Applications**

- Ultrahigh-definition CRT display.
- Video output.
- Color TV chroma output.
- Wide-band amp.

**Features**

- High  $f_T$ :  $f_T$  typ=800MHz.
- Small reverse transfer capacitance and excellent high-frequency characteristic  
:  $C_{re}$ =2.9pF (NPN), 4.6pF (PNP).
- Complementary pair with the 2SA1403/2SC3597.
- Adoption of FBET process.

(): 2SA1403

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CB0}$		(-)80	V
Collector-to-Emitter Voltage	$V_{CEO}$		(-)60	V
Emitter-to-Base Voltage	$V_{EBO}$		(-)4	V
Collector Current	$I_C$		(-)500	mA
Collector Current (Pulse)	$I_{CP}$		(-)1	A
Collector Dissipation	$P_C$	$T_c=25^\circ\text{C}$	1.2	W
			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	$I_{CBO}$	$V_{CB}=(-)60\text{V}$ , $I_E=0$			(-)0.1	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=(-)2\text{V}$ , $I_C=0$			(-)0.1	$\mu\text{A}$
DC Current Gain	$h_{FE1}$	$V_{CE}=(-)10\text{V}$ , $I_C=(-)50\text{mA}$	40*		320*	
	$h_{FE2}$	$V_{CE}=(-)10\text{V}$ , $I_C=(-)400\text{mA}$	20			
Gain-Bandwidth Product	$f_T$	$V_{CE}=(-)10\text{V}$ , $I_C=(-)100\text{mA}$		800		MHz

\*: The 2SA1403/2SC3597 are classified by 50mA  $h_{FE}$  as follows :

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Rank	C	D	E	F
$h_{FE}$	40 to 80	60 to 120	100 to 200	160 to 320

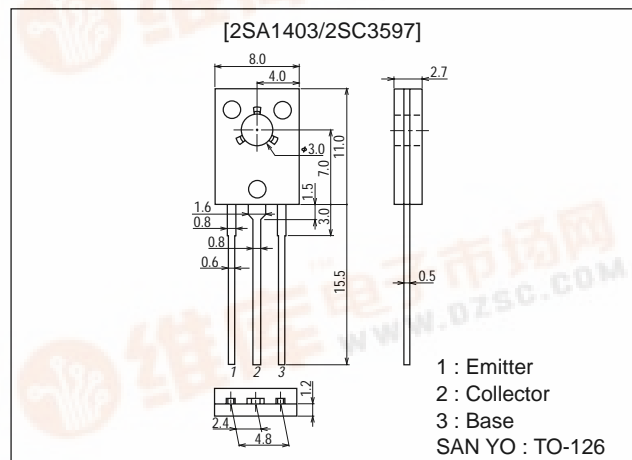
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■ SANYO assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all SANYO products described or contained herein.

**Package Dimensions**

unit:mm

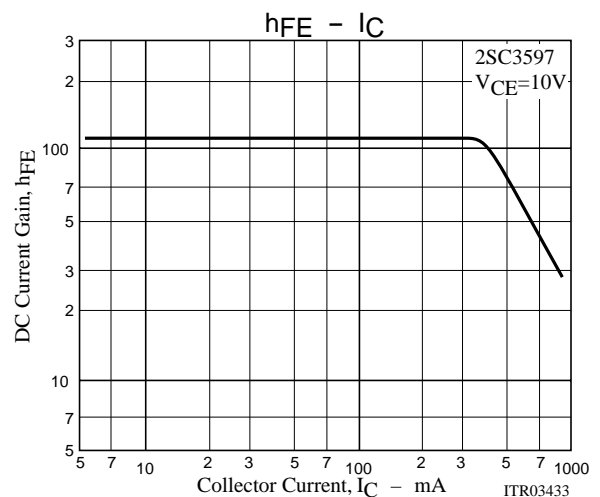
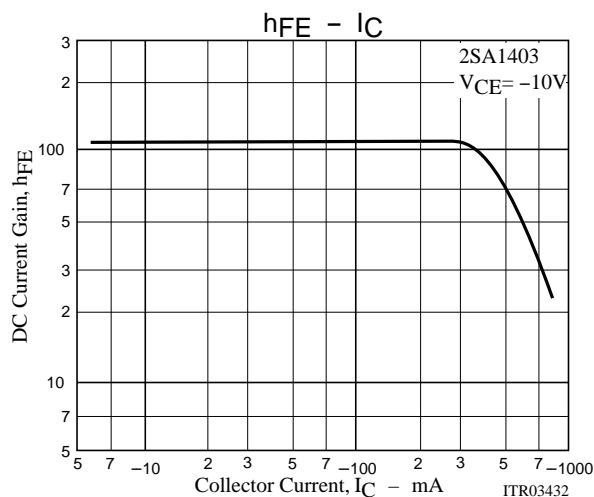
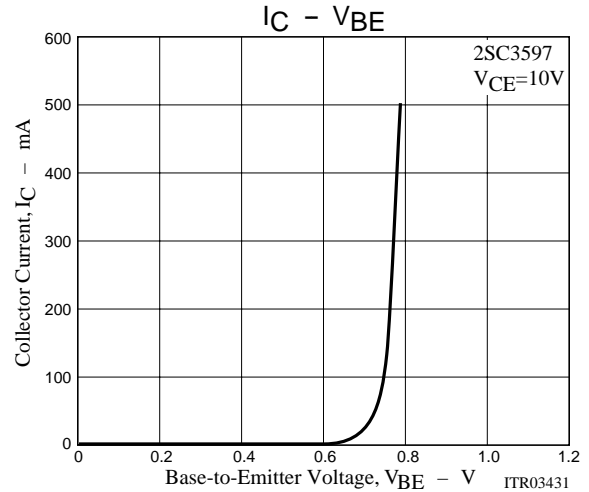
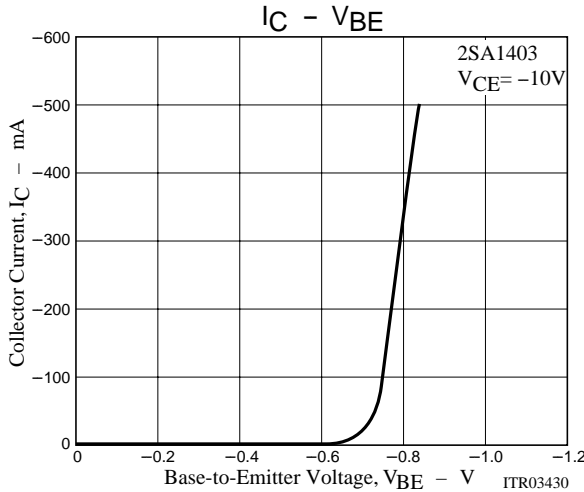
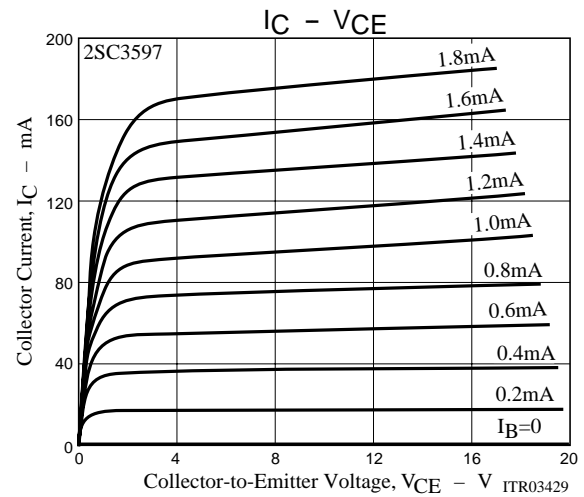
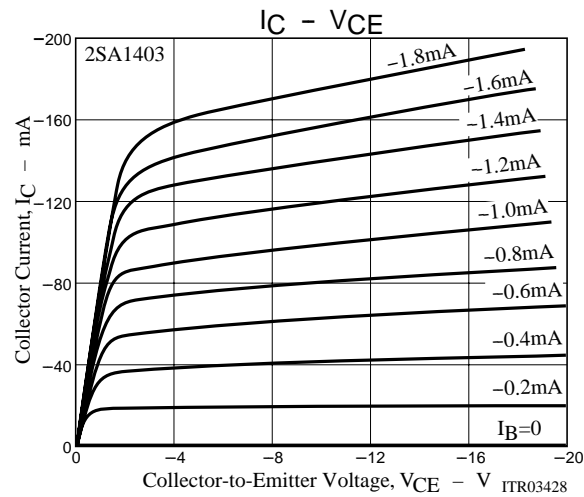
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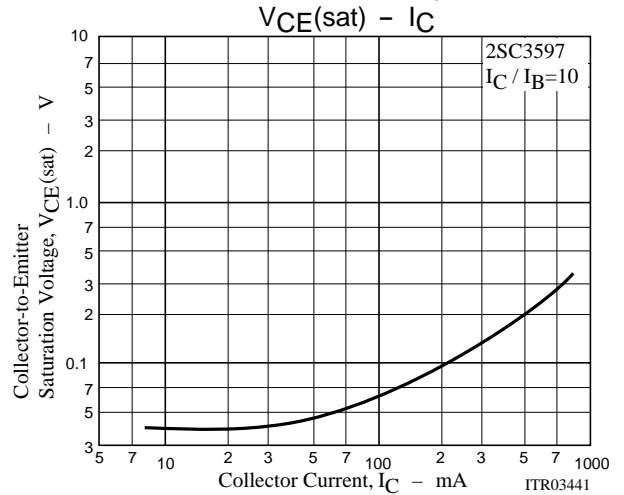
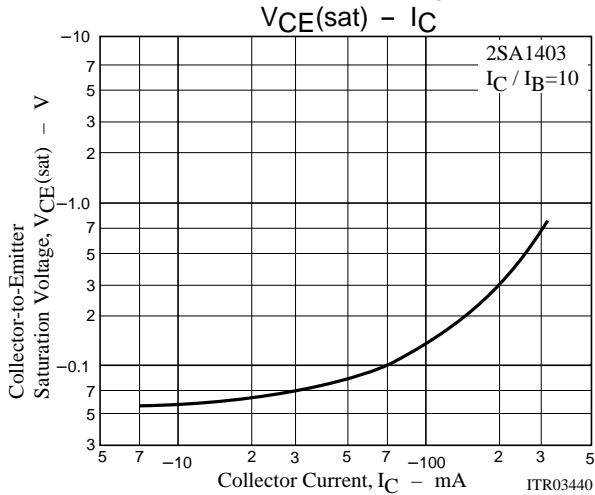
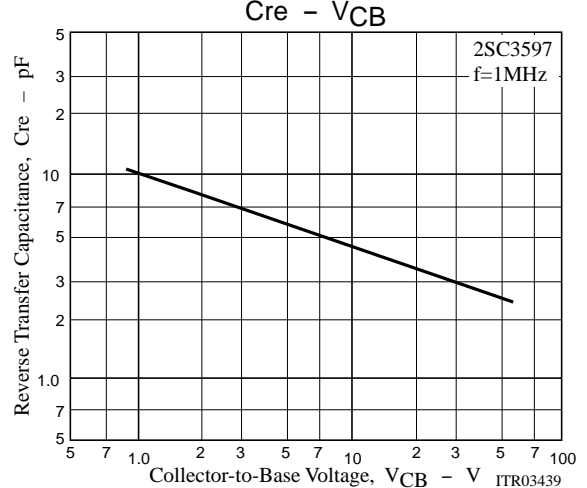
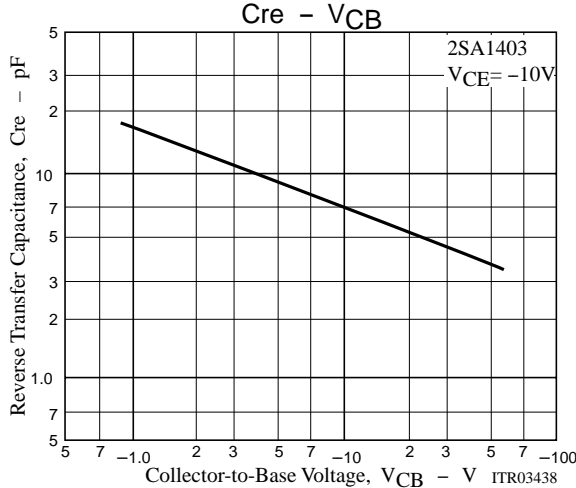
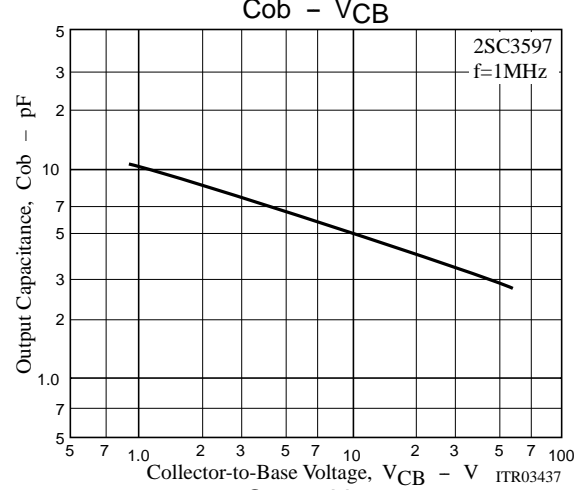
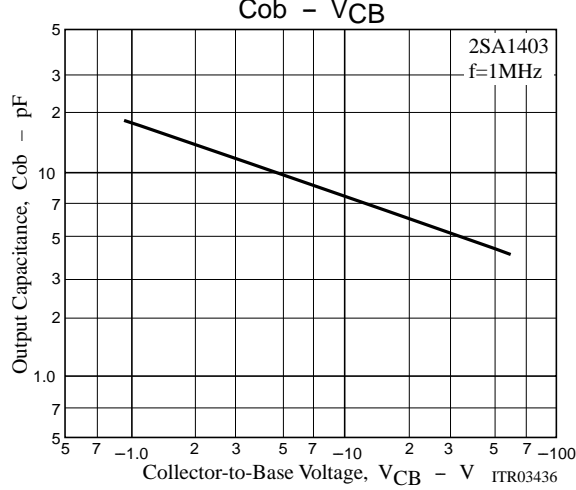
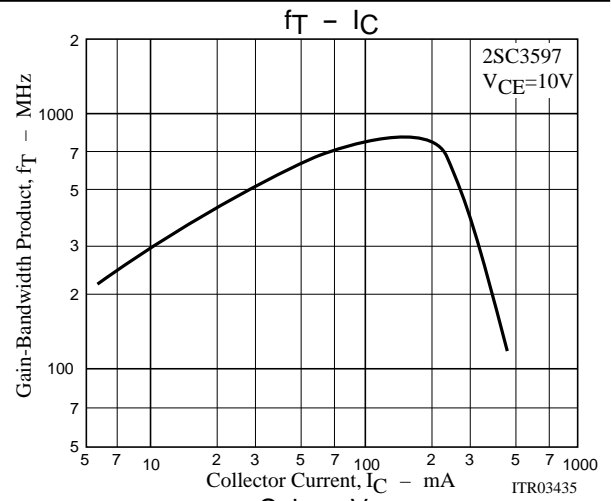
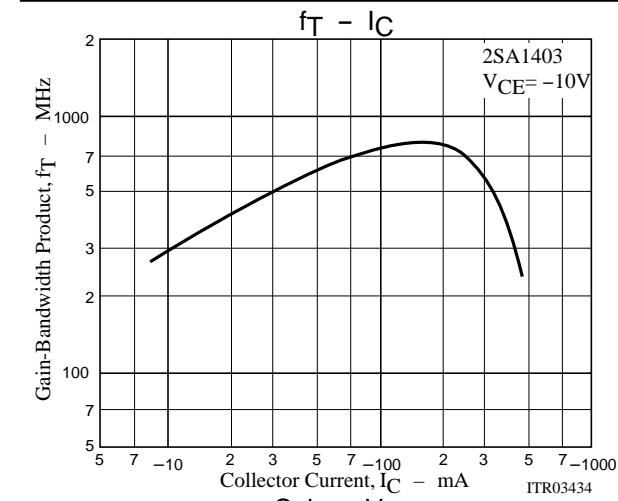
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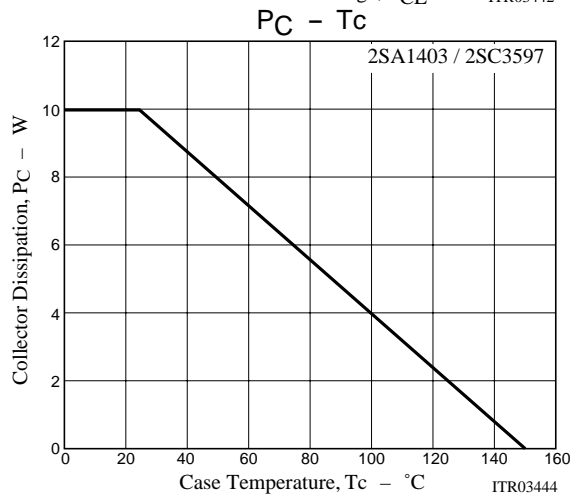
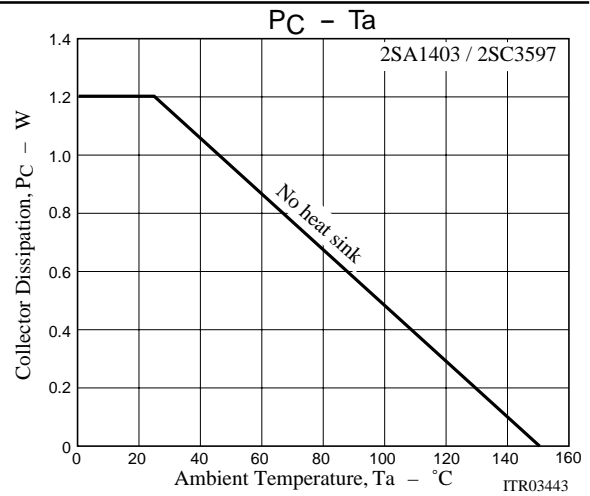
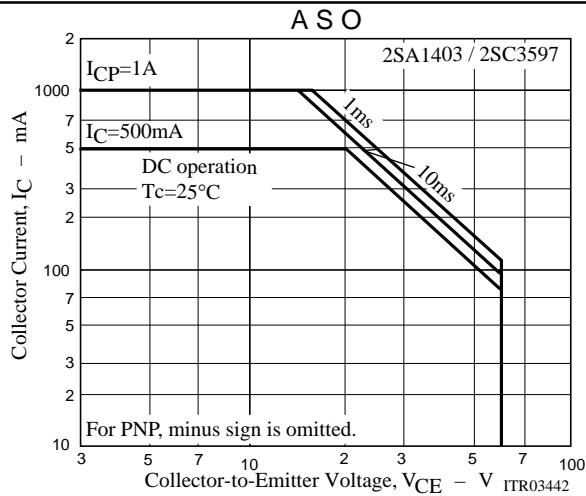
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)100mA, I_B=(-)10mA$			0.6	V
					(-0.8)	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)100mA, I_B=(-)10mA$			(-1.0)	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu A, I_E=0$	(-)80			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1mA, R_{BE}=\infty$	(-)60			V
Emitter-to-Base Breakdown Votage	$V_{(BR)EBO}$	$I_E=(-)100\mu A, I_C=0$	(-)4			V
Output Capacitance	$C_{ob}$	$V_{CB}=(-)30V, f=1MHz$		3.4		pF
				(5.2)		pF
Reverse Transfer Capacitance	$C_{re}$	$V_{CB}=(-)30V, f=1MHz$		2.9		pF
				(4.6)		pF



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