



2SA1404/2SC3598

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=500MHz.
- High breakdown voltage : $V_{CEO} \geq 120V$.
- Small reverse transfer capacitance and excellent high-frequency characteristic
: $C_{re} = 1.6pF$ (NPN), $2.1pF$ (PNP).
- Complementary pair with the 2SA1404/2SC3598.
- Adoption of FBET process.

() : 2SA1404

Specifications

Absolute Maximum Ratings at $T_a = 25^\circ C$

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}		(-4)	V
Collector Current	I_C		(-200)	mA
Collector Current (Pulse)	I_{CP}		(-400)	mA
Collector Dissipation	P_C		1.2	W
		$T_c = 25^\circ C$	8	W
Junction Temperature	T_j		150	$^\circ C$
Storage Temperature	T_{stg}		-55 to +150	$^\circ C$

Electrical Characteristics at $T_a = 25^\circ C$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB} = (-)80V, I_E = 0$			(-0.1)	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = (-)2V, I_C = 0$			(-0.1)	μA
DC Current Gain	h_{FE1}	$V_{CE} = (-)10V, I_C = (-)10mA$	40*		320*	
	h_{FE2}	$V_{CE} = (-)10V, I_C = (-)150mA$	20			
Gain-Bandwidth Product	f_T	$V_{CE} = (-)10V, I_C = (-)50mA$		500		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)50mA, I_B = (-)5mA$			0.6	V
					(-0.8)	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = (-)50mA, I_B = (-)5mA$			(-1.0)	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)10\mu A, I_E = 0$	(-120)			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)1mA, R_{BE} = \infty$	(-120)			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = (-)100\mu A, I_C = 0$	(-4)			V
Output Capacitance	C_{ob}	$V_{CB} = (-)30V, f = 1MHz$		2.0		pF
				(2.7)		pF
Reverse Transfer Capacitance	C_{re}	$V_{CB} = (-)30V, f = 1MHz$		1.6		pF
				(2.1)		pF

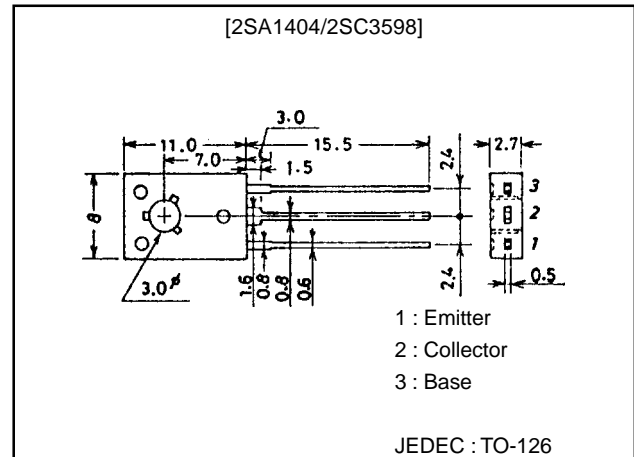
* : The 2SA1404/2SC3598 are classified by 10mA h_{FE} as follows :

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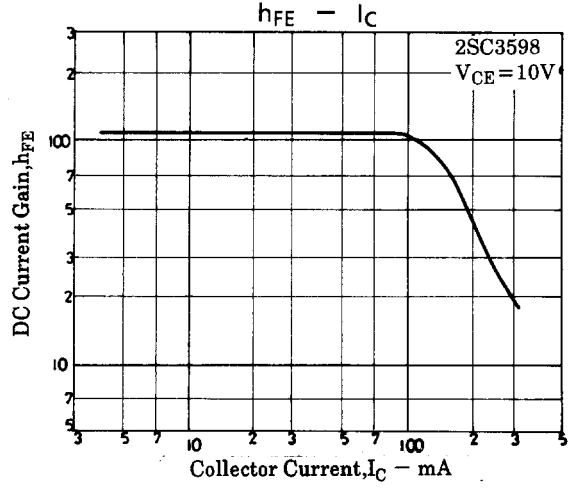
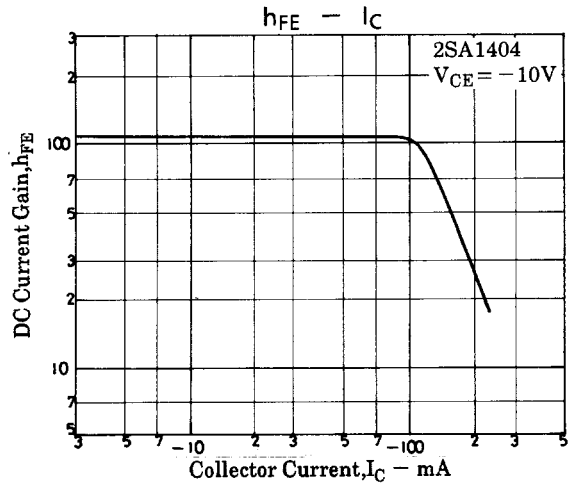
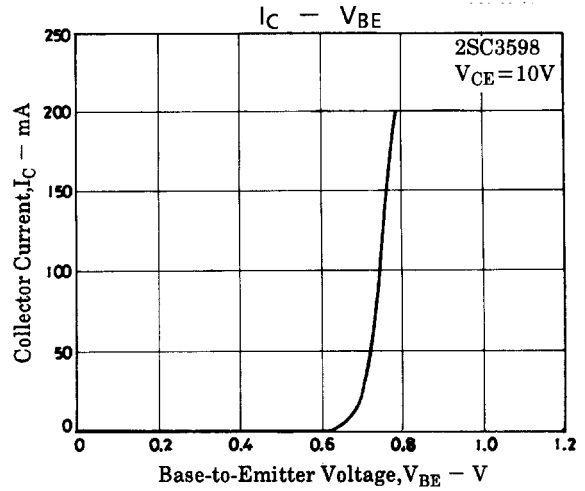
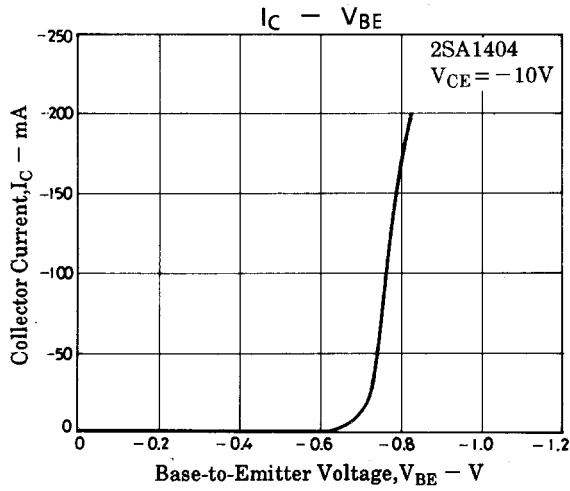
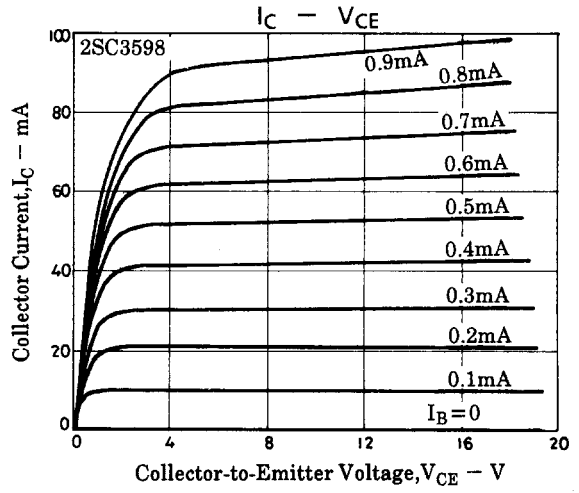
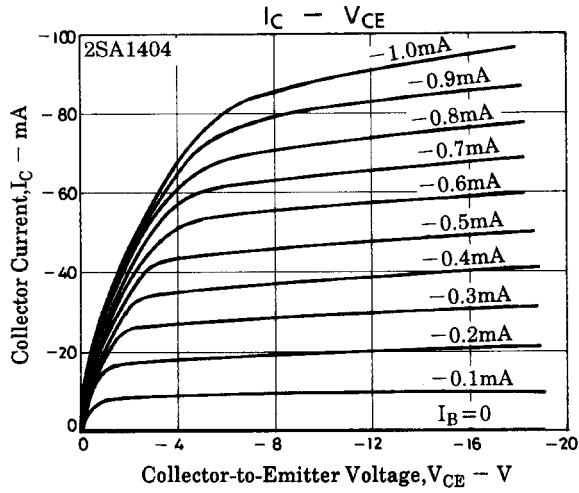
Package Dimensions

unit:mm

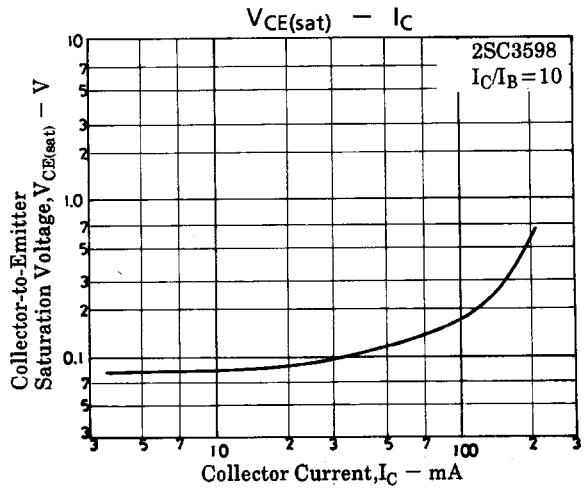
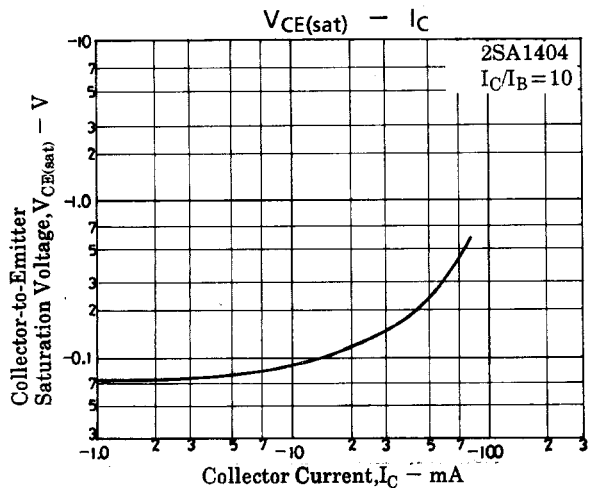
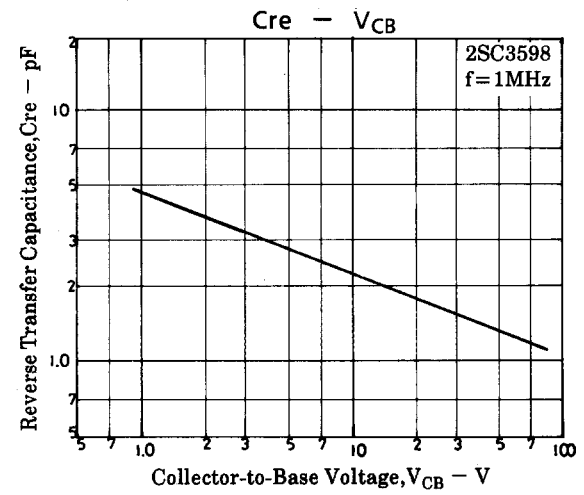
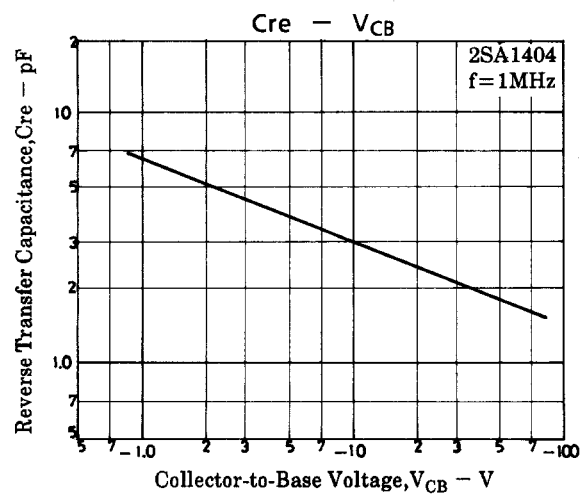
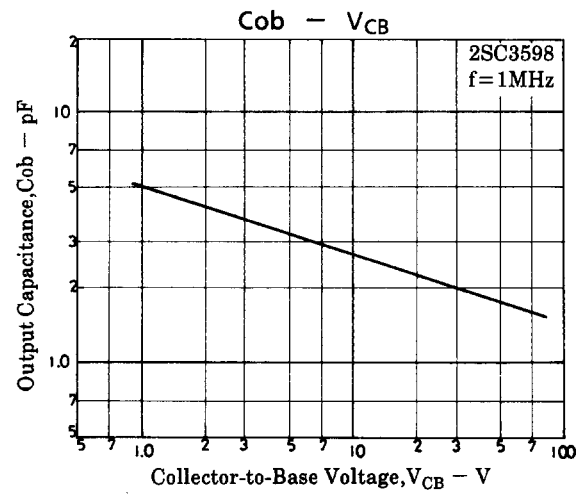
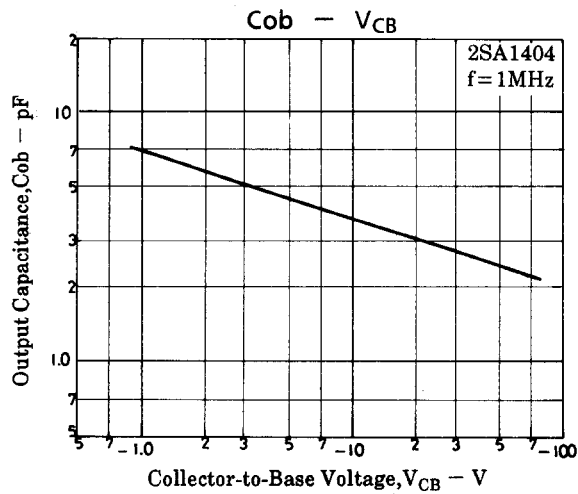
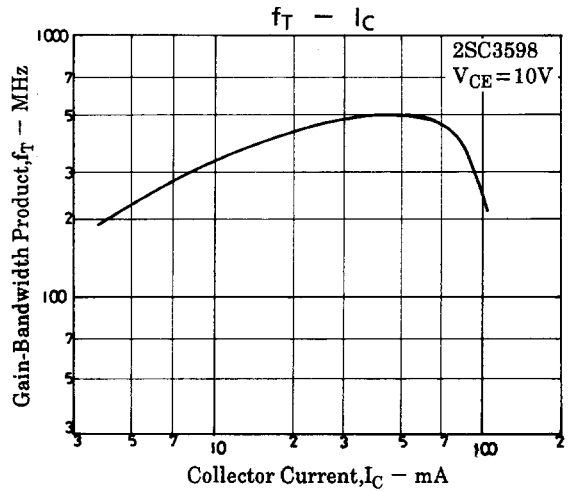
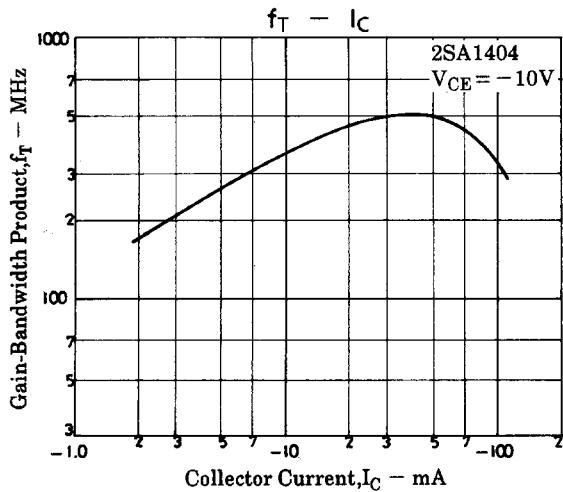
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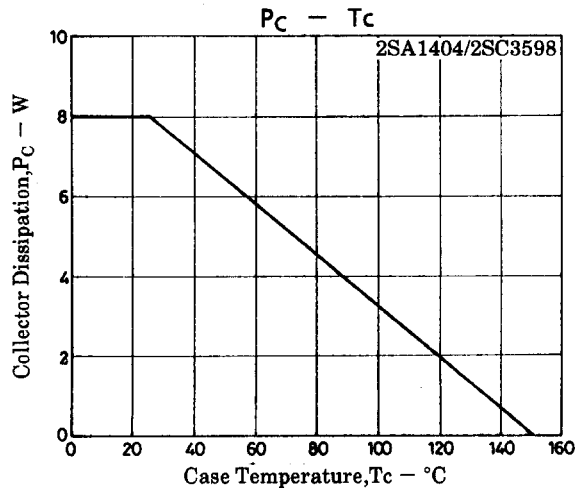
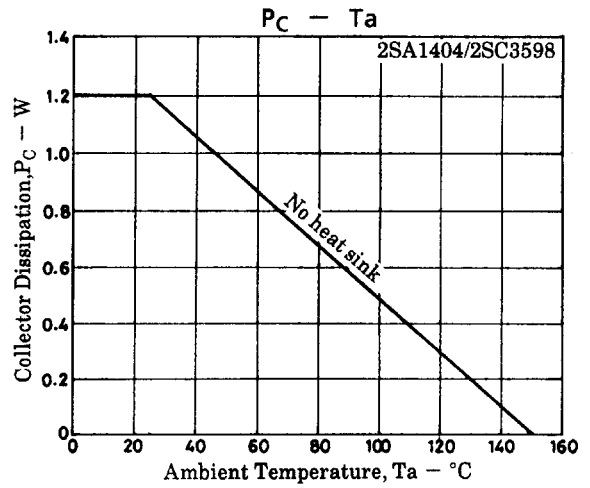
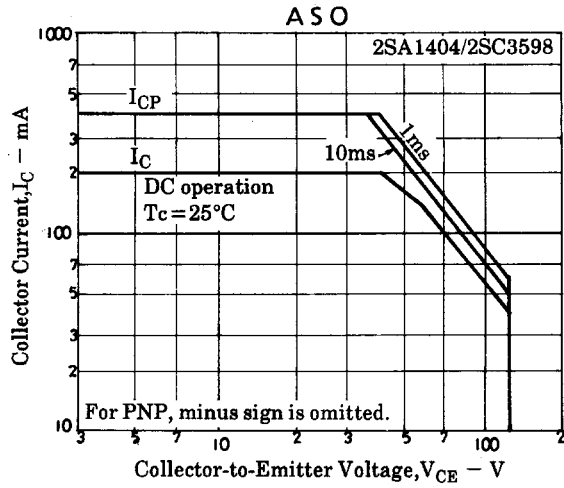
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