

NPN Epitaxial Planar Silicon Transistor



2SC3595

Ultrahigh-Definition CRT Display Video Output Applications

Applications

- Ultrahigh-definition CRT display.
- Video output driver.
- Wideband amplifiers.

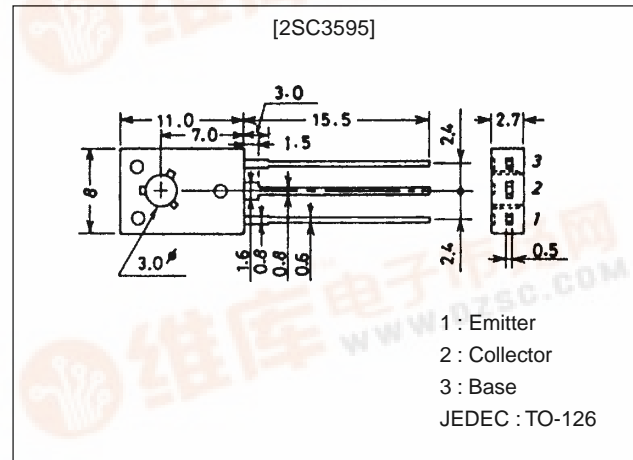
Features

- High f_T : f_T typ=2.0GHz.
- High current : I_C =500mA.

Package Dimensions

unit:mm

2009B



Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CB0}		30	V
Collector-to-Emitter Voltage	V_{CEO}		20	V
Emitter-to-Base Voltage	V_{EBO}		3	V
Collector Current	I_C		500	mA
Collector Current (Pulse)	I_{CP}		1000	mA
Collector Dissipation	P_C		1.2	W
		$T_c=25^\circ\text{C}$	5	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_{CB0}	$V_{CB}=20\text{V}, I_E=0$			0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=2\text{V}$			5.0	μA
DC Current Gain	h_{FE1}	$V_{CE}=5\text{V}, I_C=50\text{mA}$	40*		200*	
	h_{FE2}	$V_{CE}=5\text{V}, I_C=500\text{mA}$	20			
Gain-Bandwidth Product	f_T	$V_{CE}=5\text{V}, I_C=100\text{mA}$		2.0		GHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=300\text{mA}, I_B=30\text{mA}$		0.25	0.6	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=300\text{mA}, I_B=30\text{mA}$		0.92	1.2	V

* : The 2SC3595 is classified by 50mA h_{FE} as follows :

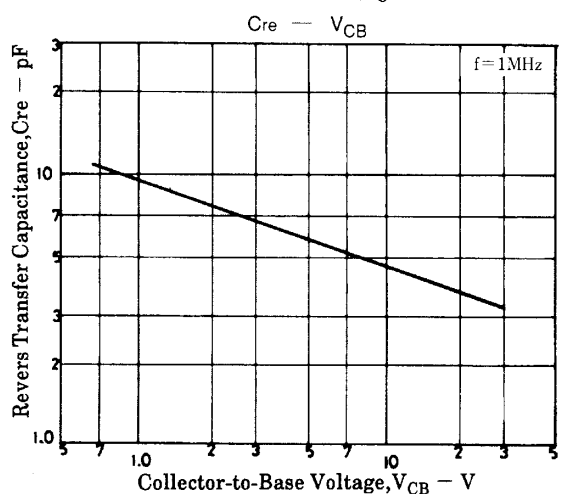
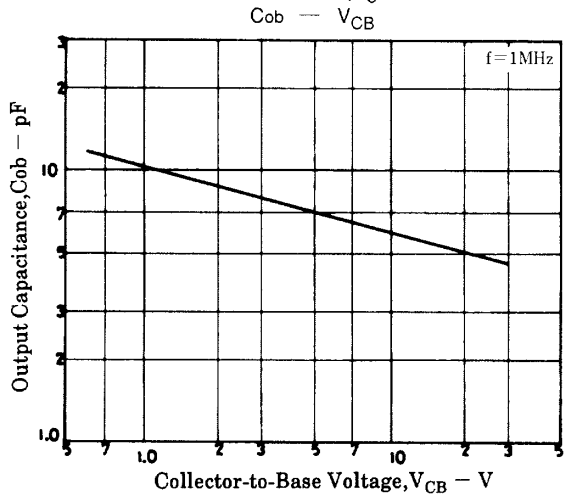
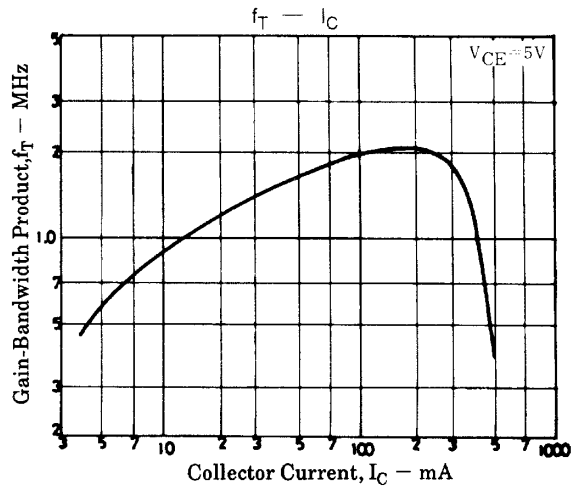
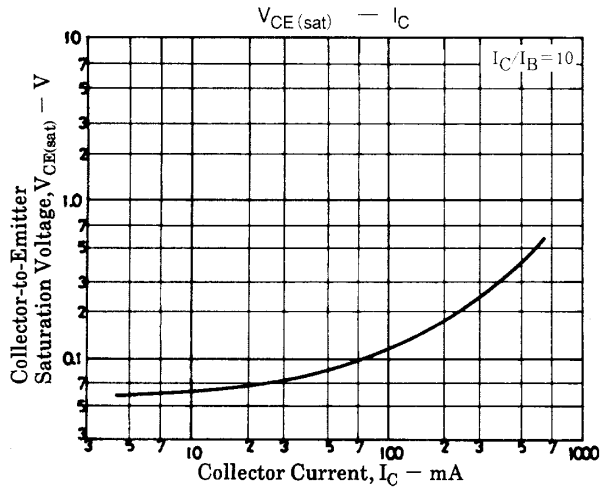
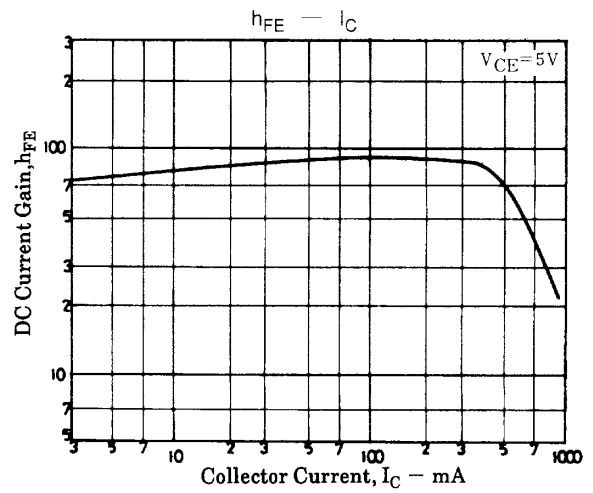
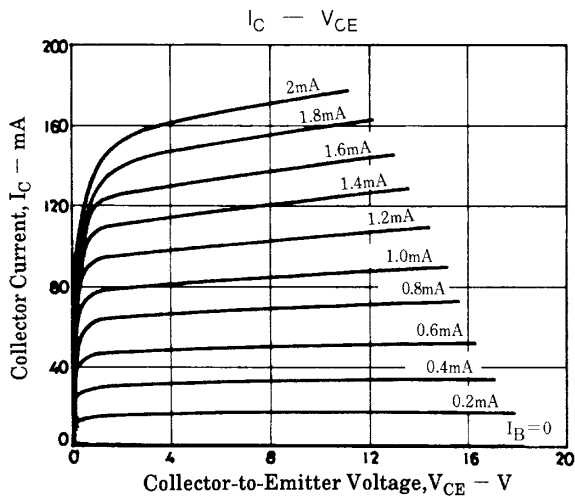
40	C	80	60	D	120	100	E	200
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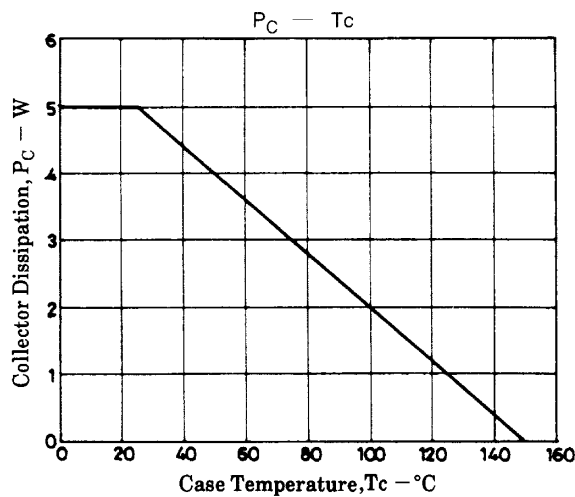
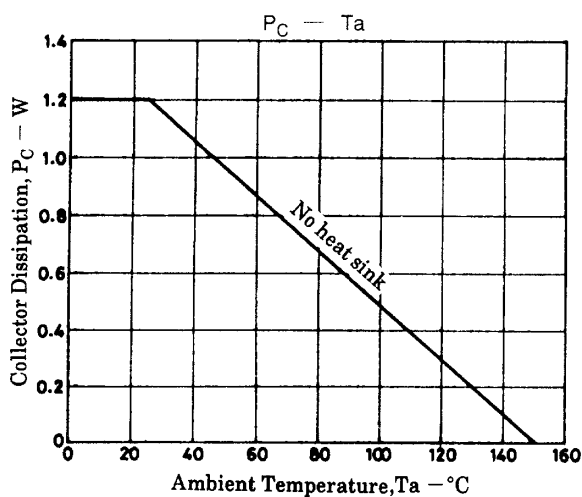
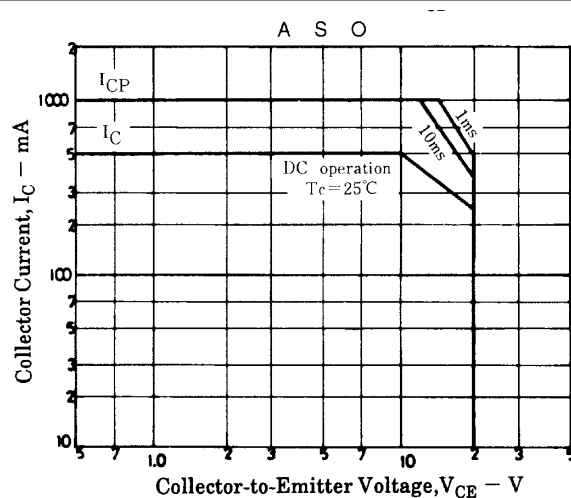
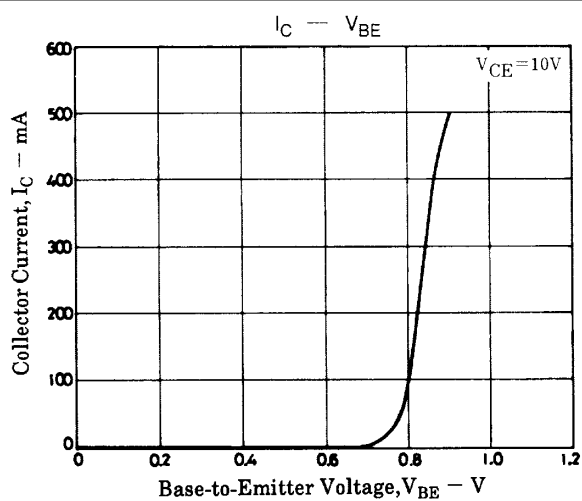
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0$	30			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1mA, R_{BE}=\infty$	20			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=100\mu A, I_C=0$	3			V
Output Capacitance	C_{ob}	$V_{CB}=10V, f=1MHz$		6.0		pF
Reverse Transfer Capacitance	C_{re}	$V_{CB}=10V, f=1MHz$		4.6		pF



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