

**2SC3591**

High-Definition CRT Display Horizontal Deflection Output Applications

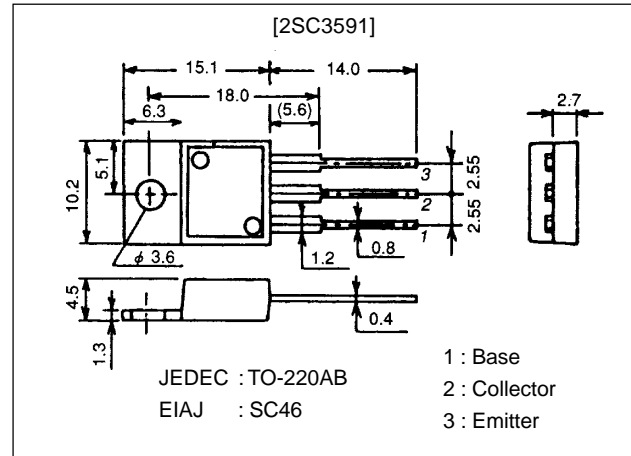
Features

- Fast switching speed.
- Low saturation voltage.
- Adoption of MBIT process.

Package Dimensions

unit:mm

2010C



Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CB0}		400	V
Collector-to-Emitter Voltage	V_{CEO}		200	V
Emitter-to-Base Voltage	V_{EBO}		6	V
Collector Current	I_C		7	A
Collector Current (Pulse)	I_{CP}		12	A
Base Current	I_B		4	A
Collector Dissipation	P_C	$T_c=25^\circ\text{C}$	50	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}	$V_{CB}=250\text{V}, I_E=0$			100	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$			100	μA
DC Current Gain	h_{FE1}	$V_{CE}=1\text{V}, I_C=1\text{A}$	15			
	h_{FE2}	$V_{CE}=1\text{V}, I_C=5\text{A}$	10		50	
Gain-Bandwidth Product	f_T	$V_{CE}=10\text{V}, I_C=0.5\text{A}$	10	40		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=5\text{A}, I_B=0.5\text{A}$			0.8	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=5\text{A}, I_B=0.5\text{A}$			1.5	V

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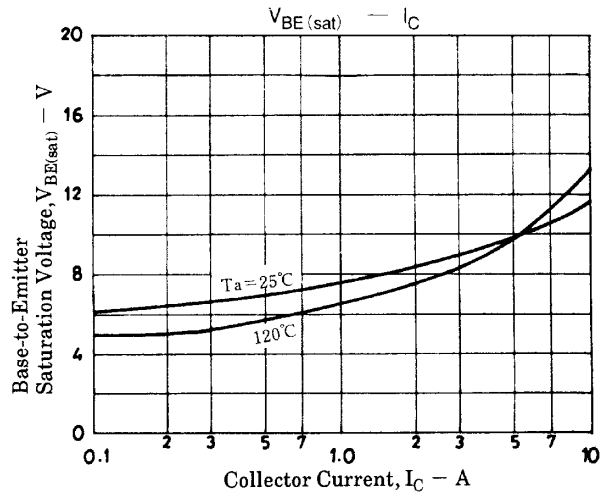
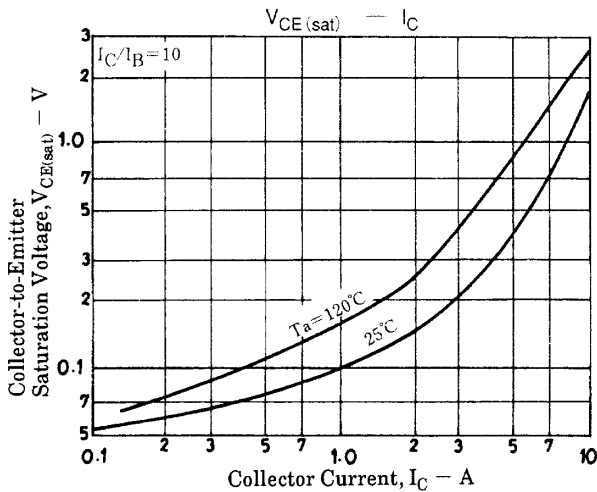
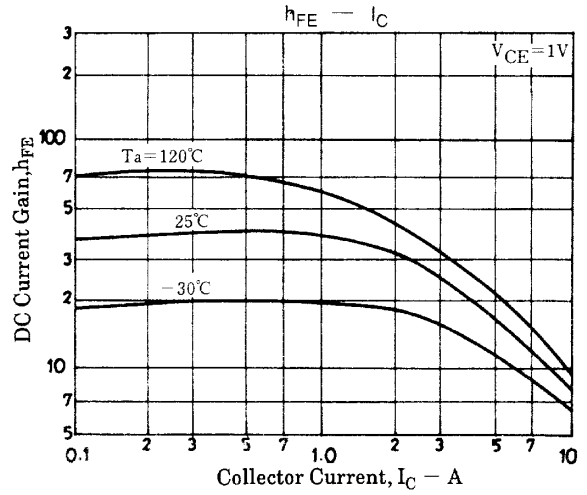
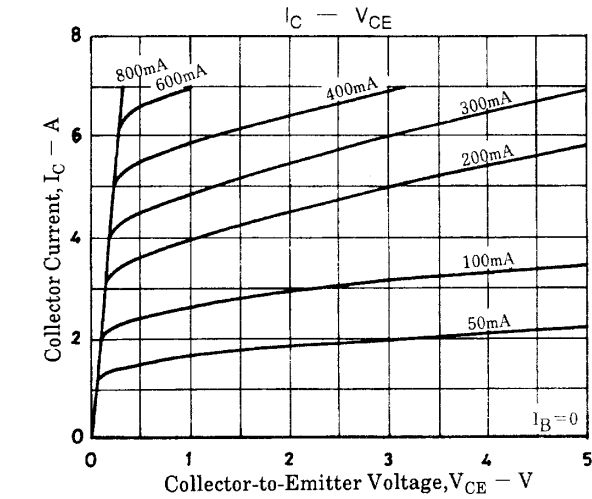
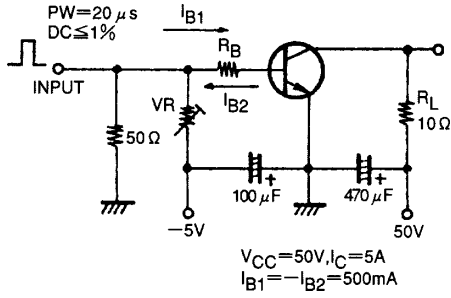
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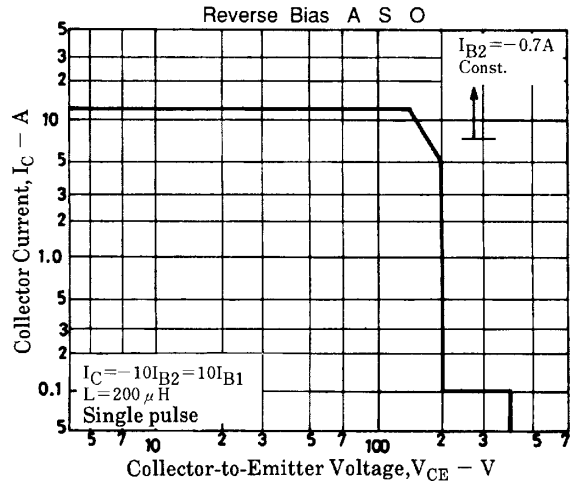
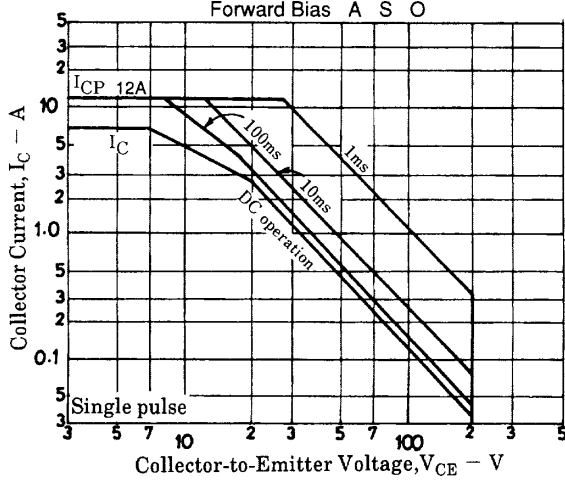
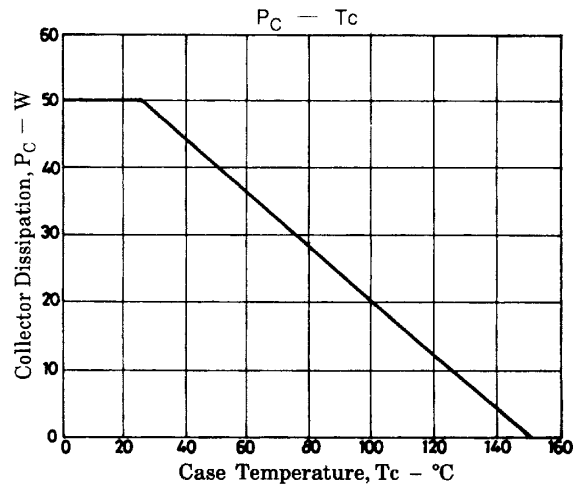
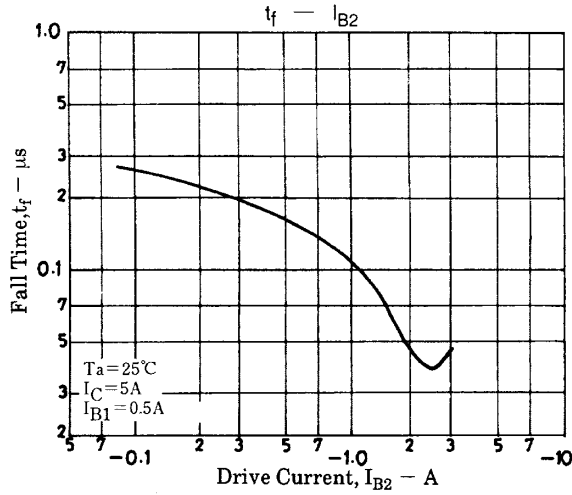
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=1A, I_E=0$	400			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1mA, R_{BE}=\infty$	200			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=1mA, I_C=0$	6			V
Fall Time	t_f	See specified test circuit. $I_C=5A, I_{B1}=-I_{B2}=0.5A$			0.3	μs

Switching Time Test Circuit



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