

**2SC3998**

## Ultrahigh-Definition CRT Display Horizontal Deflection Output Applications

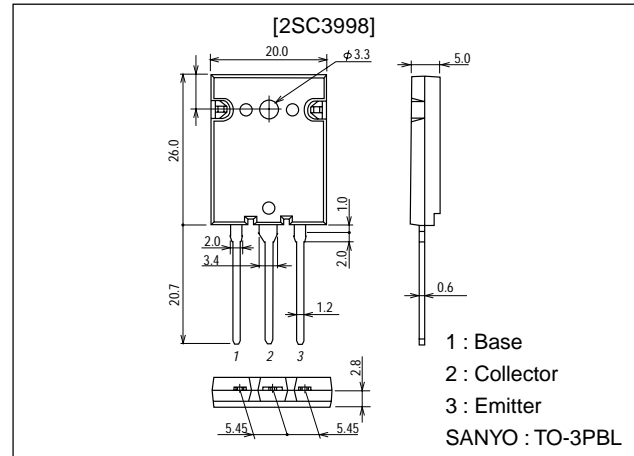
### Features

- High speed ( $t_f=100\text{ns}$  typ).
- High breakdown voltage ( $V_{CBO}=1500\text{V}$ ).
- High reliability (adoption of HVP process).
- Adoption of MBIT process.

### Package Dimensions

unit:mm

2048B



### Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CBO}$		1500	V
Collector-to-Emitter Voltage	$V_{CEO}$		800	V
Emitter-to-Base Voltage	$V_{EBO}$		6	V
Collector Current	$I_C$		25	A
Collector Current (Pulse)	$I_{CP}$		50	A
Collector Dissipation	$P_C$	$T_c=25^\circ\text{C}$	250	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	$I_{CES}$	$V_{CE}=1500\text{V}$			1.0	mA
Collector-to-Emitter Sustain Voltage	$V_{CEO(sus)}$	$I_C=100\text{mA}, I_B=0$	800			V
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=4\text{V}, I_C=0$			1.0	mA
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=800\text{V}, I_E=0$			10	$\mu\text{A}$
DC Current Gain	$h_{FE1}$	$V_{CE}=5\text{V}, I_C=1.0\text{A}$	8		30	
	$h_{FE2}$	$V_{CE}=5\text{V}, I_C=20\text{A}$	4		8	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=20\text{A}, I_B=5\text{A}$			5	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=20\text{A}, I_B=5\text{A}$			1.5	V
Storage Time	$t_{stg}$	$I_C=12\text{A}, I_{B1}=2.4\text{A}, I_{B2}=-4.8\text{A}$			3.0	$\mu\text{s}$
Fall Time	$t_f$	$I_C=12\text{A}, I_{B1}=2.4\text{A}, I_{B2}=-4.8\text{A}$			0.2	$\mu\text{s}$

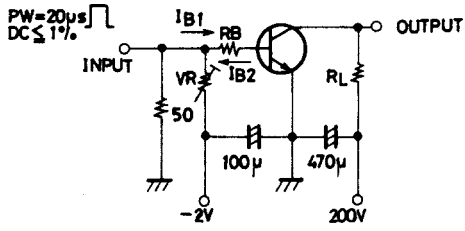
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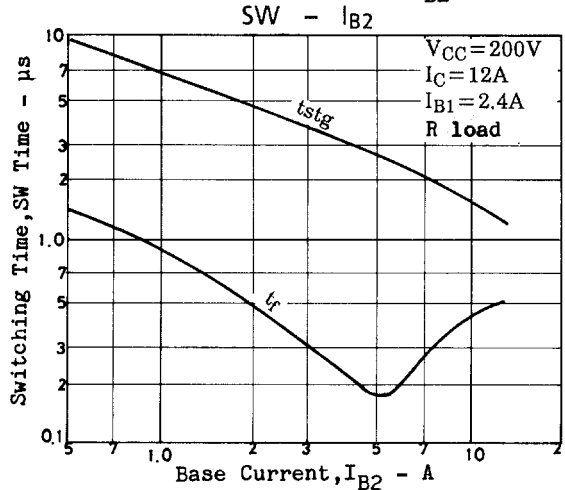
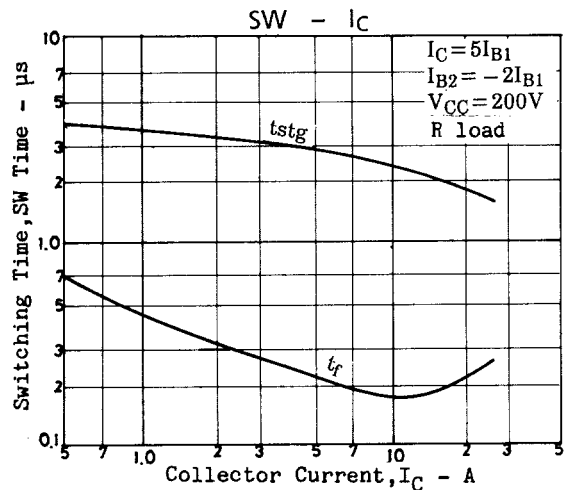
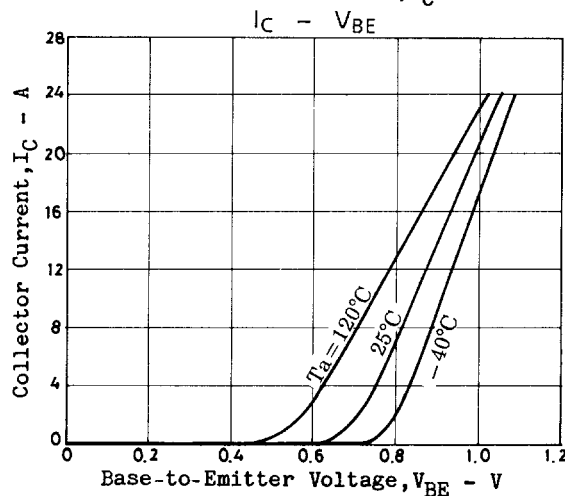
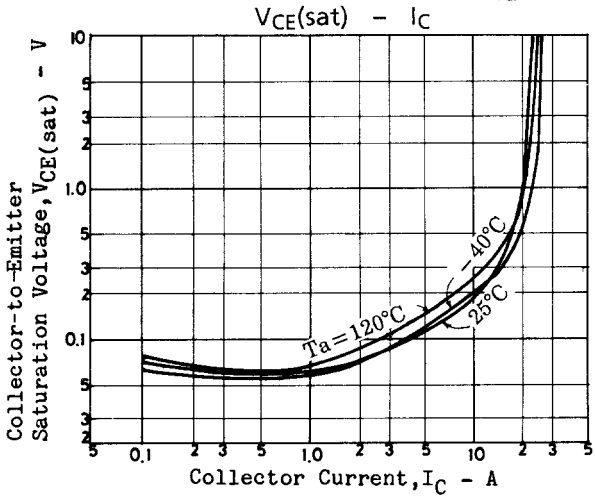
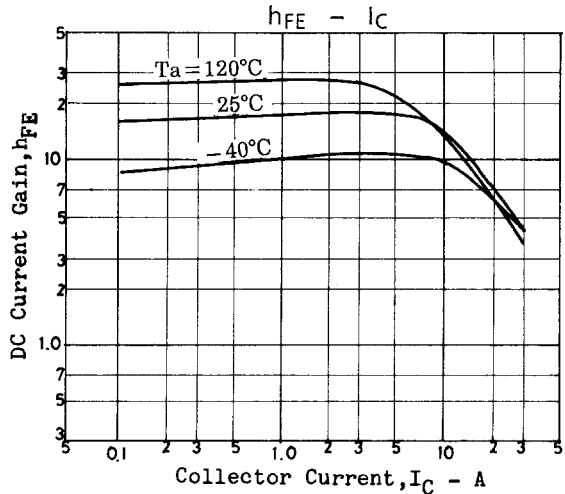
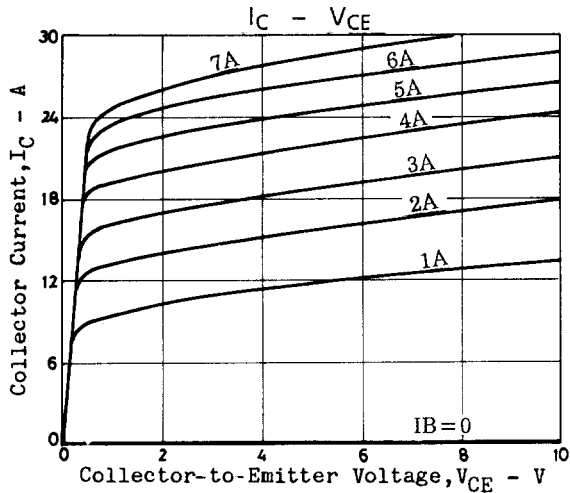
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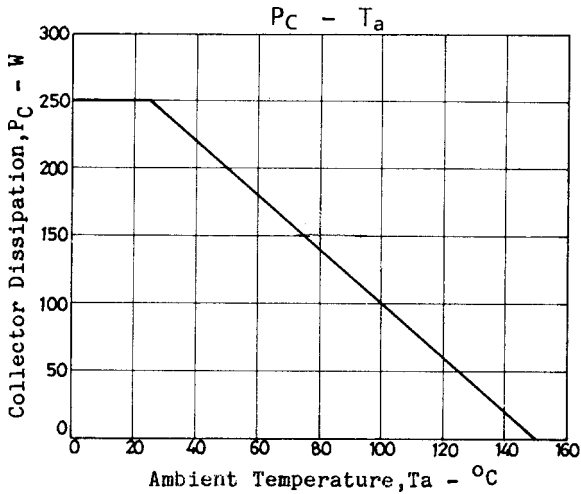
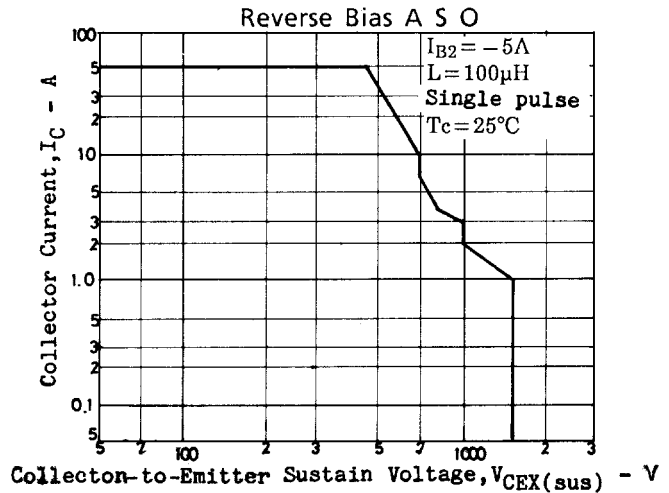
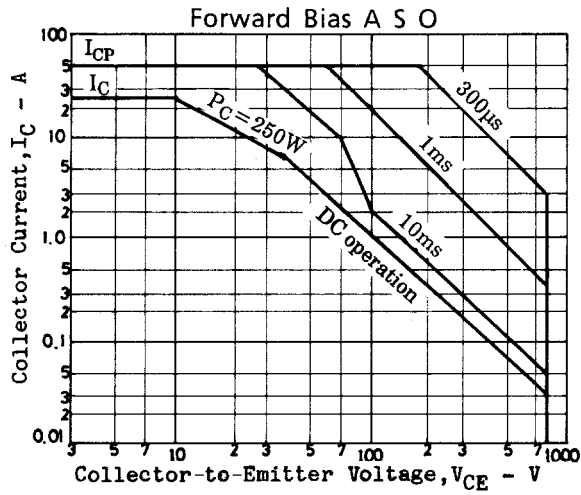
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Switching Time Test Circuit



Unit (resistance:Ω, capacitance:F)





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