



SANYO Semiconductors

## DATA SHEET

**2SC3998**

NPN Triple Diffused Planar Silicon Transistor

**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.

**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	$P_C$		3.5	W
		$T_c=25^\circ\text{C}$	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	$V_{CEO(sus)}$	$I_C=100\text{mA}$ , $I_B=0\text{A}$	800			V
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=4\text{V}$ , $I_C=0\text{A}$			1.0	mA
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=800\text{V}$ , $I_E=0\text{A}$			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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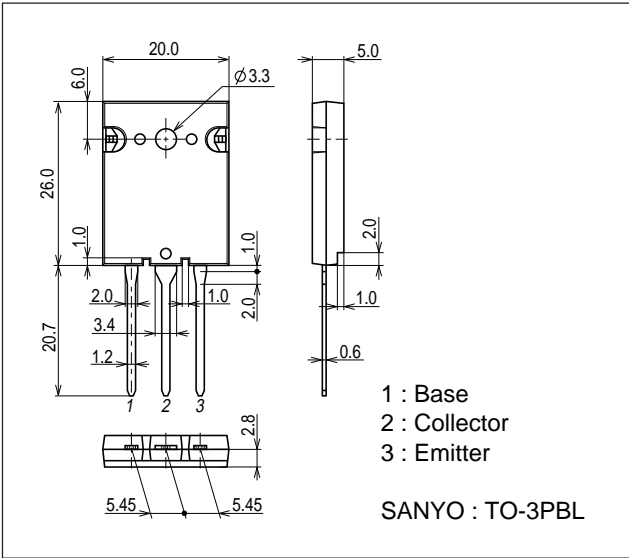
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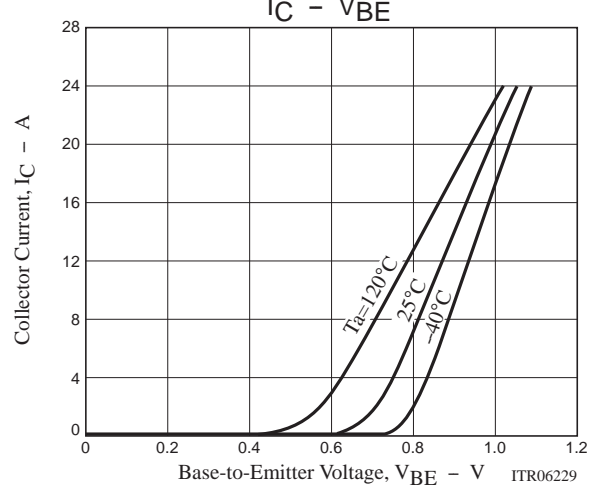
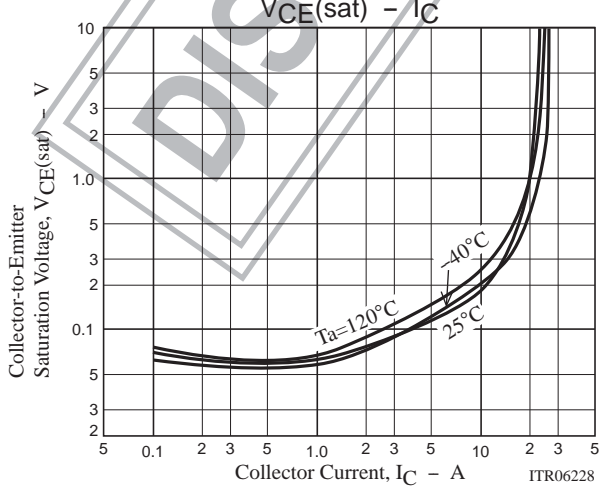
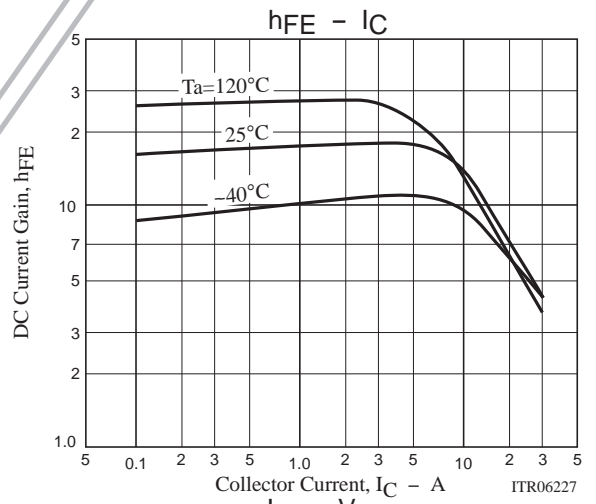
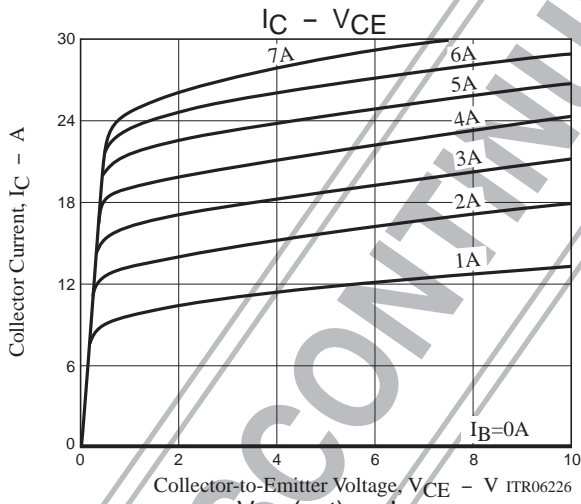
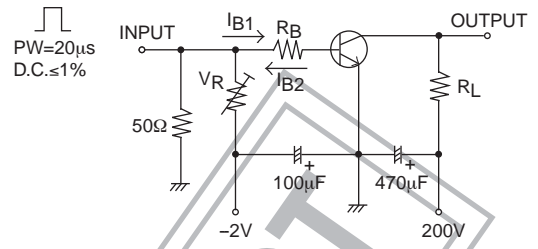
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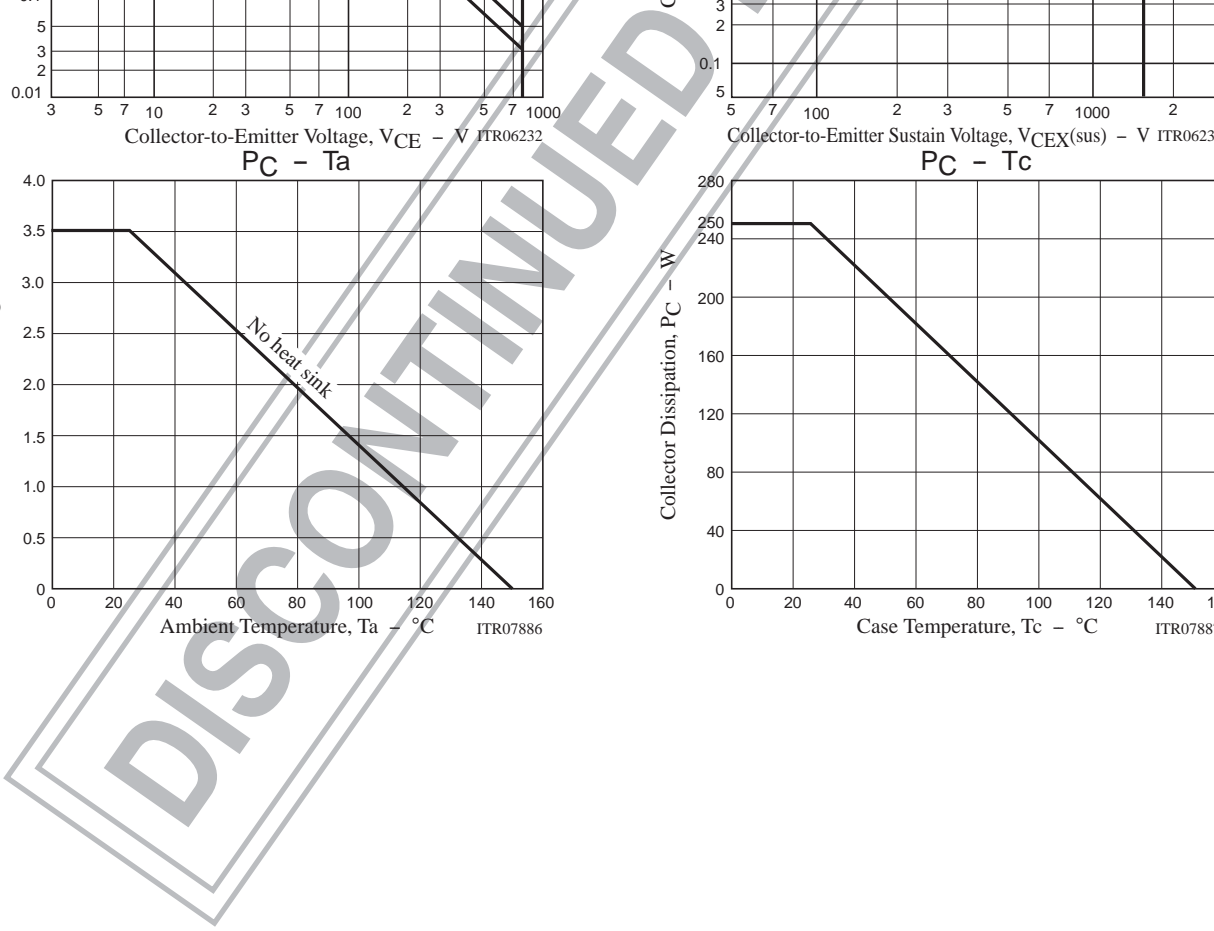
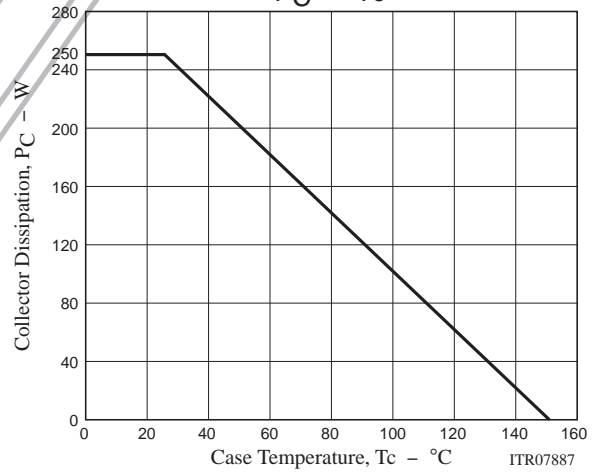
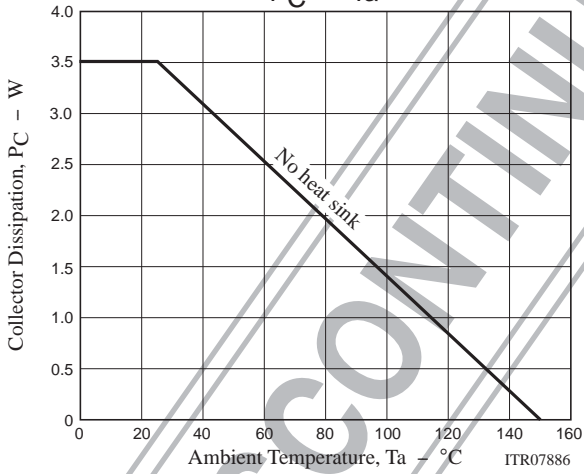
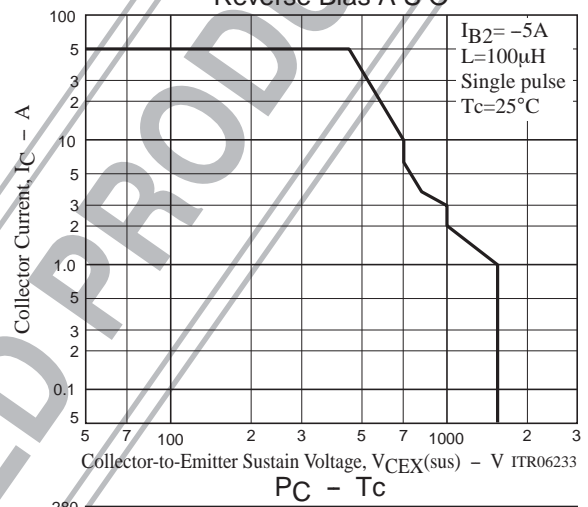
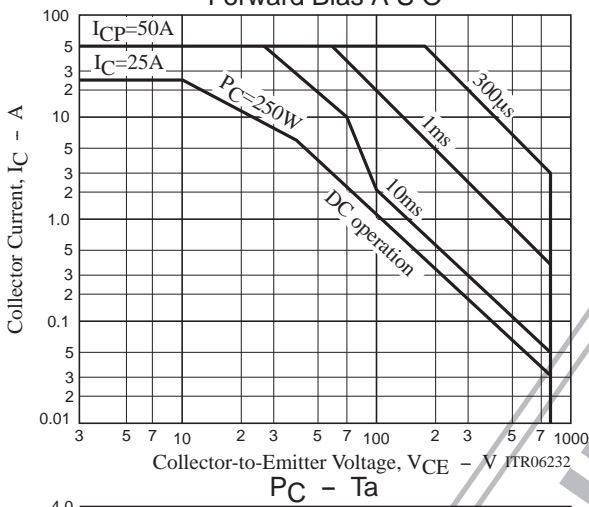
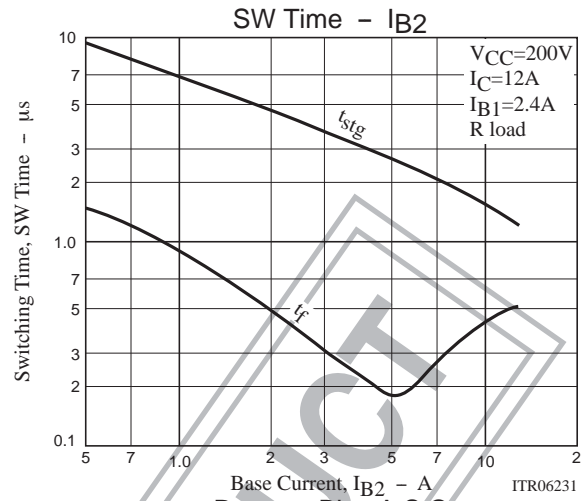
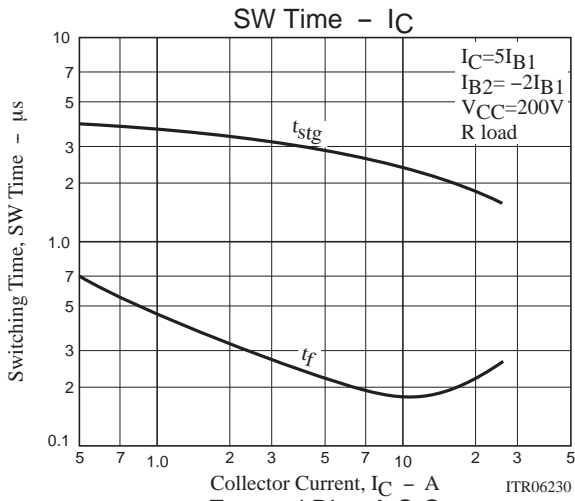
Package Dimensions

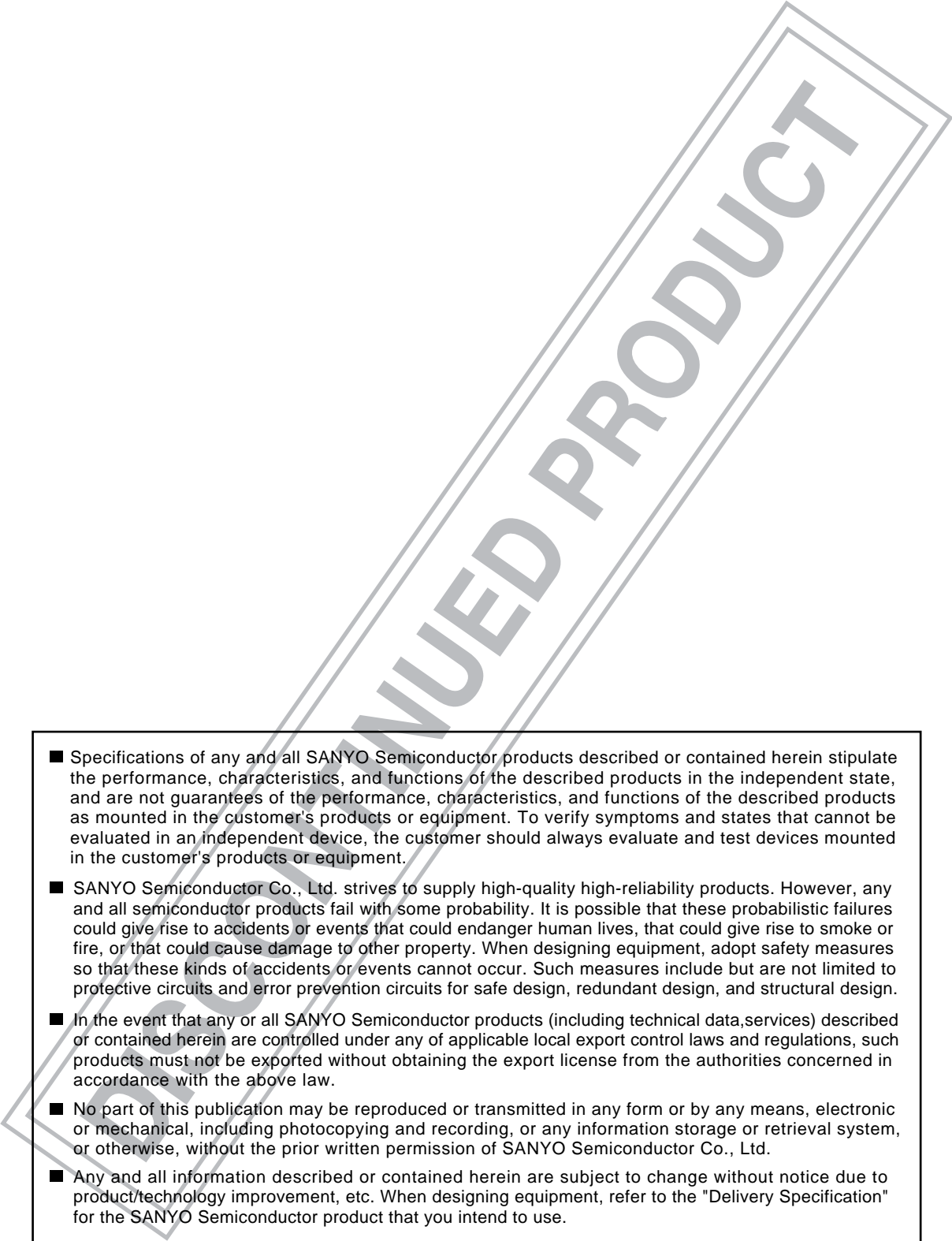
unit : mm (typ)  
7502-001



Switching Time Test Circuit





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