

**SANYO**

No.2732

**2SC3998**

NPN Triple Diffused Planar Silicon Transistor

Very High-Definition Color 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

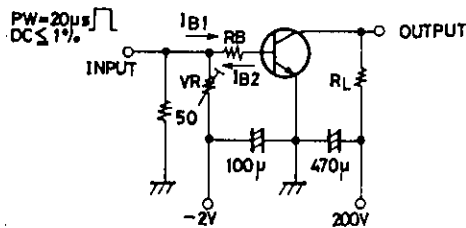
**Absolute Maximum Ratings at  $T_a=25^\circ\text{C}$**

			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
Peak Collector Current	$i_{cp}$	50	A
Collector Dissipation	$P_C$	250	W
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

**Electrical Characteristics at  $T_a=25^\circ\text{C}$**

			min	typ	max	unit
Collector Cutoff Current	$I_{CES}$	$V_{CE}=1500\text{V}$			1.0	mA
Collector 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	$h_{FE}(1)$	$V_{CE}=5\text{V}, I_C=1.0\text{A}$	8		30	
		$V_{CE}=5\text{V}, I_C=20\text{A}$	4		8	
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C=20\text{A}, I_B=5\text{A}$			5	V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C=20\text{A}, I_B=5\text{A}$			1.5	V
Storage Time	$t_{stg}$	$I_C=12\text{A}, I_{B1}=2.4\text{A}$			3.0	$\mu\text{s}$
		$I_{B2}=-4.8\text{A}$				
Fall Time	$t_f$	$I_C=12\text{A}, I_{B1}=2.4\text{A}$			0.2	$\mu\text{s}$
		$I_{B2}=-4.8\text{A}$				

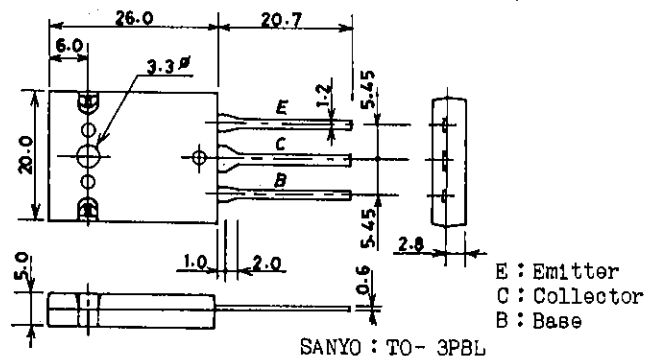
**Switching Time Test Circuit**



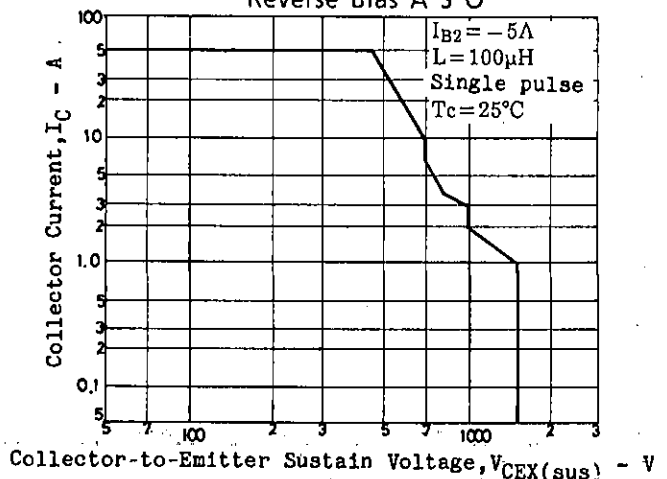
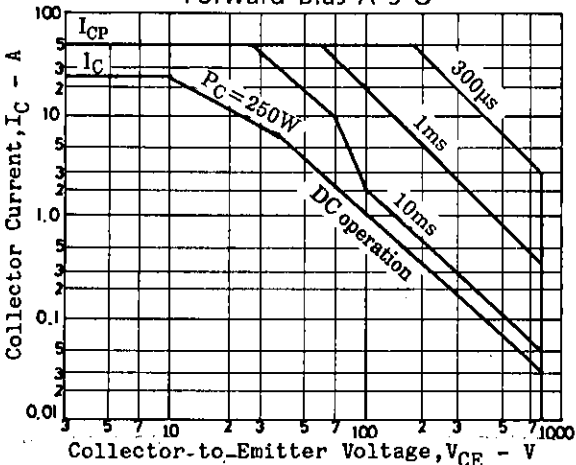
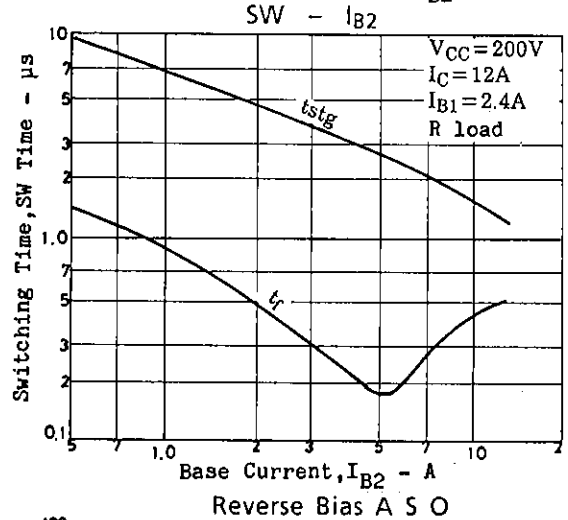
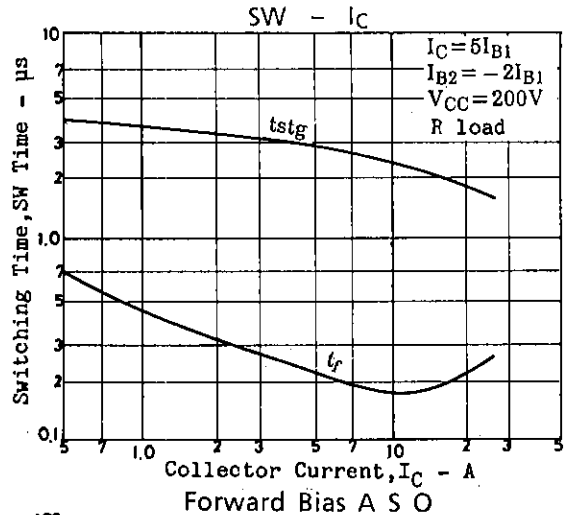
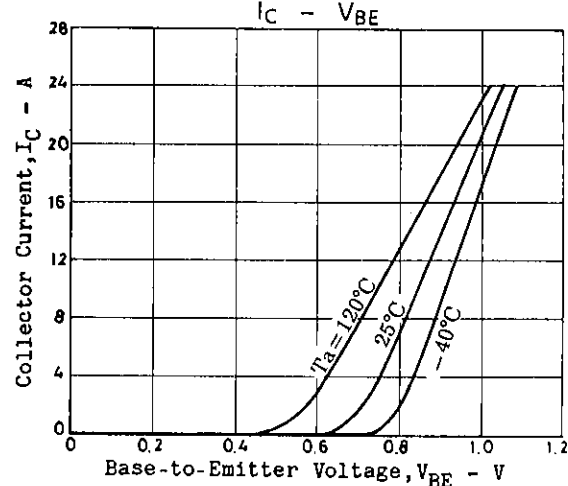
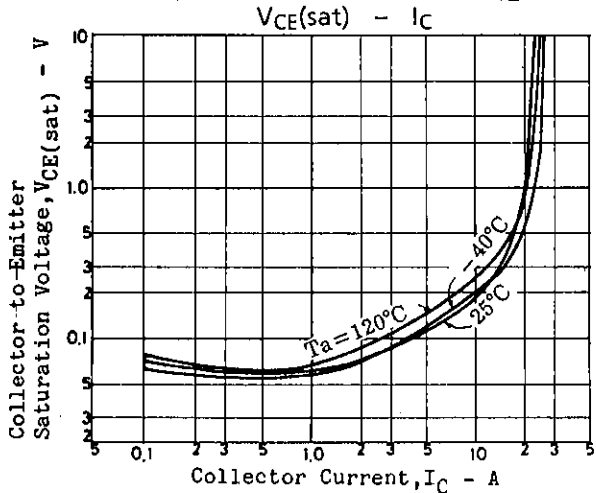
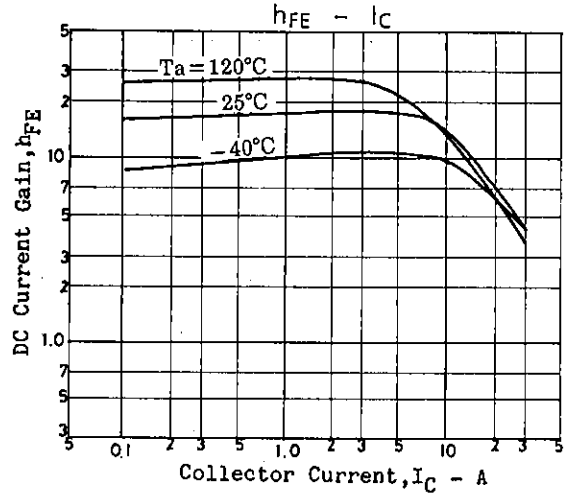
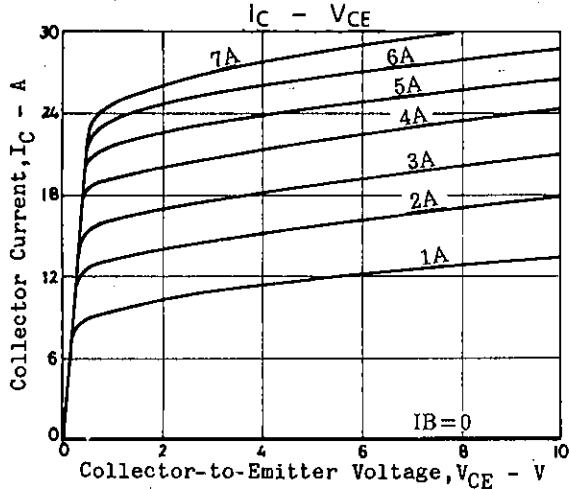
Unit (resistance:  $\Omega$ , capacitance: F)

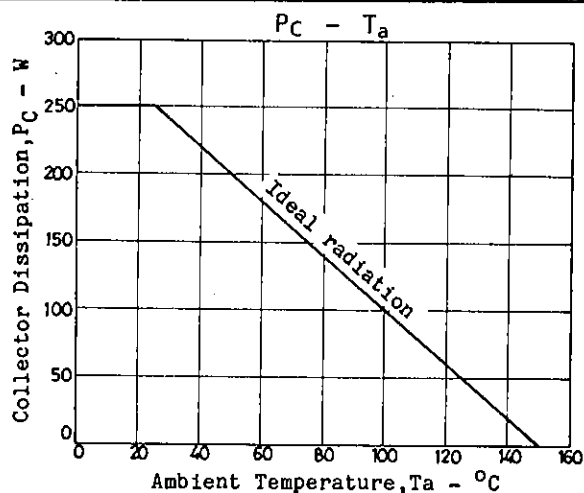
**Package Dimensions 2048**

(unit: mm)



E: Emitter  
C: Collector  
B: Base





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