

NPN Triple Diffused Planar Silicon Transistor



2SD1881

Color TV Horizontal Deflection Output Applications

Applications

- Color TV horizontal deflection output.
- Color display horizontal deflection output.

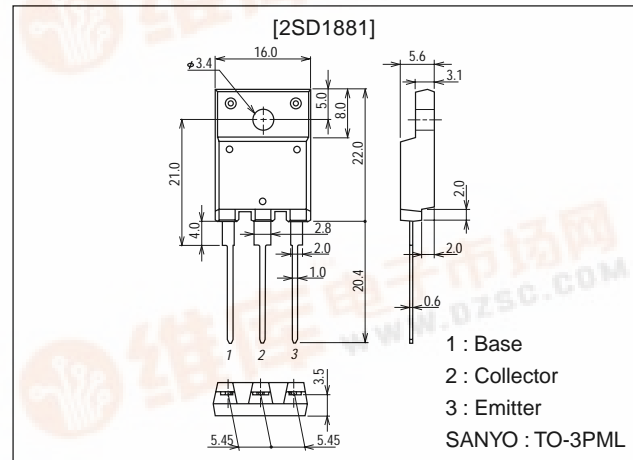
Features

- High speed ($t_f=100\text{ns}$).
- High breakdown voltage ($V_{CBO}=1500\text{V}$).
- High reliability (adoption of HVP process).
- On-chip damper diode.

Package Dimensions

unit:mm

2039D



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		10	A
Collector Current (Pulse)	I_{CP}		30	A
Collector Dissipation	P_C	$T_c=25^\circ\text{C}$	70	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
	I_{CBO}	$V_{CB}=800\text{V}$			10	μA
Collector-to-Emitter Sustain Voltage	$V_{CEO(sus)}$	$I_C=100\text{mA}, I_B=0$	800			V
Emitter Cutoff Current	I_{EBO}	$V_{EB}=4\text{V}$	40		130	mA
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=8\text{A}, I_B=1.6\text{A}$			5	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=8\text{A}, I_B=1.6\text{A}$			1.5	V
DC Current Gain	h_{FE1}	$V_{CE}=5\text{V}, I_C=1\text{A}$	8			
	h_{FE2}	$V_{CE}=5\text{V}, I_C=8\text{A}$	5		10	
Diode Forward Voltage	V_F	$I_{EC}=10\text{A}$			2.0	V
Fall Time	t_f	$I_C=6\text{A}, I_{B1}=1.2\text{A}, I_{B2}=-2.4\text{A}$		0.1	0.3	μs

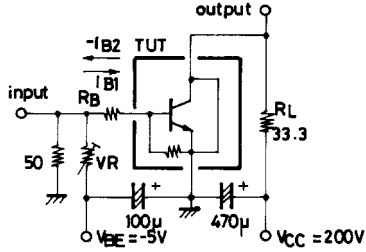
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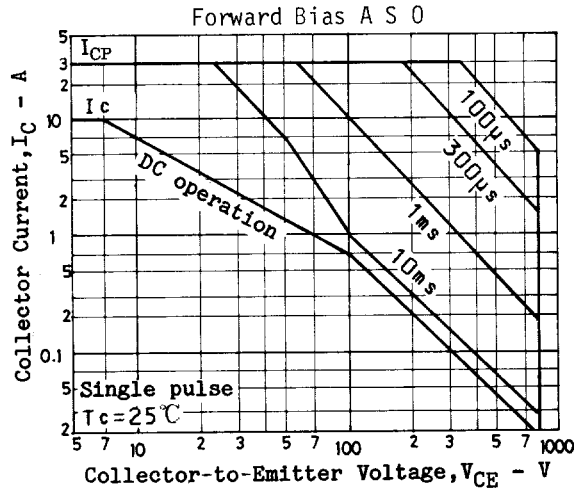
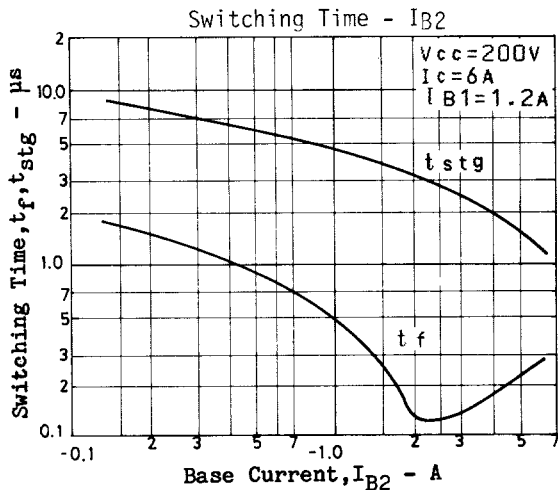
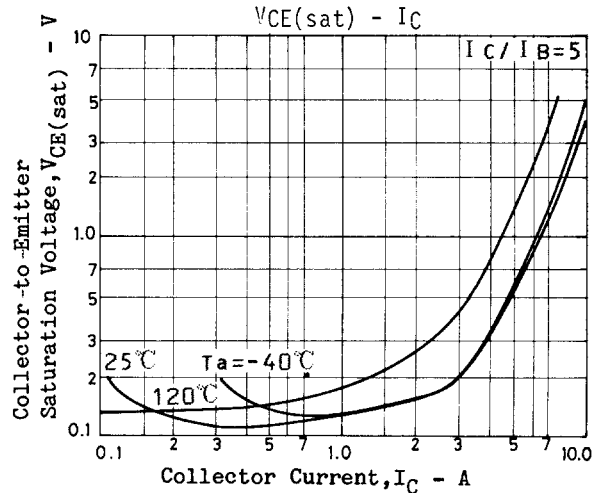
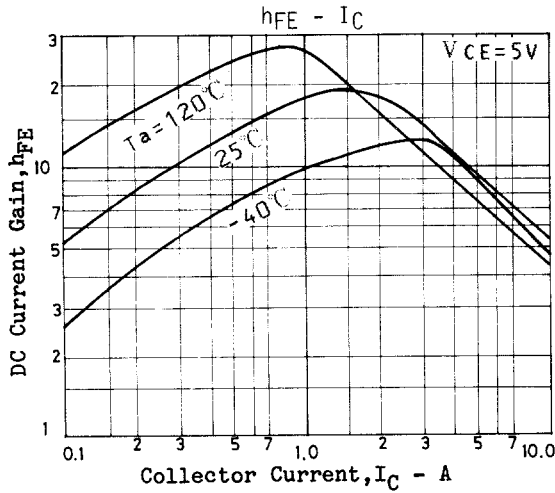
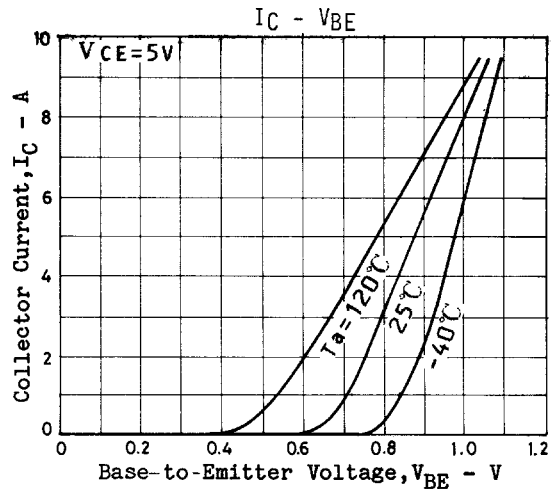
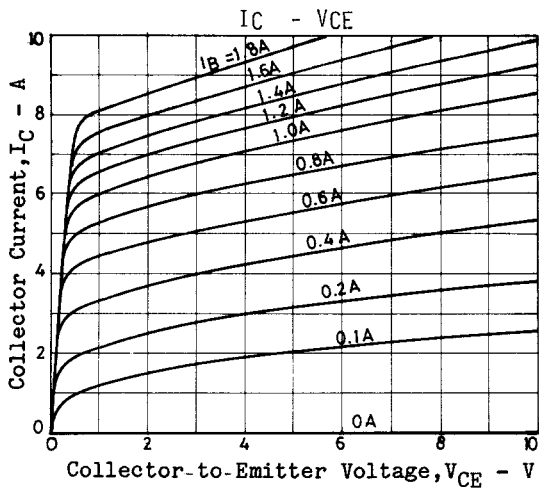
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Switching Time Test Circuit

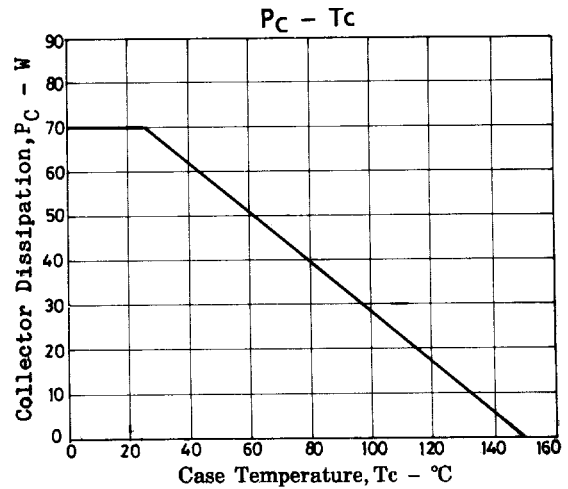
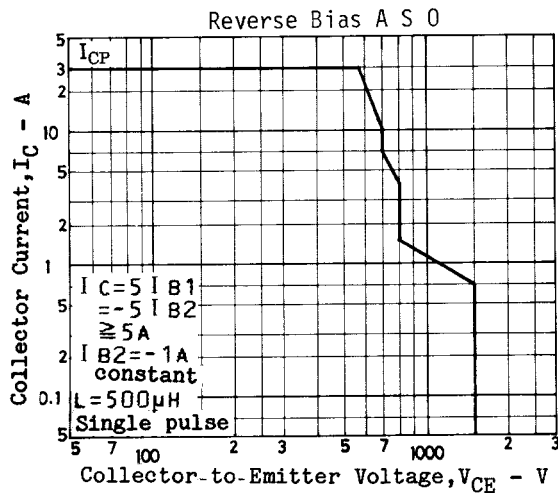
PW=20 μ s, duty \leq 1%



Unit (resistance: Ω , capacitance:F)



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