

**2SD1878**

## 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.

### 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	$I_C$		5	A
Collector Current (Pulse)	$I_{CP}$		20	A
Collector Dissipation	$P_C$		60	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	$\mu\text{A}$
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	$V_{CE(sat)}$	$I_C=4\text{A}, I_B=0.8\text{A}$			5	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=4\text{A}, I_B=0.8\text{A}$			1.5	V
DC Current Gain	$h_{FE1}$	$V_{CE}=5\text{V}, I_C=1\text{A}$	8			
	$h_{FE2}$	$V_{CE}=5\text{V}, I_C=4\text{A}$	5		10	
Diode Forward Voltage	$V_F$	$I_{EC}=5\text{A}$			2.0	V
Fall Time	$t_f$	$I_C=4\text{A}, I_{B1}=0.8\text{A}, I_{B2}=-1.6\text{A}$		0.1	0.3	$\mu\text{s}$

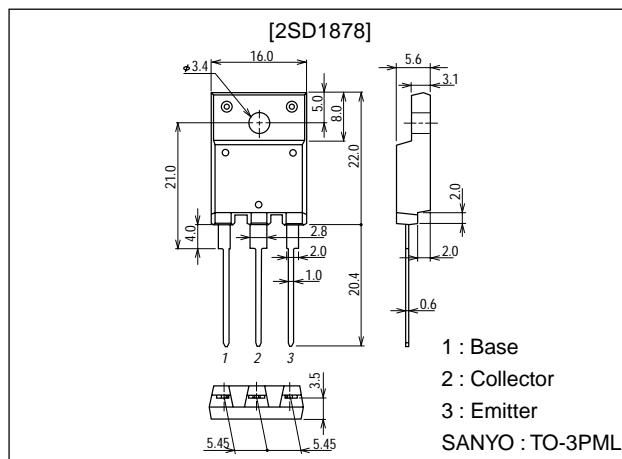
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### Package Dimensions

unit:mm

2039D

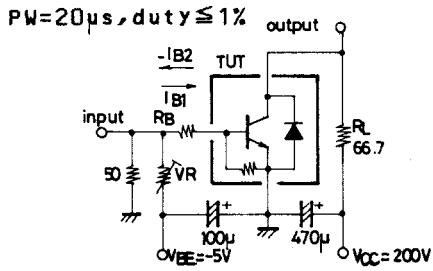


1 : Base  
2 : Collector  
3 : Emitter  
SANYO : TO-3PML

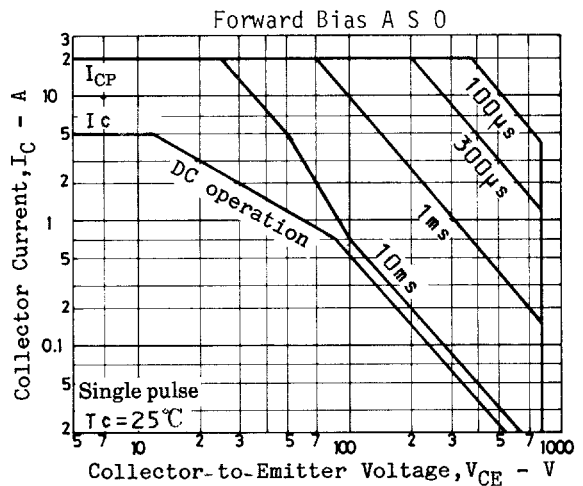
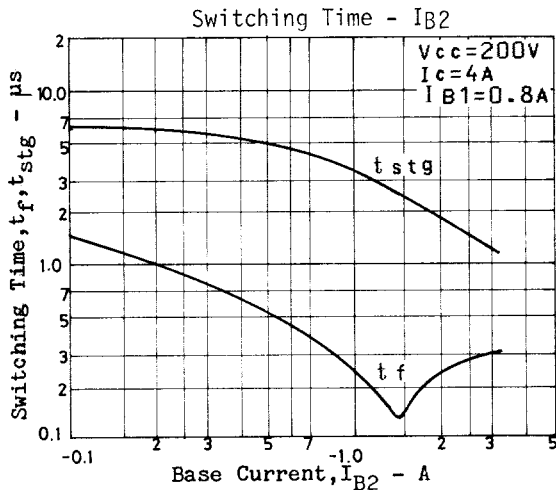
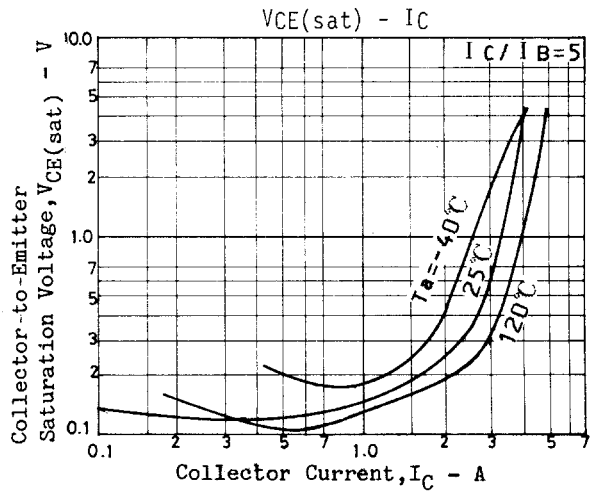
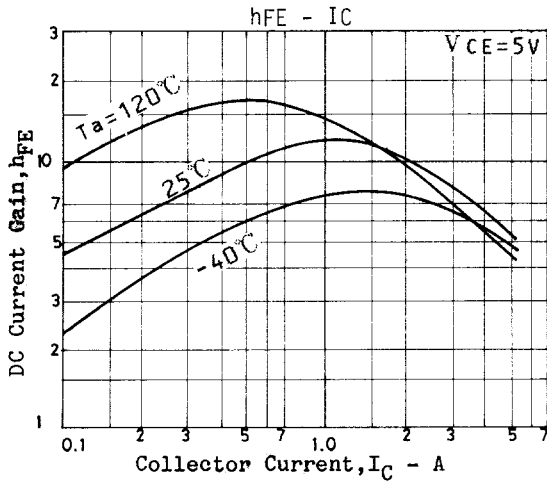
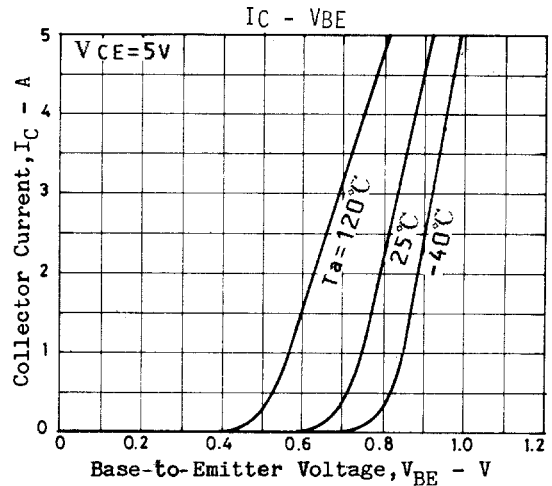
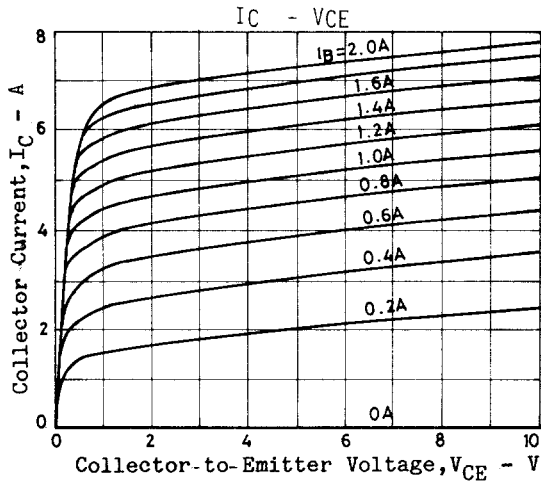
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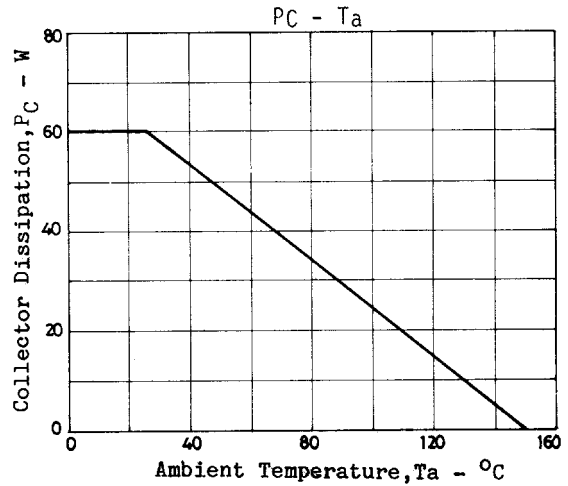
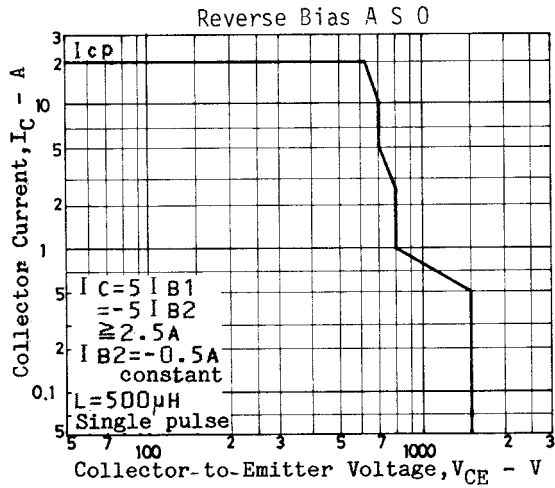
Switching Time Test Circuit



Unit (resistance:Ω, capacitance:F)



## 2SD1878



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