Ordering number: EN 2424

SANYO

No.2424

2SD1877

NPN Triple Diffused Planar Type
Silicon Transistor

COLOR TV HORIZONTAL DEFLECTION OUTPUT APPLICATIONS

Applications

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

Features

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

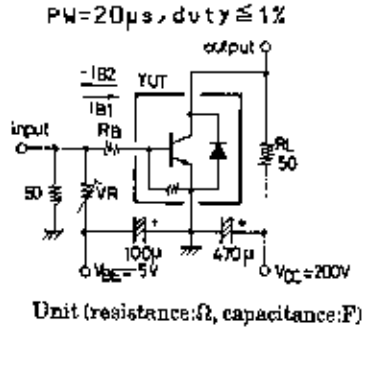
Absolute Maximum Ratings at Ta=25°C

			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	4	A
Peak Collector Current	i_{cp}	12	A
Collector Dissipation	P_C	50	W
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55 to +150	°C

Electrical Characteristics at Ta=25°C

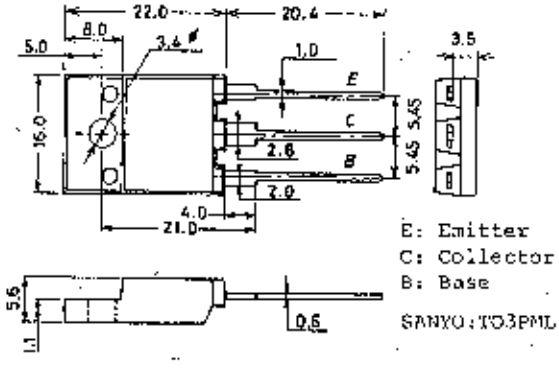
			min	typ	max	unit
Collector Cutoff Current	I_{CES}	V_{CE}=1500V			1.0	mA
	I_{CBO}	V_{CB}=800V			10	μA
Collector Sustain Voltage	$V_{CEO(sus)}$	I_C=100mA, I_B=0	800			V
Emitter Cutoff Current	I_{EBO}	V_{EB}=4V	40		130	mA
C-E Saturation Voltage	$V_{CE(sat)}$	I_C=2.5A, I_B=0.8A			5	V
B-E Saturation Voltage	$V_{BE(sat)}$	I_C=2.5A, I_B=0.8A			1.5	V
DC Current Gain	h_{FE1}	V_{CE}=5V, I_C=0.5A	8			
	h_{FE2}	V_{CE}=5V, I_C=2.5A	3.5		7	
Diode Forward Voltage	V_F	I_{EC}=4A			2.0	V
Fall Time	t_f	I_C=3A, I_{B1}=0.8A, I_{B2}=-1.6A		0.1	0.3	μs

Switching Time Test Circuit



Unit (resistance:Ω, capacitance:F)

Package Dimensions 2039 (unit:mm)



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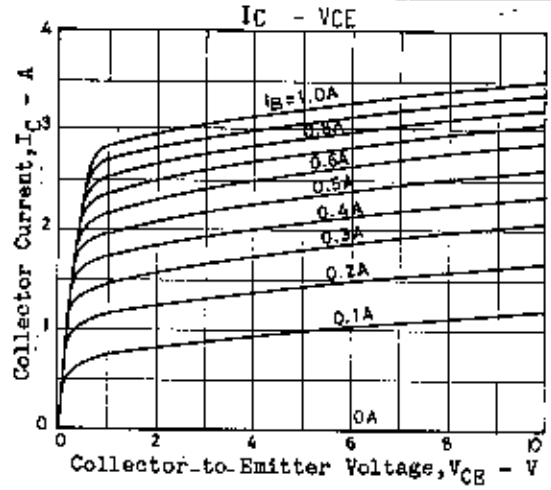
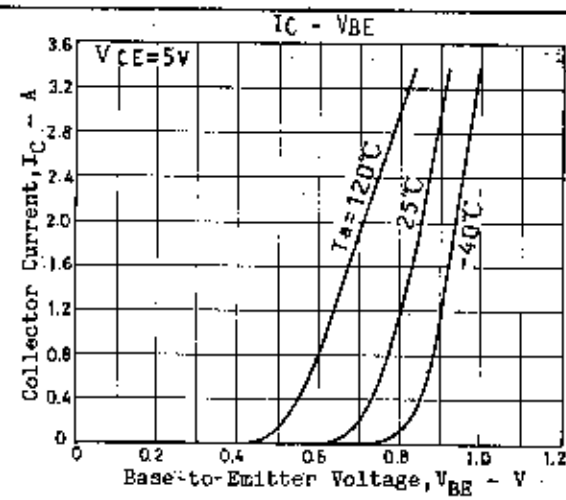
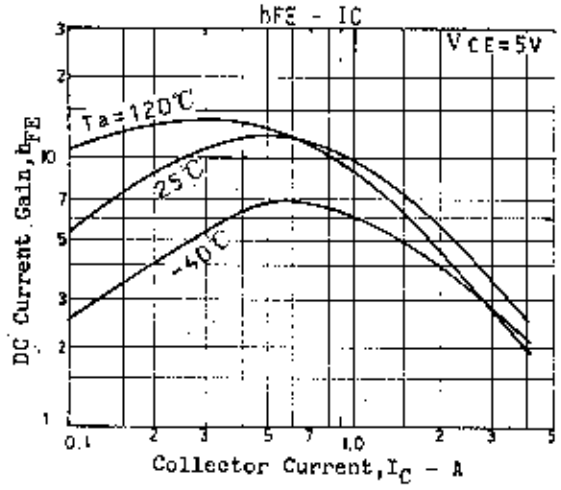
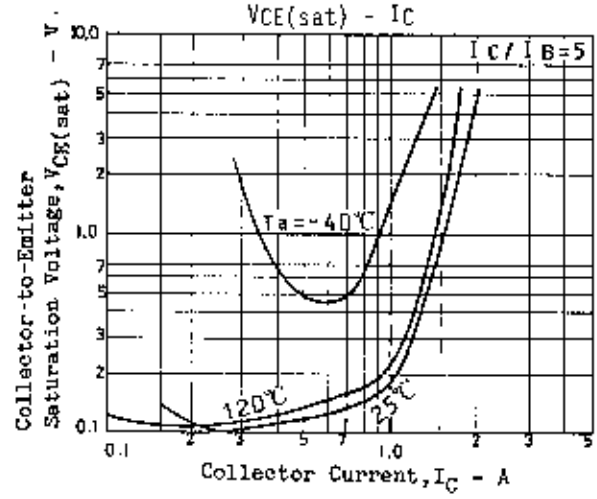
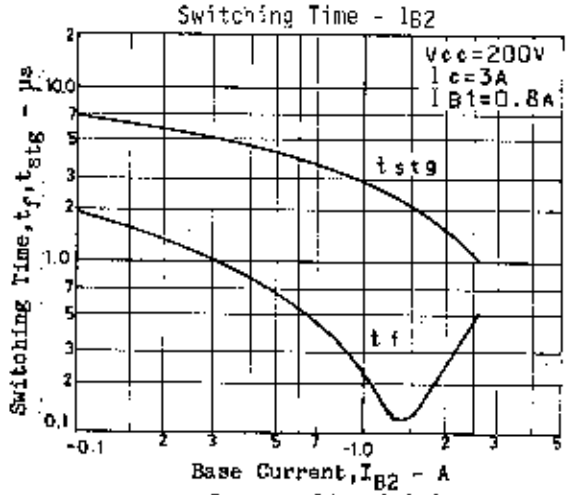
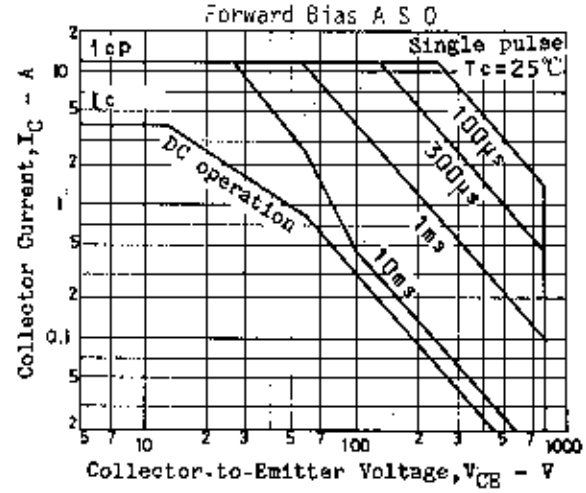

IC - VCE
Collector Current, IC - A
Collector-to-Emitter Voltage, VCE - V
IB=1.0A
0.9A
0.8A
0.5A
0.4A
0.3A
0.2A
0.1A
0A

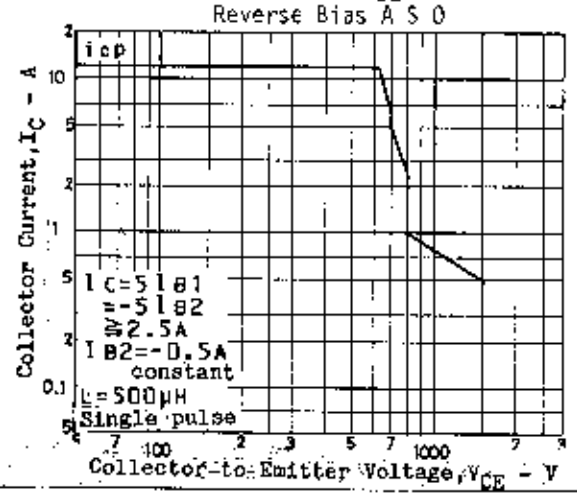

IC - VBE
VCE=5V
Collector Current, IC - A
Base-to-Emitter Voltage, VBE - V
Ta=120°C
25°C
-40°C

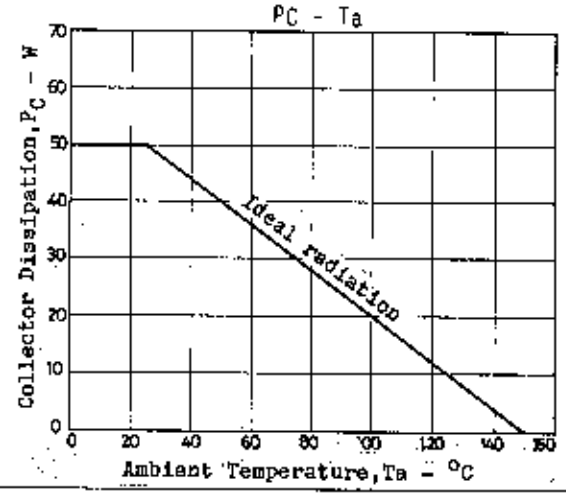

hFE - IC
VCE=5V
DC Current Gain, hFE
Collector Current, IC - A
Ta=120°C
25°C
-40°C


VCE(sat) - IC
IC/IB=5
Collector-to-Emitter Saturation Voltage, VCE(sat) - V
Collector Current, IC - A
Ta=-40°C
120°C
25°C


Switching Time - IB2
Vcc=200V
IC=3A
IB1=0.8A
Switching Time, tf, tstg - μs
Base Current, IB2 - A
tstg
tf


Forward Bias A S O
Single pulse
Tc=25°C
Collector Current, IC - A
Collector-to-Emitter Voltage, VCE - V
DC operation
100μs
300μs
1ms
10ms


Reverse Bias A S O
Collector Current, IC - A
Collector-to-Emitter Voltage, VCE - V
IC=5IB1
=-5IB2
≦2.5A
IB2=-0.5A
constant
L=500μH
Single pulse


PC - Ta
Collector Dissipation, PC - W
Ambient Temperature, Ta - °C
Ideal radiation