Ordering number: EN 5291

SANYO

No.5291

# 2SC5297

NPN Triple Diffused Planar Silicon Transistor

## Ultrahigh-Definition CRT Display Horizontal Deflection Output Applications

### Features

- High Speed : $t_f$ = 100ns typ.
- High breakdown voltage : $V_{CBO}$ = 1500V.
- High reliability (Adoption of HVP process).
- Adoption of MBIT process.

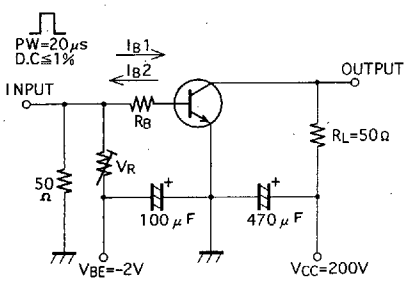
### Absolute Maximum Ratings at Ta = 25°C

| | | | | 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 | $I_C$ | | 8 | A |
| Collector Current (Pulse) | $I_{CP}$ | | 16 | A |
| Collector Dissipation | $P_C$ | | 3.0 | W |
| | | Tc = 25°C | 60 | W |
| Junction Temperature | Tj | | 150 | °C |
| Storage Temperature | Tstg | | −55 to +150 | °C |

### Electrical Characteristics at Ta = 25°C

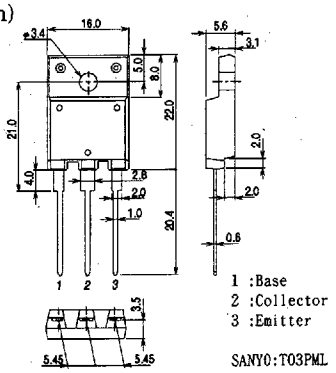
| | | | min | typ | max | unit |
|---|---|---|---|---|---|---|
| Collector Cutoff Current | $I_{CBO}$ | $V_{CB}$ = 800V, $I_E$ = 0 | | | 10 | μA |
| Collector Cutoff Current | $I_{CES}$ | $V_{CE}$ = 1500V, $R_{BE}$ = 0 | | | 1.0 | mA |
| Collector Sustaining Voltage | $V_{CEO(SUS)}$ | $I_C$ = 100mA, $I_B$ = 0 | 800 | | | V |
| Emitter Cutoff Current | $I_{EBO}$ | $V_{EB}$ = 4V, $I_C$ = 0 | | | 1.0 | mA |
| C-E Saturation Voltage | $V_{CE(sat)}$ | $I_C$ = 5A, $I_B$ = 1.25A | | | 5 | V |
| B-E Saturation Voltage | $V_{BE(sat)}$ | $I_C$ = 5A, $I_B$ = 1.25A | | | 1.5 | V |
| DC Current Gain | $h_{FE(1)}$ | $V_{CE}$ = 5V, $I_C$ = 1A | 20 | | 30 | |
| | $h_{FE(2)}$ | $V_{CE}$ = 5V, $I_C$ = 5A | 4 | | 7 | |
| Storage Time | $t_{stg}$ | $I_C$ = 4A, $I_{B1}$ = 0.8A, $I_{B2}$ = −1.6A | | | 3.0 | μs |
| Fall Time | $t_f$ | $I_C$ = 4A, $I_{B1}$ = 0.8A, $I_{B2}$ = −1.6A | 0.1 | | 0.2 | μs |

### Switching Time Test Circuit




### Package Dimensions 2039D

(unit : mm)





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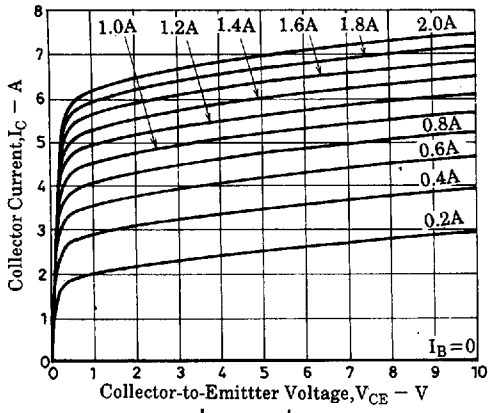
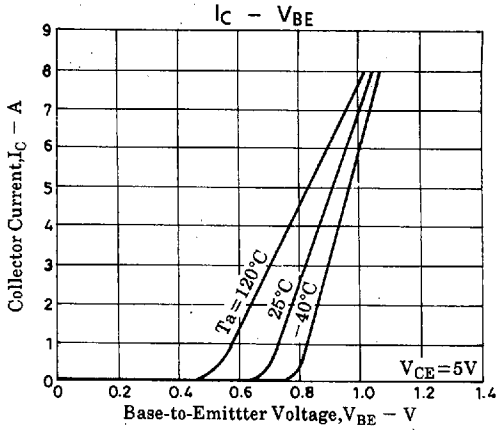
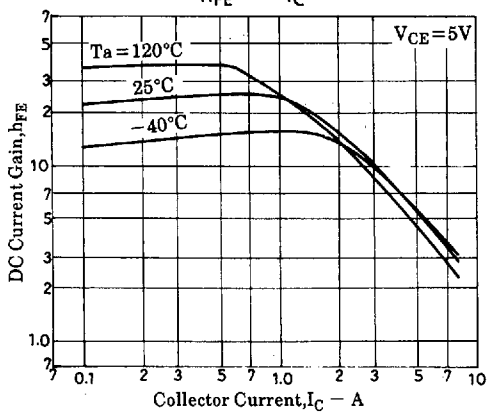
$I_C$ – $V_{CE}$



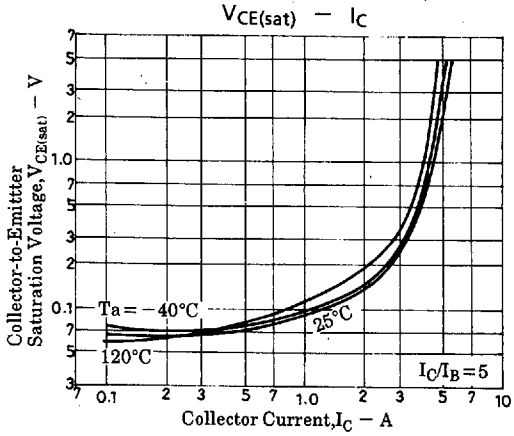

$I_C$ – $V_{BE}$



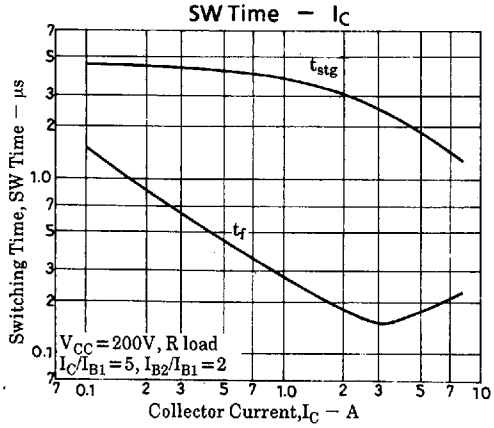

$h_{FE}$ – $I_C$



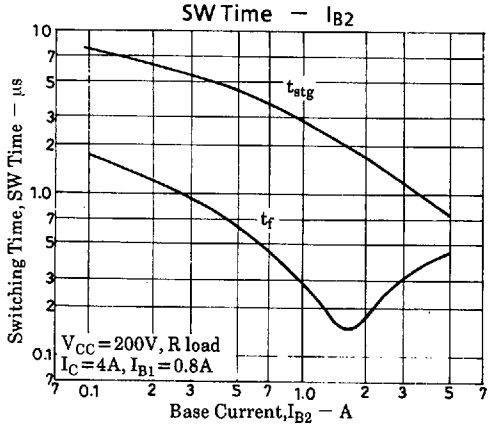

$V_{CE(sat)}$ – $I_C$



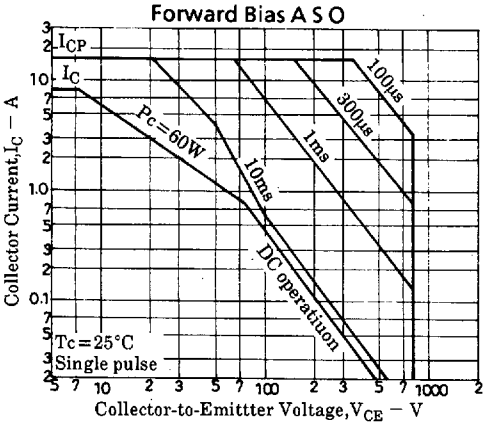

SW Time – $I_C$



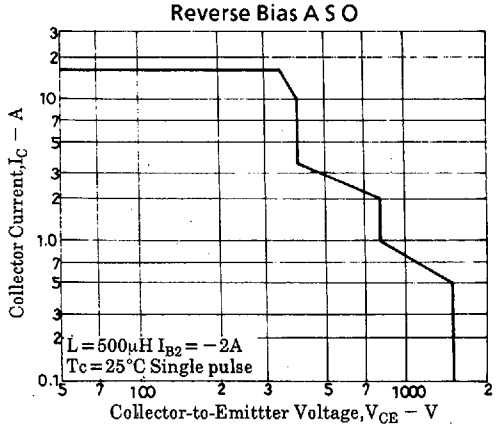

SW Time – $I_{B2}$

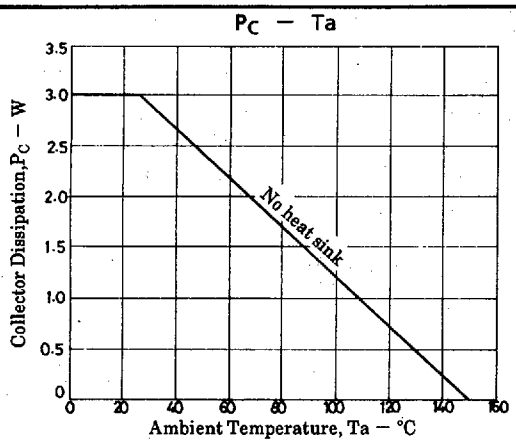


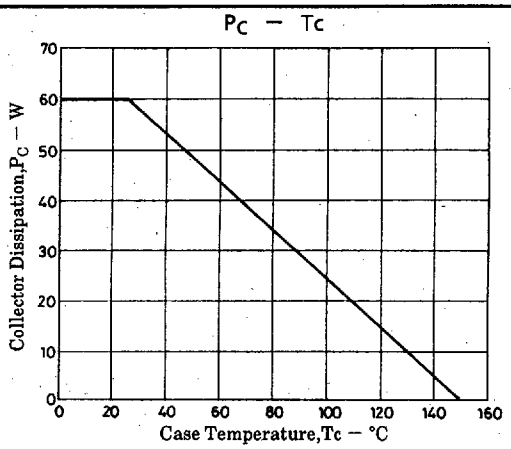

Forward Bias A S O




Reverse Bias A S O




Pc — Ta
Collector Dissipation, Pc — W
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0
No heat sink
0
20
40
60
80
100
120
140
160
Ambient Temperature, Ta — °C


Pc — Tc
Collector Dissipation, Pc — W
70
60
50
40
30
20
10
0
0
20
40
60
80
100
120
140
160
Case Temperature, Tc — °C