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Ordering number : ENN7550

NPN Triple Diffused Planar Silicon Transistor

# TT2142

## Color TV Horizontal Deflection Output Applications

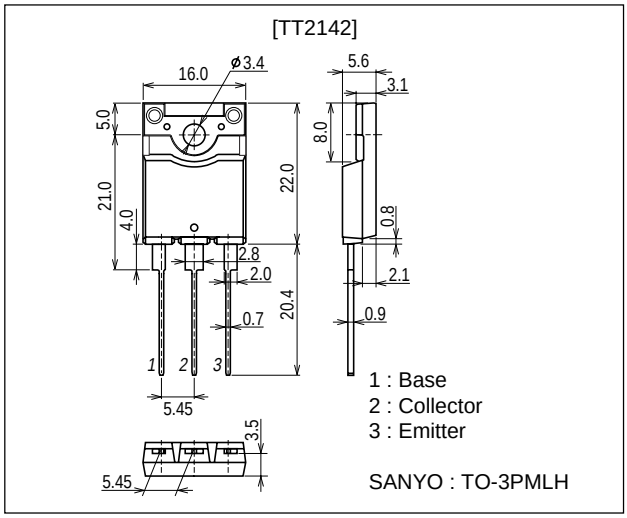
## Features

- High speed.
- High breakdown voltage($V_{CBO}$=1500V).
- High reliability(Adoption of HVP process).
- Adoption of MBIT process.
- On-chip damper diode.

## Package Dimensions

unit : mm

2174A




## Specifications

### Absolute Maximum Ratings at Ta=25°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 | $I_C$ | | 8 | A |
| Collector Current (Pulse) | $I_{CP}$ | | 20 | A |
| Collector Dissipation | $P_C$ | | 3.0 | W |
| | | Tc=25°C | 65 | W |
| Junction Temperature | Tj | | 150 | °C |
| Storage Temperature | Tstg | | −55 to +150 | °C |

### Electrical Characteristics at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|---|---|---|---|---|---|
| | | | min | typ | max | |
| 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 Sustain Voltage | $V_{CEO}$(sus) | $I_C$=100mA, $I_B$=0 | 800 | | | V |
| Emitter Cutoff Current | $I_{EBO}$ | $V_{EB}$=4V, $I_C$=0 | 40 | | 130 | mA |

Continued on next page.

■ Any and all SANYO products described or contained herein do not have specifications that can handle applications that require extremely high levels of reliability, such as life-support systems, aircraft's control systems, or other applications whose failure can be reasonably expected to result in serious physical and/or material damage. Consult with your SANYO representative nearest you before using any SANYO products described or contained herein in such applications.

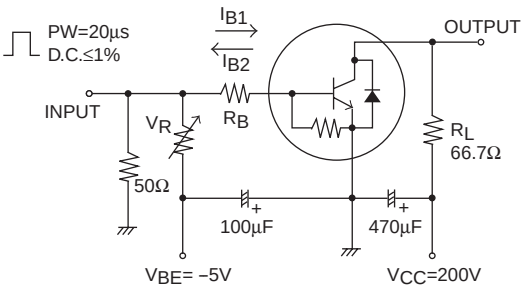
■ SANYO assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all SANYO products described or contained herein.

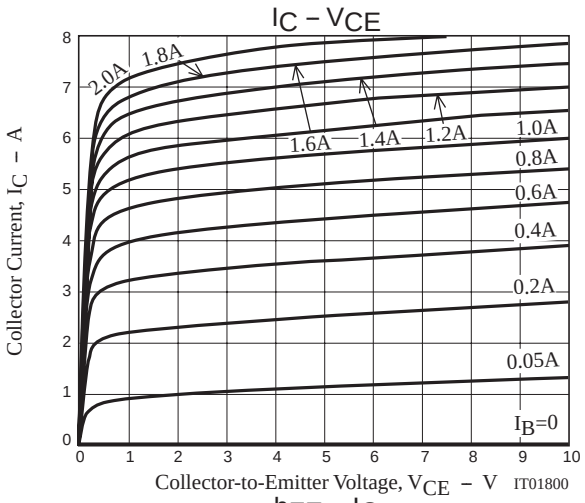
**SANYO Electric Co.,Ltd. Semiconductor Company**
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

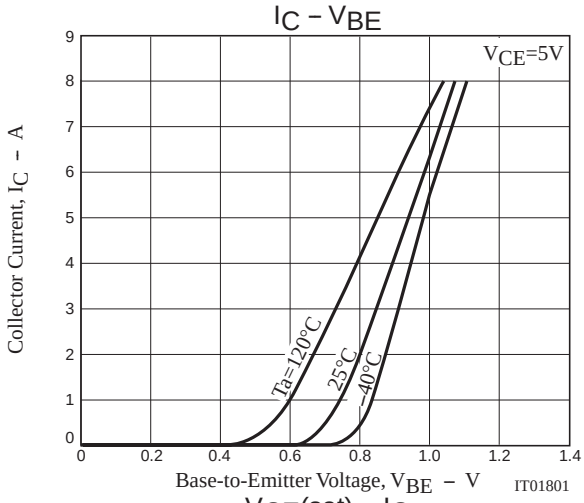
Continued from preceding page.

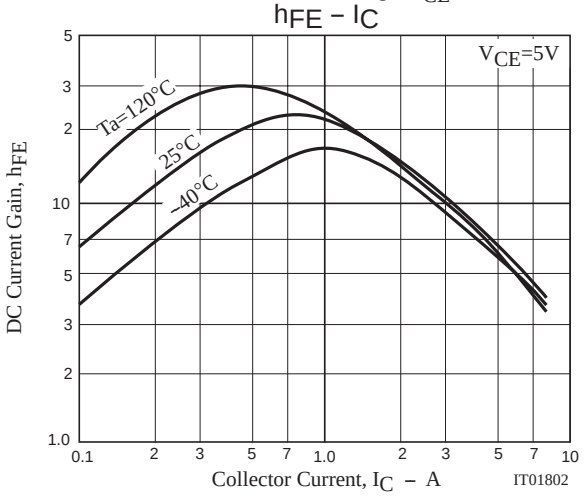
| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|---|---|---|---|---|---|
| | | | min | typ | max | |
| Collector-to-Emitter Saturation Voltage | $V_{CE}$(sat) | $I_C$=4.5A, $I_B$=0.9A | | | 3 | V |
| Base-to-Emitter Saturation Voltage | $V_{BE}$(sat) | $I_C$=4.5A, $I_B$=0.9A | | | 1.5 | V |
| DC Current Gain | $h_{FE}$1 | $V_{CE}$=5V, $I_C$=1A | 10 | | | |
| | $h_{FE}$2 | $V_{CE}$=5V, $I_C$=5A | 5 | | 8 | |
| Diode Forward Voltage | $V_F$ | $I_{EC}$=7A | | | 2 | V |
| Fall Time | $t_f$ | $I_C$=3A, $I_{B1}$=0.6A, $I_{B2}$=−1.2A | | | 0.3 | μs |

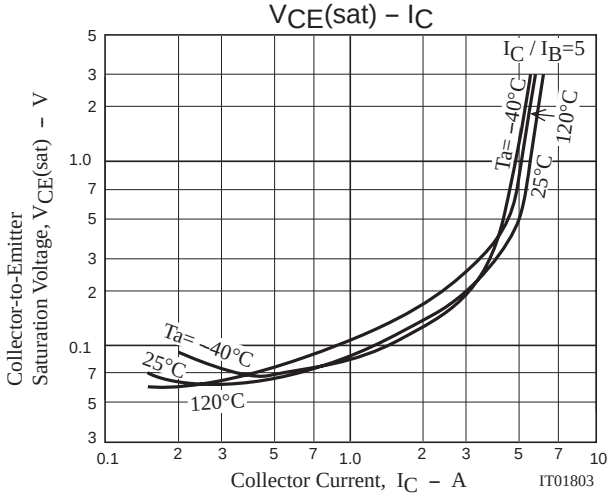
## Switching Time Test Circuit



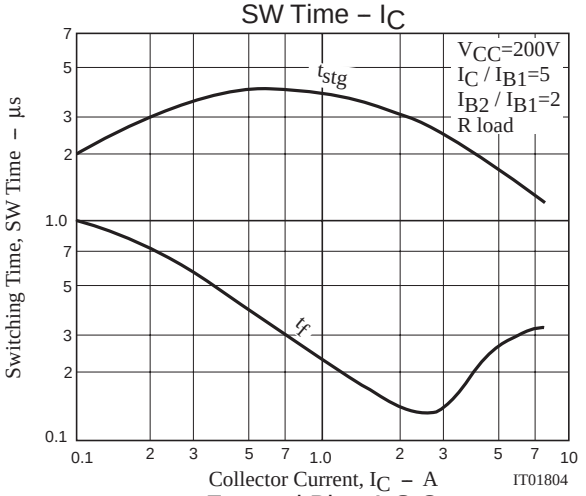



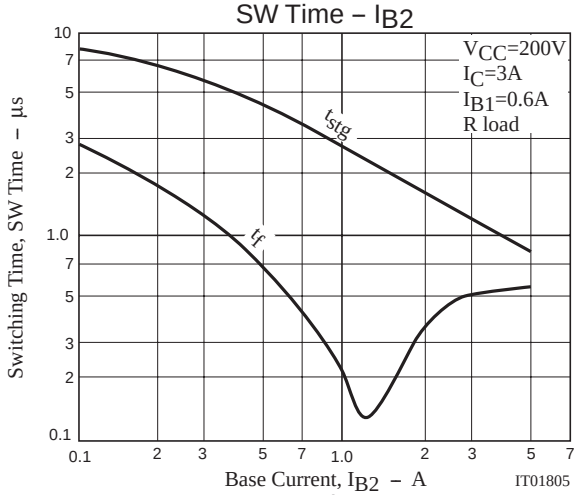



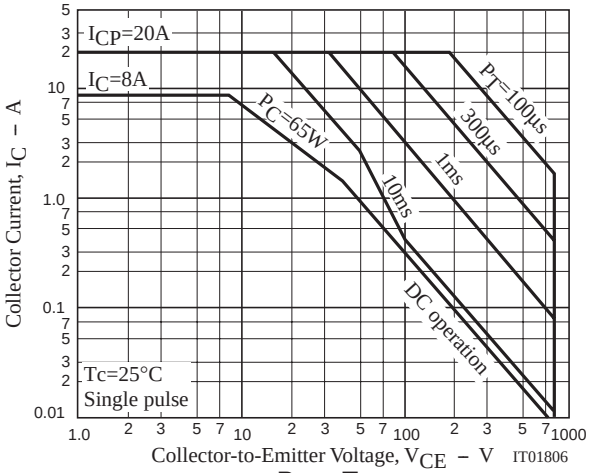
SW Time – $I_C$



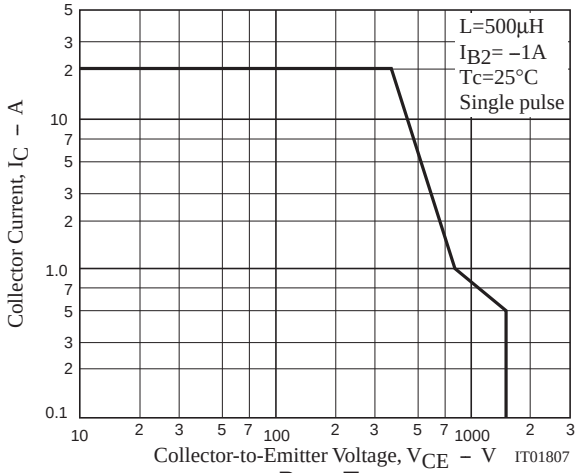

SW Time – $I_{B2}$



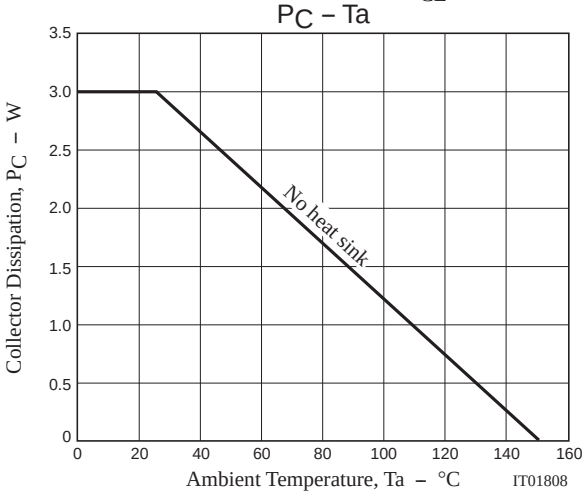

Forward Bias A S O



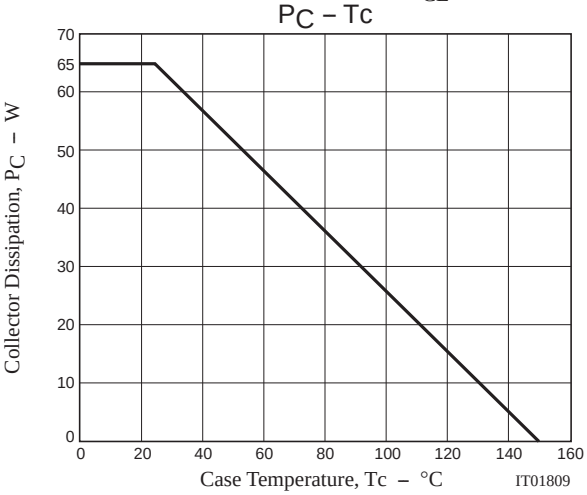

Reverse Bias A S O




$P_C$ – Ta




$P_C$ – Tc



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