

**TS7990**

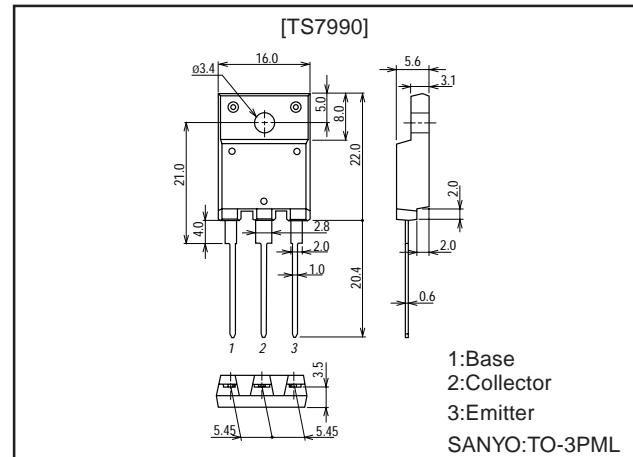
Ultrahigh-Definition CRT Display Horizontal Deflection Output Applications

Features

- High speed.
- High breakdown voltage ($V_{CBO}=1600V$).
- High reliability (Adoption of HVP process).
- Adoption of MBIT process.

Package Dimensions

unit:mm

2039D-TO3PML

Specifications

Absolute Maximum Ratings at $T_a = 25^\circ C$

| Parameter | Symbol | Conditions | Ratings | Unit |
|------------------------------|-----------|------------------|-------------|------------|
| Collector-to-Base Voltage | V_{CBO} | | 1600 | V |
| Collector-to-Emitter Voltage | V_{CEO} | | 800 | V |
| Emitter-to-Base Voltage | V_{EBO} | | 6 | V |
| Collector Current | I_C | | 15 | A |
| Collector Current (Pulse) | I_{CP} | | 35 | A |
| Collector Dissipation | P_C | | 3.0 | W |
| | | $T_c=25^\circ C$ | 75 | W |
| Junction Temperature | T_j | | 150 | $^\circ C$ |
| Storage Temperature | T_{stg} | | -55 to +150 | $^\circ C$ |

Electrical Characteristics at $T_a = 25^\circ C$

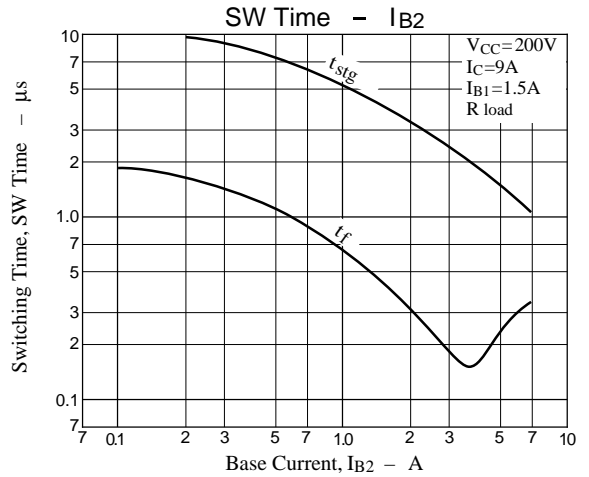
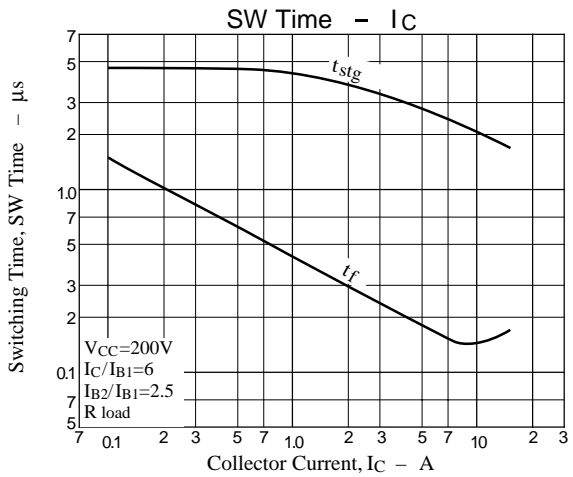
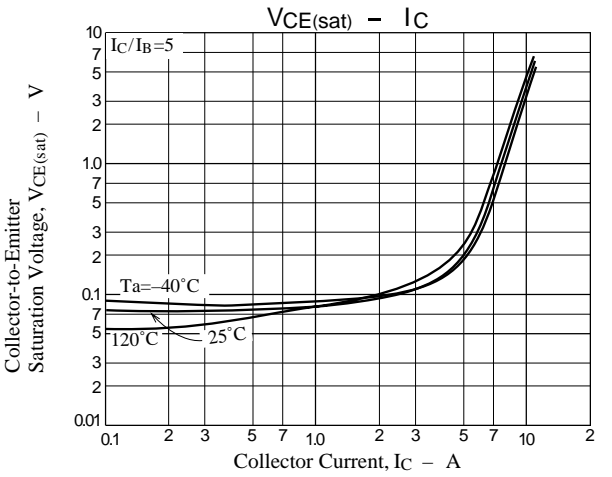
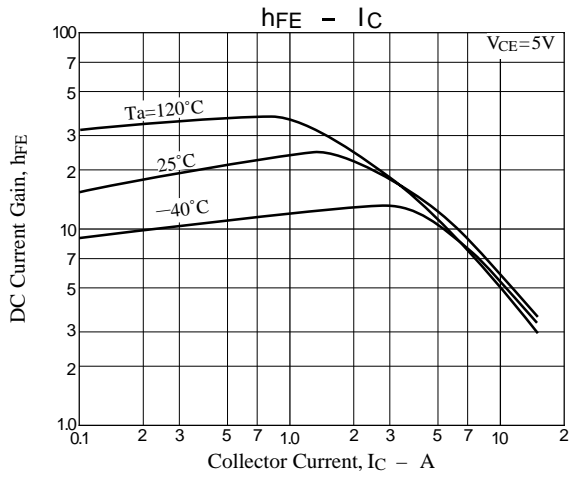
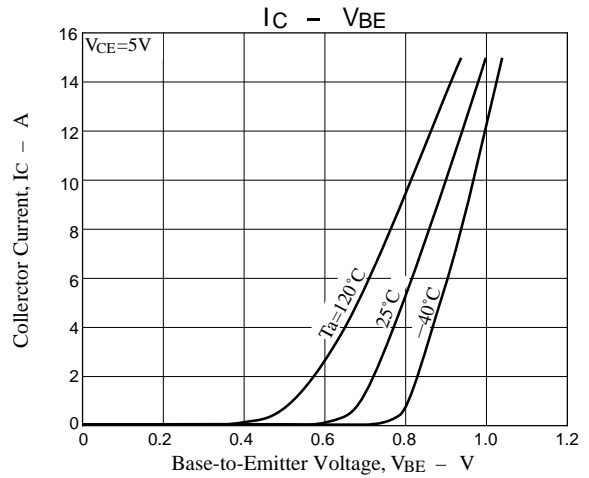
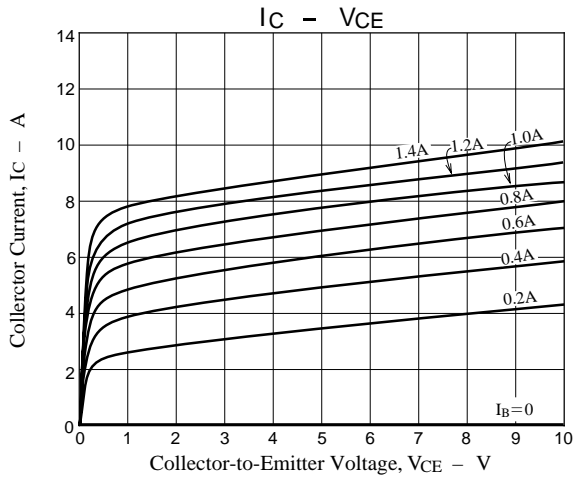
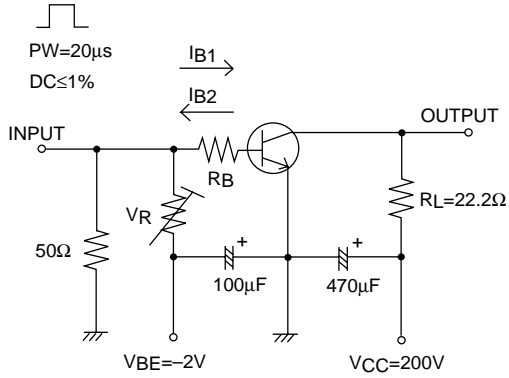
| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---------------------------|----------------|--------------------------------------|---------|-----|-----|---------|
| | | | min | typ | max | |
| Collector Cutoff Current | I_{CES} | $V_{CE}=1600V, R_{BE}=0$ | | | 1.0 | mA |
| Collector Sustain Voltage | $V_{CEO(SUS)}$ | $I_C=100mA, I_B=0$ | 800 | | | V |
| Emitter Cutoff Current | I_{EBO} | $V_{EB}=4V, I_C=0$ | | | 1.0 | mA |
| Collector Cutoff Current | I_{CBO} | $V_{CB}=800V, I_E=0$ | | | 10 | μA |
| | | | | | | |
| DC Current Gain | $h_{FE(1)}$ | $V_{CE}=5V, I_C=1.0A$ | 15 | | 30 | |
| | $h_{FE(2)}$ | $V_{CE}=5V, I_C=11A$ | 4 | | 7 | |
| C-E Saturation Voltage | $V_{CE(sat)}$ | $I_C=11A, I_B=2.75A$ | | | 5 | V |
| B-E Saturation Voltage | $V_{BE(sat)}$ | $I_C=11A, I_B=2.75A$ | | | 1.5 | V |
| Storage Time | t_{stg} | $I_C=9A, I_{B1}=1.5A, I_{B2}=-3.75A$ | | | 3.0 | μs |
| Fall Time | t_f | $I_C=9A, I_{B1}=1.5A, I_{B2}=-3.75A$ | | | 0.2 | μs |

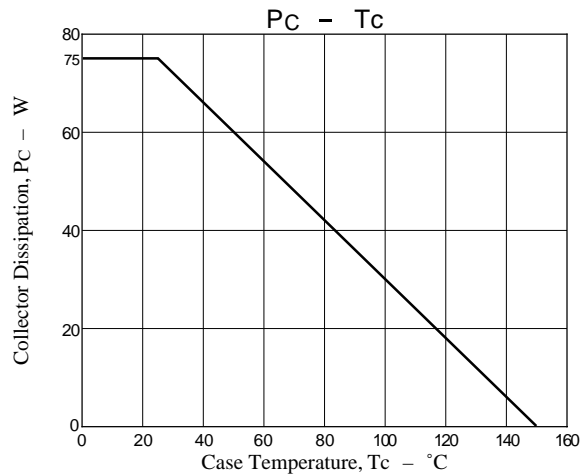
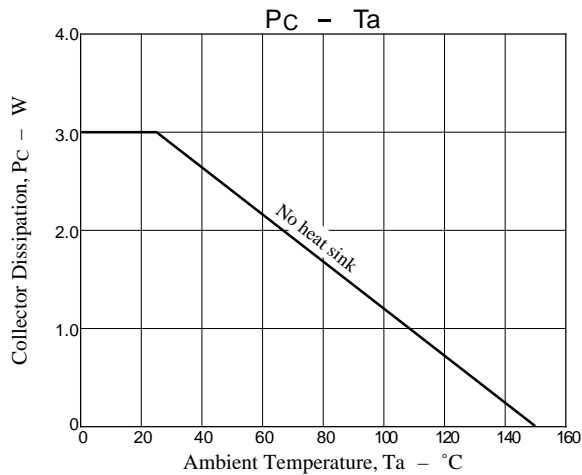
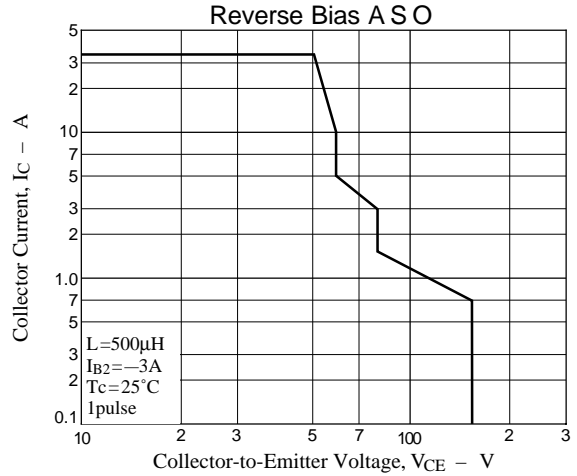
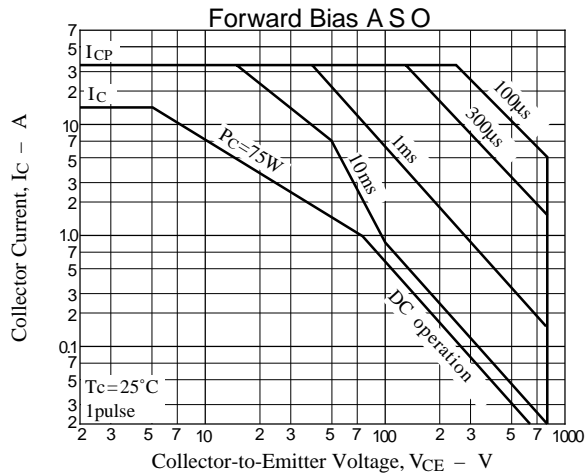
SANYO Electric Co.,Ltd. Semiconductor Business Headquarters

TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

42498TS (KOTO) TA-1621 No.5960-1/3

Switching Time Test Circuit





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