

**SANYO**

No.2710A

**2SC4271**

NPN Epitaxial Planar Silicon Transistor

High-Definition CRT Display  
Video Output Driver Applications

### Applications

- Wide-band amplifiers
- High frequency drivers

### Features

- High  $f_T$  ( $f_T=2.2\text{GHz typ}$ )
- High current ( $I_C=300\text{mA}$ )
- Adoption of FBET process

### Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

|                              |                                  |             | unit             |
|------------------------------|----------------------------------|-------------|------------------|
| Collector-to-Base Voltage    | $V_{CBO}$                        | 30          | V                |
| Collector-to-Emitter Voltage | $V_{CEO}$                        | 20          | V                |
| Emitter-to-Base Voltage      | $V_{EBO}$                        | 3           | V                |
| Collector Current            | $I_C$                            | 300         | mA               |
| Peak Collector Current       | $i_{cp}$                         | 600         | mA               |
| Collector Dissipation        | $P_C$ ( $T_a=25^\circ\text{C}$ ) | 1.2         | W                |
|                              | $P_C$ ( $T_c=25^\circ\text{C}$ ) | 5           | W                |
| Junction Temperature         | $T_j$                            | 150         | $^\circ\text{C}$ |
| Storage Temperature          | $T_{stg}$                        | -55 to +150 | $^\circ\text{C}$ |

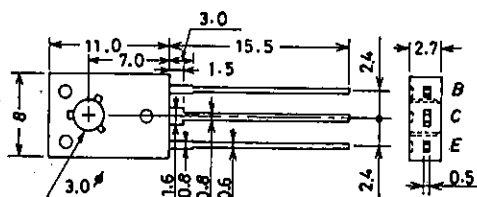
### Electrical Characteristics at $T_a=25^\circ\text{C}$

|                              |               |                                      | min | typ | max | unit          |
|------------------------------|---------------|--------------------------------------|-----|-----|-----|---------------|
| Collector Cutoff Current     | $I_{CBO}$     | $V_{CB}=20\text{V}, I_E=0$           |     |     | 0.1 | $\mu\text{A}$ |
| Emitter Cutoff Current       | $I_{EBO}$     | $V_{EB}=2\text{V}, I_C=0$            |     |     | 5.0 | $\mu\text{A}$ |
| DC Current Gain              | $h_{FE}(1)$   | $V_{CE}=5\text{V}, I_C=50\text{mA}$  | 40  |     | 200 |               |
|                              | $h_{FE}(2)$   | $V_{CE}=5\text{V}, I_C=300\text{mA}$ | 20  |     |     |               |
| Gain-Bandwidth Product       | $f_T$         | $V_{CE}=5\text{V}, I_C=50\text{mA}$  |     | 2.2 |     | GHz           |
| Output Capacitance           | $c_{ob}$      | $V_{CB}=10\text{V}, f=1\text{MHz}$   |     | 3.9 |     | pF            |
| Reverse Transfer Capacitance | $c_{re}$      | $V_{CB}=10\text{V}, f=1\text{MHz}$   |     | 3.2 |     | pF            |
| C-E Saturation Voltage       | $V_{CE(sat)}$ | $I_C=100\text{mA}, I_B=10\text{mA}$  | 0.2 | 0.6 |     | V             |
| B-E Saturation Voltage       | $V_{BE(sat)}$ | $I_C=100\text{mA}, I_B=10\text{mA}$  | 0.9 | 1.2 |     | V             |

\*:The 2SC4271 is classified by 50mA  $h_{FE}$  as follows:

|    |   |    |    |   |     |     |   |     |
|----|---|----|----|---|-----|-----|---|-----|
| 40 | C | 80 | 60 | D | 120 | 100 | E | 200 |
|----|---|----|----|---|-----|-----|---|-----|

Package Dimensions 2009A  
(unit: mm)

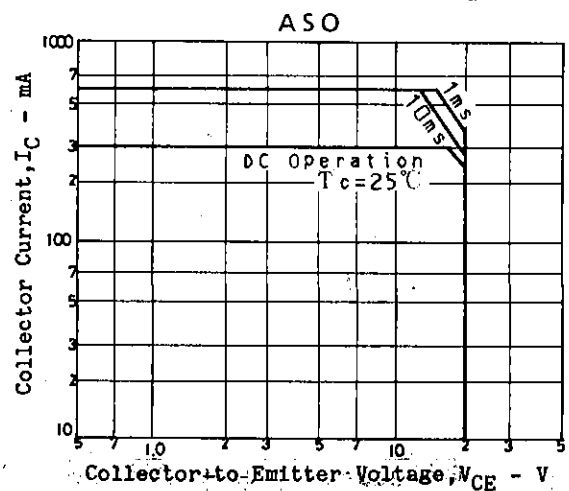
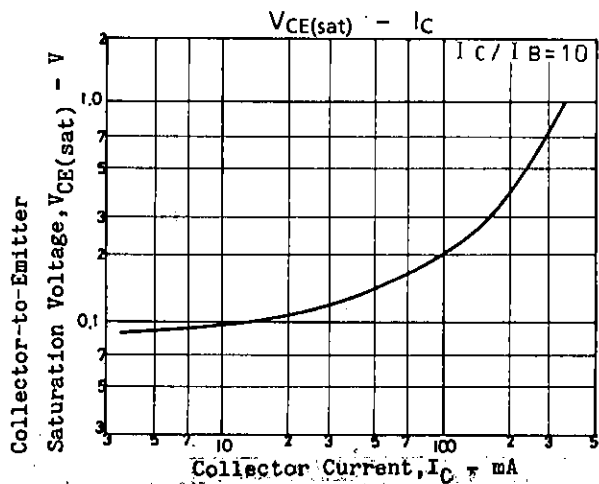
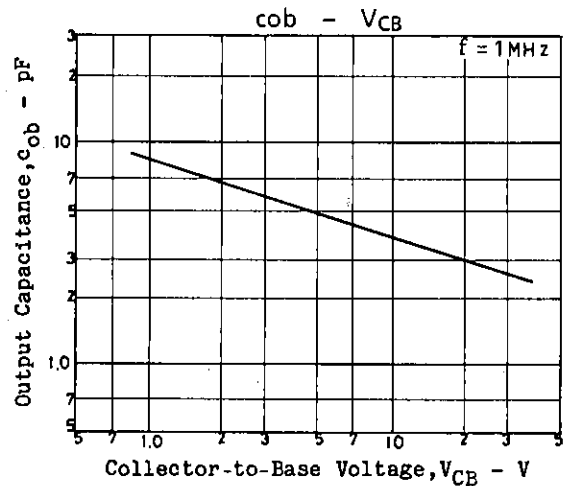
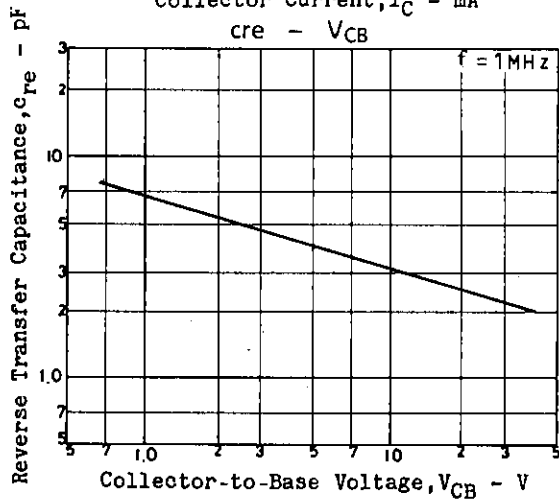
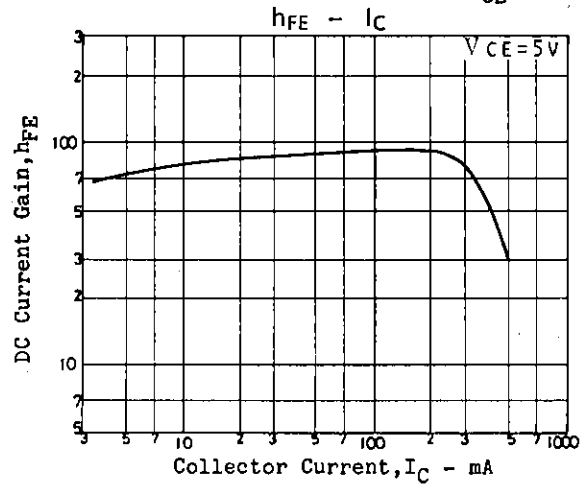
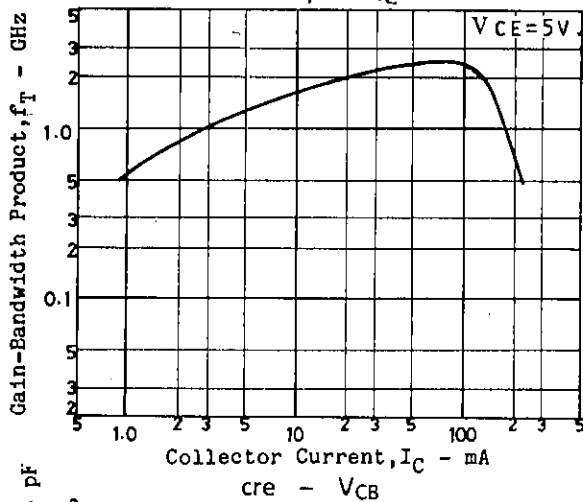
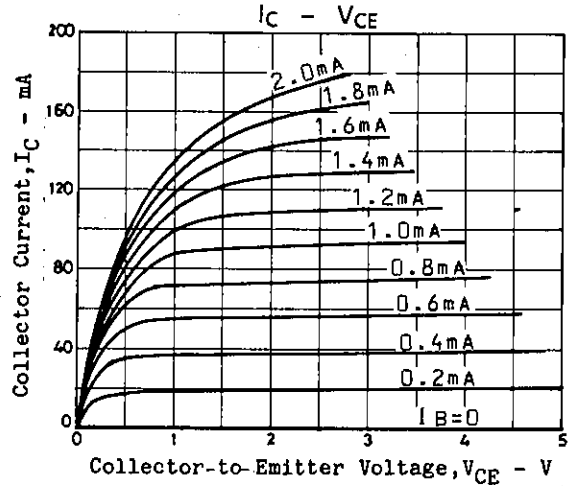
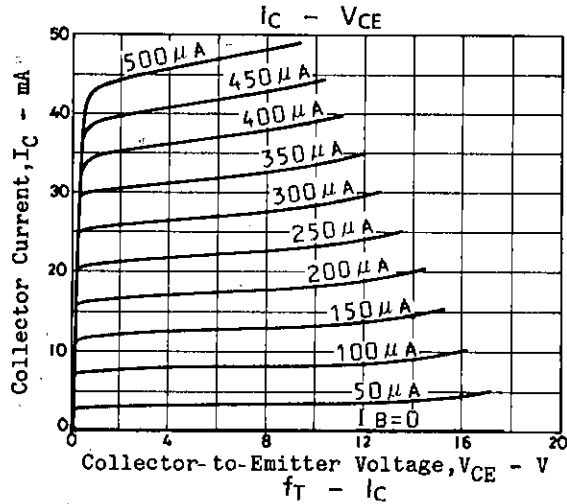


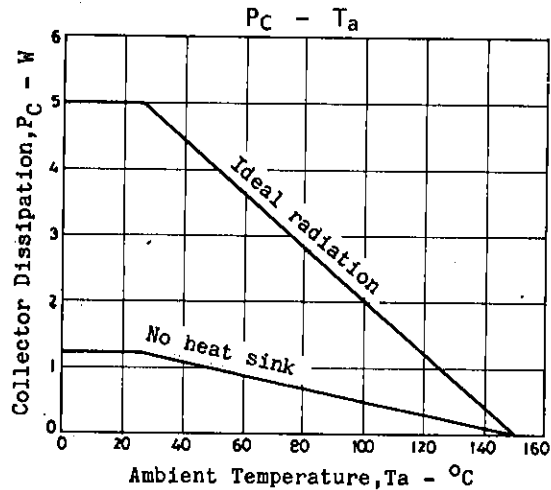
JEDEC: TO-126

B: Base  
C: Collector  
E: Emitter

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

4090MO/4118YT, TS No.2710-1/3





- No products described or contained herein are intended for use in surgical implants, life-support systems, aerospace equipment, nuclear power control systems, vehicles, disaster/crime-prevention equipment and the like, the failure of which may directly or indirectly cause injury, death or property loss.
- Anyone purchasing any products described or contained herein for an above-mentioned use shall:
  - ① Accept full responsibility and indemnify and defend SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors and all their officers and employees, jointly and severally, against any and all claims and litigation and all damages, cost and expenses associated with such use;
  - ② Not impose any responsibility for any fault or negligence which may be cited in any such claim or litigation on SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors or any of their officers and employees jointly or severally.
- Information (including circuit diagrams and circuit parameters) herein is for example only; it is not guaranteed for volume production. SANYO believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringements of intellectual property rights or other rights of third parties.