

|              |  |                |
|--------------|--|----------------|
| <b>SANYO</b> | No.3233  | <b>2SA1689</b> |
|              | PNP Epitaxial Planar Silicon Transistor<br>TV Camera Deflection,<br>High-Voltage Driver Applications |                |

**Features**

- High breakdown voltage
- Small reverse transfer capacitance and excellent high frequency characteristic
- Excellent DC current gain
- Adoption of FBET process

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

|                              |                  |             |    |
|------------------------------|------------------|-------------|----|
| Collector to Base Voltage    | V <sub>CB0</sub> | -300        | V  |
| Collector to Emitter Voltage | V <sub>CE0</sub> | -300        | V  |
| Emitter to Base Voltage      | V <sub>EBO</sub> | -5          | V  |
| Collector Current            | I <sub>C</sub>   | -50         | mA |
| Collector Current(Pulse)     | I <sub>CP</sub>  | -100        | mA |
| Collector Dissipation        | P <sub>C</sub>   | 600         | mW |
| Junction Temperature         | T <sub>j</sub>   | 150         | °C |
| Storage Temperature          | T <sub>stg</sub> | -55 to +150 | °C |

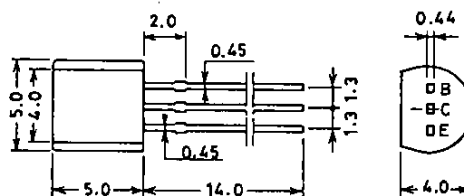
**Electrical Characteristics at Ta = 25°C**

|                              |                       |  | min  | typ | max  | unit |
|------------------------------|-----------------------|--|------|-----|------|------|
| Collector Cutoff Current     | I <sub>CB0</sub>      | V <sub>CB</sub> = -200V, I <sub>E</sub> = 0    |      |     | -0.1 | μA   |
| Emitter Cutoff Current       | I <sub>EBO</sub>      | V <sub>EB</sub> = -4V, I <sub>C</sub> = 0      |      |     | -0.1 | μA   |
| DC Current Gain              | h <sub>FE</sub> (1)   | V <sub>CE</sub> = -6V, I <sub>C</sub> = -0.1mA | 100  |     | 320  |      |
|                              | h <sub>FE</sub> (2)   | V <sub>CE</sub> = -6V, I <sub>C</sub> = -1mA   | 100  |     |      |      |
| Gain-Bandwidth Product       | f <sub>T</sub>        | V <sub>CE</sub> = -30V, I <sub>C</sub> = -10mA |      | 70  |      | MHz  |
| C-E Saturation Voltage       | V <sub>CE(sat)</sub>  | I <sub>C</sub> = -10mA, I <sub>B</sub> = -1mA  |      |     | -1.0 | V    |
| B-E Saturation Voltage       | V <sub>BE(sat)</sub>  | I <sub>C</sub> = -10mA, I <sub>B</sub> = -1mA  |      |     | -1.0 | V    |
| C-B Breakdown Voltage        | V <sub>(BR)CB0</sub>  | I <sub>C</sub> = -10μA, I <sub>E</sub> = 0     | -300 |     |      | V    |
| C-E Breakdown Voltage        | V <sub>(BR)CE0</sub>  | I <sub>C</sub> = -1mA, R <sub>BE</sub> = ∞     | -300 |     |      | V    |
| E-B Breakdown Voltage        | V <sub>(BR)EBO</sub>  | I <sub>E</sub> = -10μA, I <sub>C</sub> = 0     | -5   |     |      | V    |
| Output Capacitance           | c <sub>ob</sub>       | V <sub>CB</sub> = -30V, f = 1MHz               |      | 2.4 |      | pF   |
| Reverse Transfer Capacitance | c <sub>re</sub>       | V <sub>CB</sub> = -30V, f = 1MHz               |      | 1.5 |      | pF   |
| DC Current Gain Ratio        | h <sub>FE</sub> ratio | h <sub>FE</sub> (1)/h <sub>FE</sub> (2)        |      | 1.0 |      |      |

※ : The 2SA1689 is classified by 0.1mA h<sub>FE</sub> as follows :

|     |   |     |     |   |     |
|-----|---|-----|-----|---|-----|
| 100 | E | 200 | 160 | F | 320 |
|-----|---|-----|-----|---|-----|

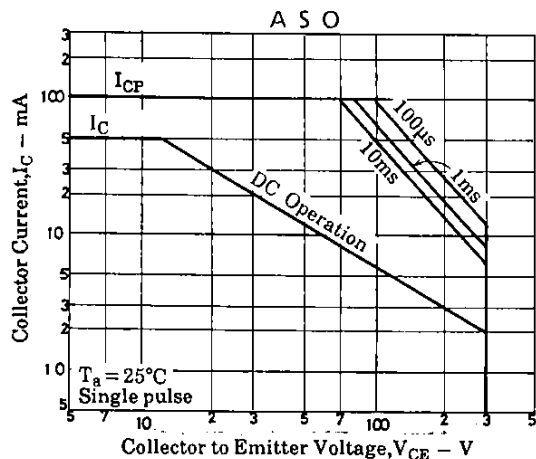
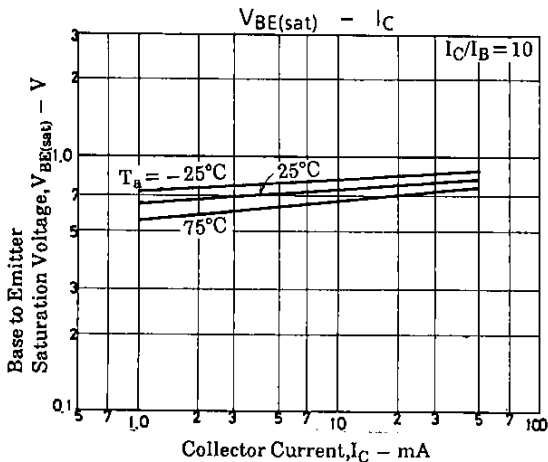
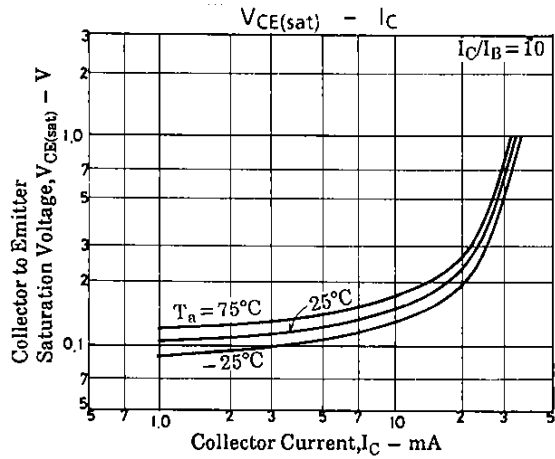
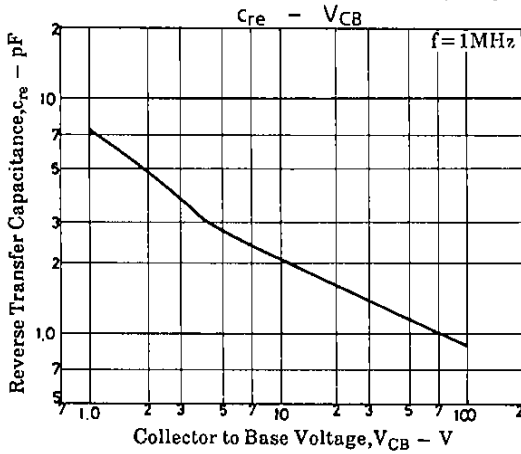
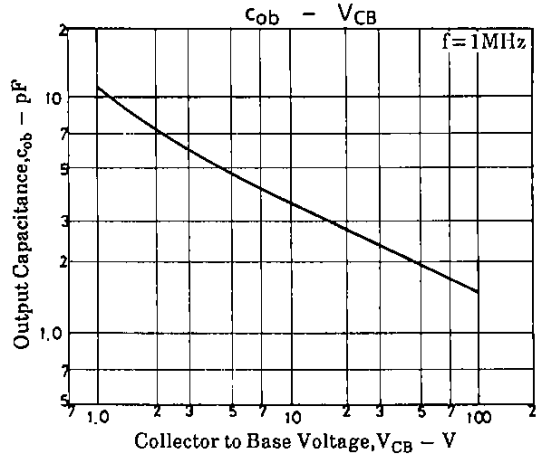
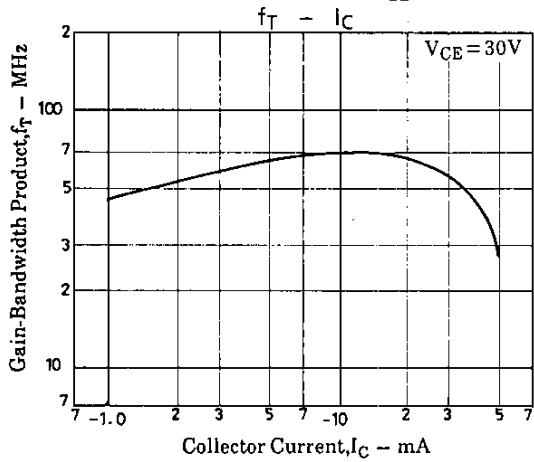
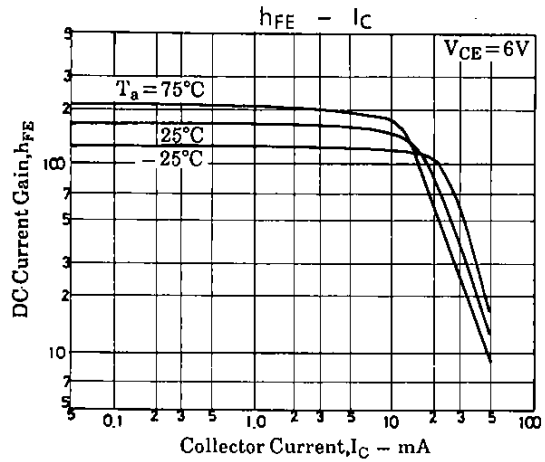
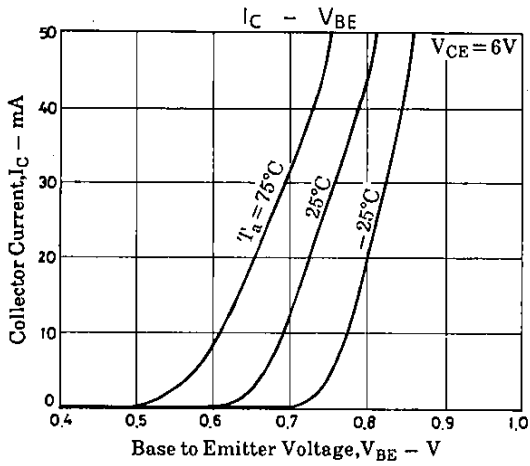
**Package Dimensions 2003A**  
(unit: mm)

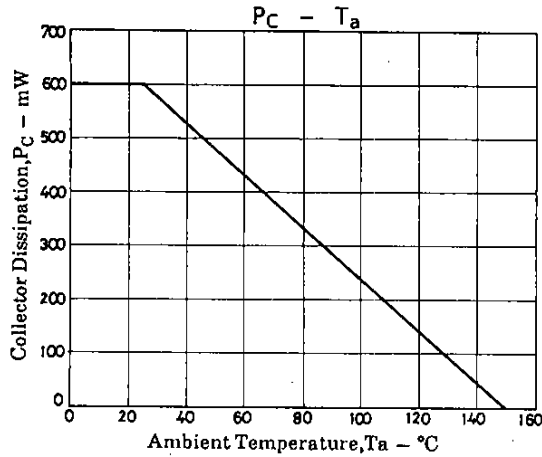


JEDEC: TO-92      B: Base  
 EIAJ : SC-43      C: Collector  
 SANYO: NP        E: Emitter

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O269MO, TS No.3233-1/3





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