

TOSHIBA Transistor Silicon NPN Triple Diffused Planar Type

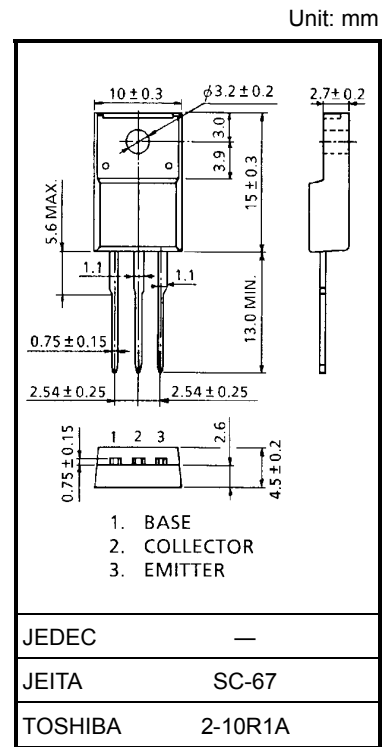
# 2SC4686, 2SC4686A

TV Dynamic Focus Applications  
 High-Voltage Switching Applications  
 High-Voltage Amplifier Applications

- High voltage:  $V_{CEO} = 1200\text{ V (max)}$
- Small collector output capacitance:  $C_{ob} = 2.2\text{ pF (typ.) (}V_{CB} = 100\text{ V)}$

### Maximum Ratings ( $T_c = 25^\circ\text{C}$ )

| Characteristics             | Symbol    | Rating                   | Unit             |
|-----------------------------|-----------|--------------------------|------------------|
| Collector-base voltage      | $V_{CBO}$ | 1500                     | V                |
| Collector-emitter voltage   | $V_{CEO}$ | 2SC4686                  | 1000             |
|                             |           | 2SC4686A                 | 1200             |
| Emitter-base voltage        | $V_{EBO}$ | 5                        | V                |
| Collector current           | DC        | $I_C$                    | 50               |
|                             | Pulse     | $I_{CP}$                 | 100              |
| Base current                | $I_B$     | 25                       | mA               |
| Collector power dissipation | $P_C$     | $T_c = 25^\circ\text{C}$ | 10               |
|                             |           | $T_a = 25^\circ\text{C}$ | 2                |
| Junction temperature        | $T_j$     | 150                      | $^\circ\text{C}$ |
| Storage temperature range   | $T_{stg}$ | -55 to 150               | $^\circ\text{C}$ |

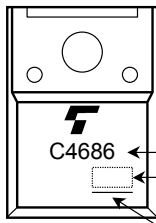


Weight: 1.7 g (typ.)

### Electrical Characteristics ( $T_c = 25^\circ\text{C}$ )

| Characteristics                      | Symbol        | Test Condition                                     | Min      | Typ. | Max | Unit          |
|--------------------------------------|---------------|--|----------|------|-----|---------------|
| Collector cut-off current            | $I_{CBO}$     | $V_{CB} = 1200\text{ V, }I_E = 0$                  | —        | —    | 1.0 | $\mu\text{A}$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB} = 5\text{ V, }I_C = 0$                     | —        | —    | 10  | $\mu\text{A}$ |
| Collector-base breakdown voltage     | $V_{(BR)CBO}$ | $I_C = 100\text{ }\mu\text{A, }I_E = 0$            | 1500     | —    | —   | V             |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}$ | $I_C = 1\text{ mA, }I_B = 0$                       | 2SC4686  | 1000 | —   | —             |
|                                      |               |  | 2SC4686A | 1200 | —   | —             |
| DC current gain                      | $h_{FE}$      | $V_{CE} = 5\text{ V, }I_C = 3\text{ mA}$           | 15       | —    | 60  |               |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 10\text{ mA, }I_B = 2\text{ mA}$            | —        | 0.16 | 1.5 | V             |
| Base-emitter saturation voltage      | $V_{BE(sat)}$ | $I_C = 10\text{ mA, }I_B = 2\text{ mA}$            | —        | 0.7  | 1.5 | V             |
| Transition frequency                 | $f_T$         | $V_{CE} = 10\text{ V, }I_C = 3\text{ mA}$          | —        | 5.5  | —   | MHz           |
| Collector output capacitance         | $C_{ob}$      | $V_{CB} = 100\text{ V, }f = 1\text{ MHz, }I_E = 0$ | —        | 2.2  | —   | pF            |

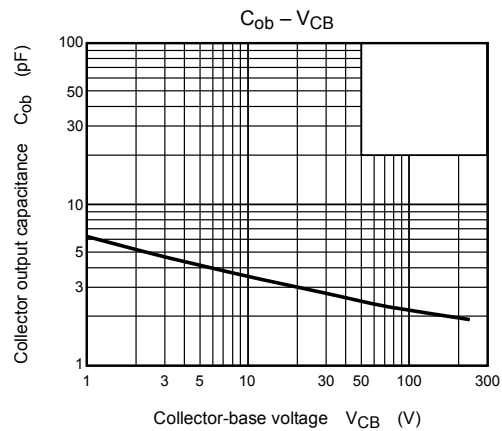
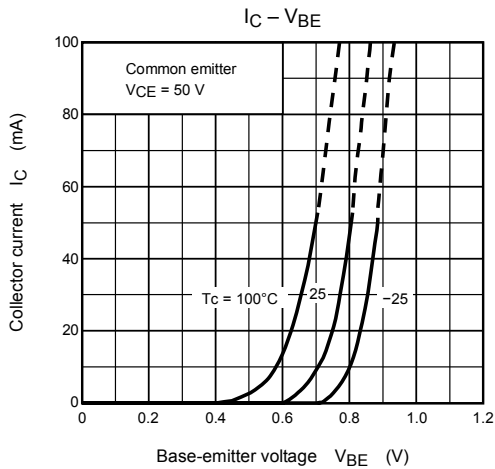
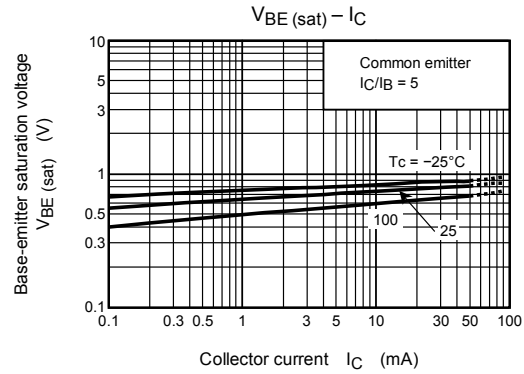
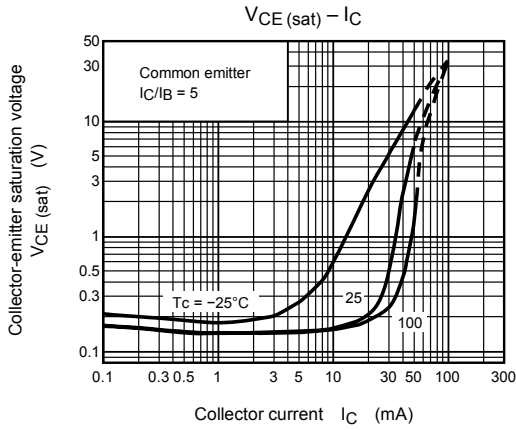
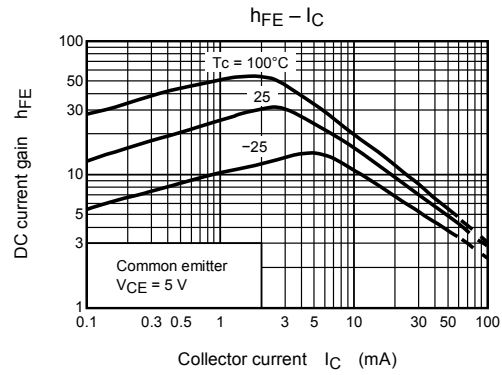
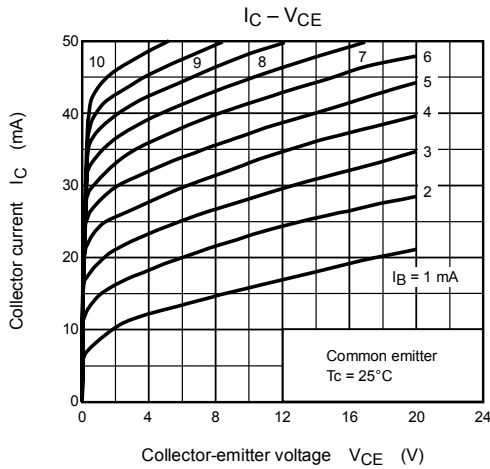
## Marking

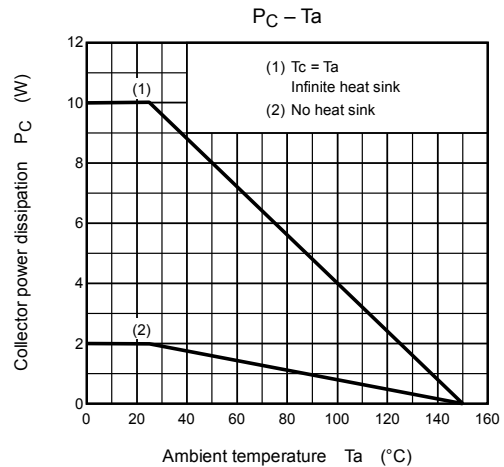
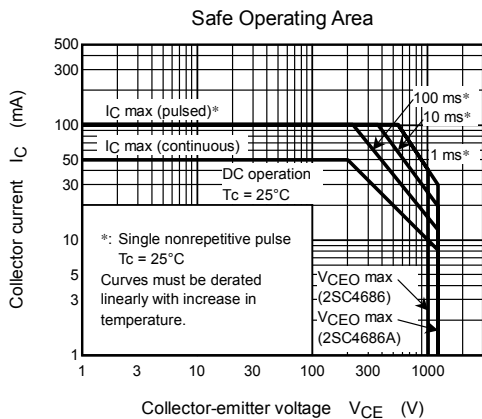
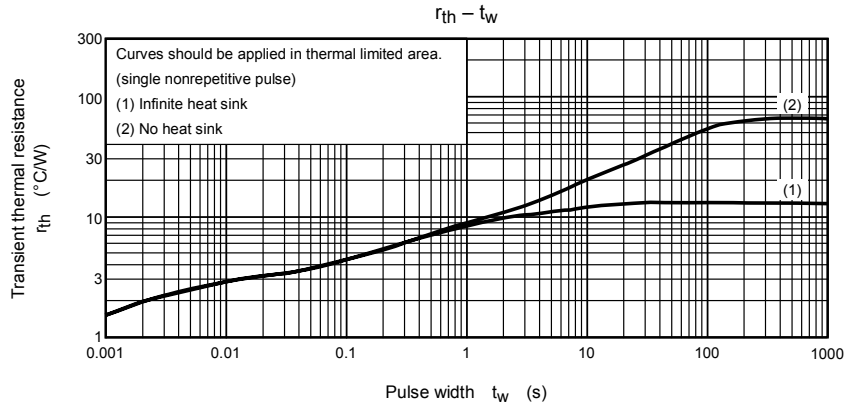
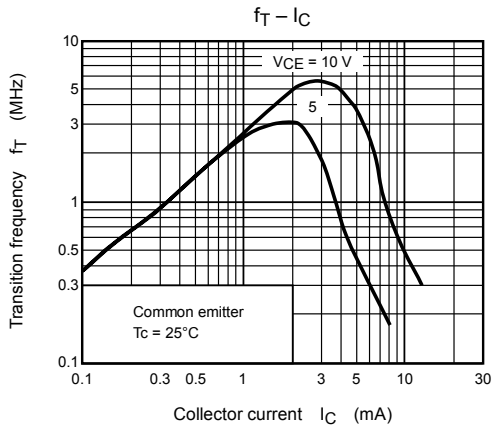


C4686 ← Part No. (or abbreviation code) \*1  
          ← Lot No.

A line indicates  
lead (Pb)-free package or  
lead (Pb)-free finish.

|    | Part No.<br>(or abbreviation code) | Part No. |
|----|------------------------------------|----------|
| *1 | C4686                              | 2SC4686  |
|    | C4686A                             | 2SC4686A |





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