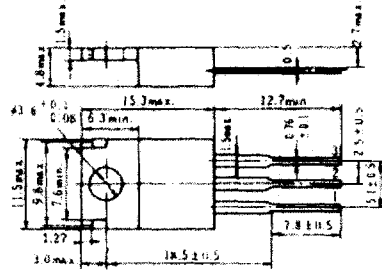


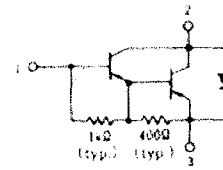
## 2SB727 K

SILICON PNP EPITAXIAL  
MEDIUM SPEED AND POWER SWITCHING  
COMPLEMENTARY PAIR WITH 2SD768 K



(JEDEC TO-220AB)

1. Base
  2. Collector (Flange)
  3. Emitter
- (Dimensions in mm)

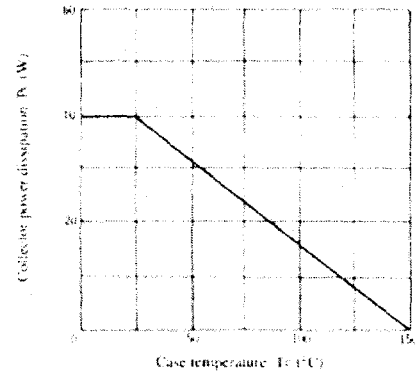


### ■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

| Item                         | Symbol                | 2SB727(K)   | Unit |
|------------------------------|-----------------------|-------------|------|
| Collector to base voltage    | V <sub>CB0</sub>      | -120        | V    |
| Collector to emitter voltage | V <sub>CE0</sub>      | -120        | V    |
| Emitter to base voltage      | V <sub>EB0</sub>      | -7          | V    |
| Collector current            | I <sub>C</sub>        | -6          | A    |
| Collector peak current       | I <sub>C</sub> (peak) | -10         | A    |
| Collector power dissipation  | P <sub>C</sub> *      | 40          | W    |
| Junction temperature         | T <sub>J</sub>        | 150         | °C   |
| Storage temperature          | T <sub>stg</sub>      | -55 to +150 | °C   |

\* Value at T<sub>C</sub> = 25°C

### MAXIMUM COLLECTOR DISSIPATION CURVE



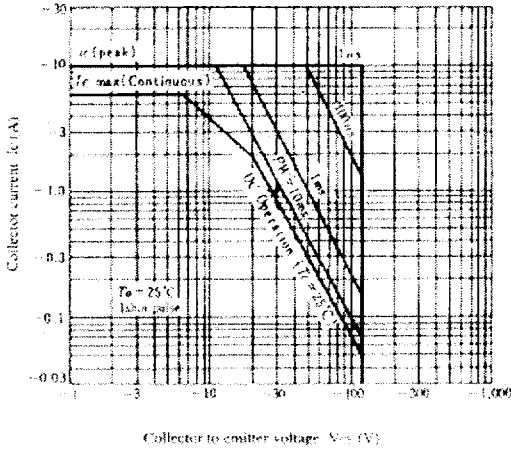
### ■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

| Item                                    | Symbol                | Test Condition  | min. | typ. | max.  | Unit |
|---|-----------------------|---|------|------|-------|------|
| Collector to emitter breakdown voltage  | V <sub>(BR)CEO</sub>  | I <sub>C</sub> = -25mA, R <sub>BE</sub> = ∞                     | -120 | —    | —     | V    |
| Emitter to base breakdown voltage       | V <sub>(BR)EBO</sub>  | I <sub>E</sub> = -50mA, I <sub>C</sub> = 0                      | -7   | —    | —     | V    |
| Collector cutoff current                | I <sub>CBO</sub>      | V <sub>CB</sub> = -120V, I <sub>E</sub> = 0                     | —    | —    | -100  | μA   |
|   | I <sub>CEO</sub>      | V <sub>CE</sub> = -100V, R <sub>BE</sub> = ∞                    | —    | —    | -10   | μA   |
| DC current transfer ratio               | h <sub>FE</sub>       | V <sub>CE</sub> = -3V, I <sub>C</sub> = -3A*                    | 1000 | —    | 20000 |      |
| Collector to emitter saturation voltage | V <sub>CE(sat)1</sub> | I <sub>C</sub> = -3A, I <sub>B</sub> = -6mA*                    | —    | —    | -1.5  | V    |
|   | V <sub>CE(sat)2</sub> | I <sub>C</sub> = -6A, I <sub>B</sub> = -60mA*                   | —    | —    | -3.0  | V    |
| Base to emitter saturation voltage      | V <sub>BE(sat)1</sub> | I <sub>C</sub> = -3A, I <sub>B</sub> = -6mA*                    | —    | —    | -2.0  | V    |
|   | V <sub>BE(sat)2</sub> | I <sub>C</sub> = -6A, I <sub>B</sub> = -60mA*                   | —    | —    | -3.5  | V    |
| Turn on time                            | t <sub>on</sub>       | I <sub>C</sub> = -3A, I <sub>B1</sub> = -I <sub>B2</sub> = -6mA | —    | 1.0  | —     | μs   |
| Turn off time                           | t <sub>off</sub>      |   | —    | 3.0  | —     | μs   |

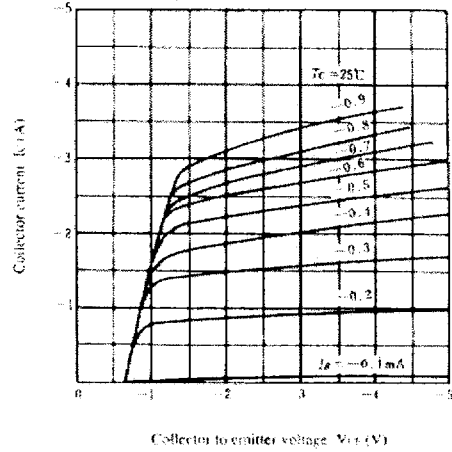
\* Pulse Test

## 2SB727 K

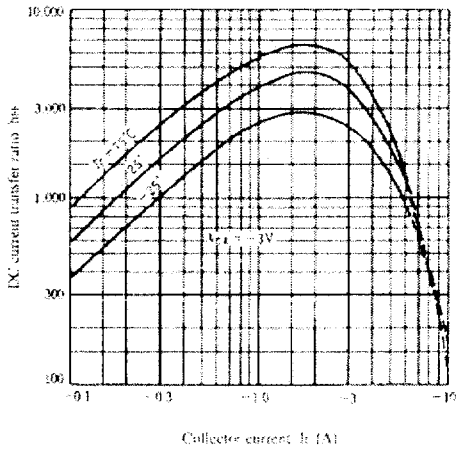
AREA OF SAFE OPERATION



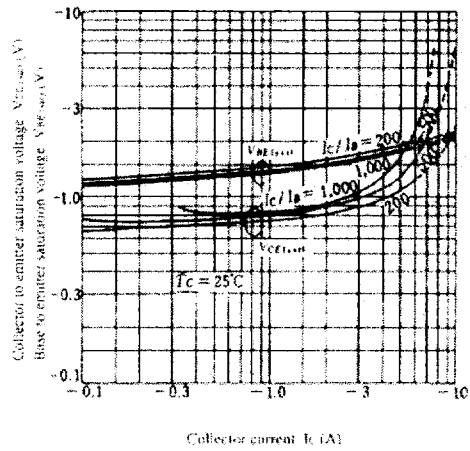
TYPICAL OUTPUT CHARACTERISTICS



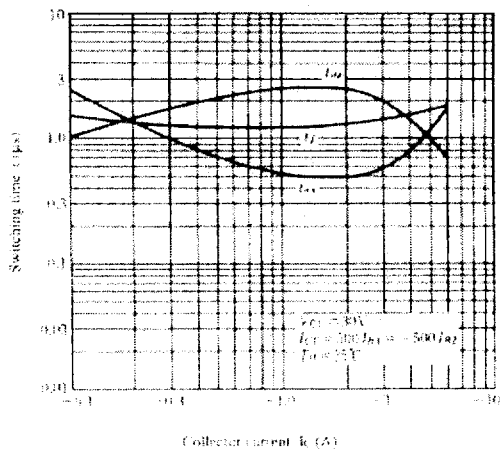
DC CURRENT TRANSFER RATIO VS. COLLECTOR CURRENT



SATURATION VOLTAGE VS. COLLECTOR CURRENT



SWITCHING TIME VS. COLLECTOR CURRENT



TRANSIENT THERMAL RESISTANCE

