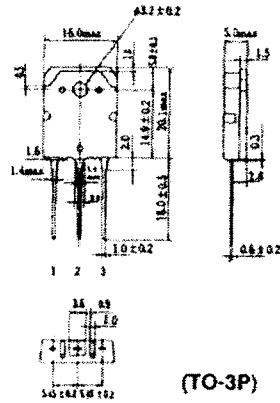


## 2SD1436 K

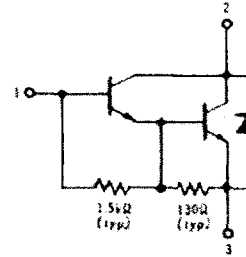
SILICON NPN TRIPLE DIFFUSED

POWER SWITCHING

COMPLEMENTARY PAIR WITH 2SB1032(K)



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

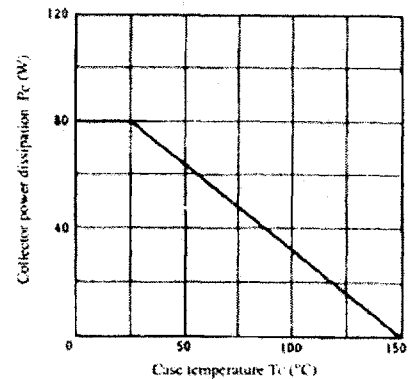


### ■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

| Item                         | Symbol               | 2SD1436 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>       | 10          | A    |
| Collector peak current       | i <sub>C(peak)</sub> | 15          | A    |
| Collector power dissipation  | P <sub>C*</sub>      | 80          | 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)

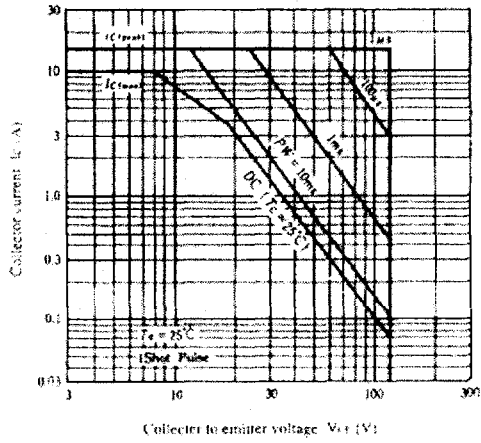
| Item                                    | Symbol                | Test Condition                                                 | min. | typ. | max.  | Unit |
|-----------------------------------------|-----------------------|----------------------------------------------------------------|------|------|-------|------|
| 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> = 200mA, 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> = 5A*                     | 1000 | —    | 20000 |      |
| Collector to emitter saturation voltage | V <sub>CE(sat)1</sub> | I <sub>C</sub> = 5A, I <sub>B</sub> = 10mA*                    | —    | —    | 1.5   | V    |
|                                         | V <sub>CE(sat)2</sub> | I <sub>C</sub> = 10A, I <sub>B</sub> = 0.1A*                   | —    | —    | 3.0   | V    |
| Base to emitter saturation voltage      | V <sub>BE(sat)1</sub> | I <sub>C</sub> = 5A, I <sub>B</sub> = 10mA*                    | —    | —    | 2.0   | V    |
|                                         | V <sub>BE(sat)2</sub> | I <sub>C</sub> = 10A, I <sub>B</sub> = 0.1A*                   | —    | —    | 3.5   | V    |
| Turn on time                            | t <sub>on</sub>       | I <sub>C</sub> = 5A, I <sub>B1</sub> = -I <sub>B2</sub> = 10mA | —    | 0.8  | —     | μs   |
| Turn off time                           | t <sub>off</sub>      | I <sub>C</sub> = 5A, I <sub>B1</sub> = -I <sub>B2</sub> = 10mA | —    | 4.0  | —     | μs   |

\* Pulse Test.

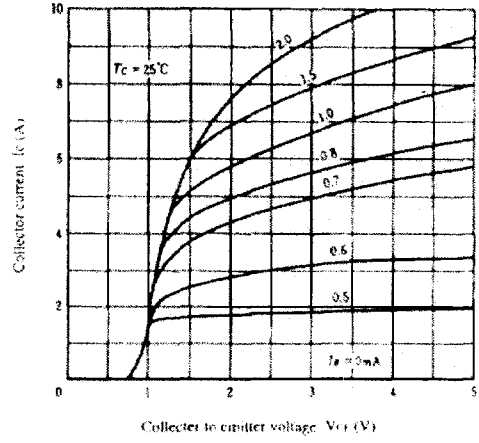
2SD1436 (K)

HITACHI

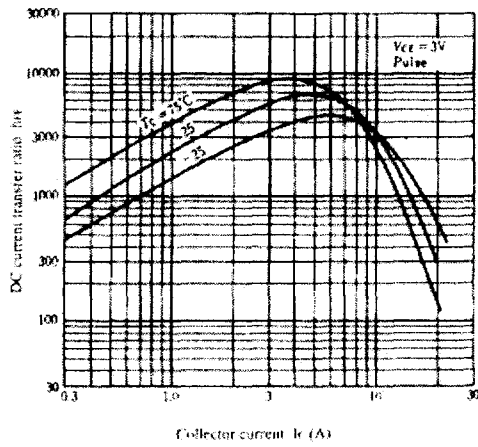
AREA OF SAFE OPERATION



TYPICAL OUTPUT CHARACTERISTICS



DC CURRENT TRANSFER RATIO VS. COLLECTOR CURRENT



SATURATION VOLTAGE VS. COLLECTOR CURRENT

