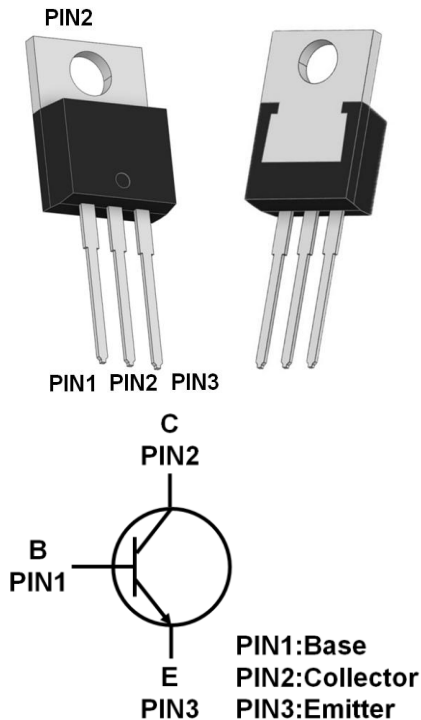


## NPN High Power Transistors



### Features

- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free

### Applications

- Low Collector-Emitter Saturation Voltage
- High Power Dissipation

### Mechanical Data

- Package: TO-220AB
- Terminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- Unit Weight: 1.9g

### ■ Maximum Ratings (Ta=25°C unless otherwise noted)

| Item                                                   | Symbol     | Unit | Value       |
|--------------------------------------------------------|------------|------|-------------|
| Device marking code                                    |            |      | 2SD2061     |
| Collector-base voltage                                 | $V_{CBO}$  | V    | 80          |
| Collector-emitter voltage                              | $V_{CEO}$  | V    | 60          |
| Emitter-base voltage                                   | $V_{EBO}$  | V    | 5           |
| Collector current                                      | $I_C$      | A    | 3           |
| Peak Collector current (single pulse, $t_p \leq 1ms$ ) | $I_{CM}$   | A    | 5           |
| Power dissipation                                      | $P_D$      | W    | 2           |
| Thermal resistance, junction-to-ambient (Note1)        | $R_{thJA}$ | °C/W | 62.5        |
| Thermal resistance, junction-to-case(Note1)            | $R_{thJC}$ | °C/W | 50          |
| Junction temperature                                   | $T_j$      | °C   | -55 to +150 |
| Storage temperature                                    | $T_{STG}$  | °C   | -55 to +150 |

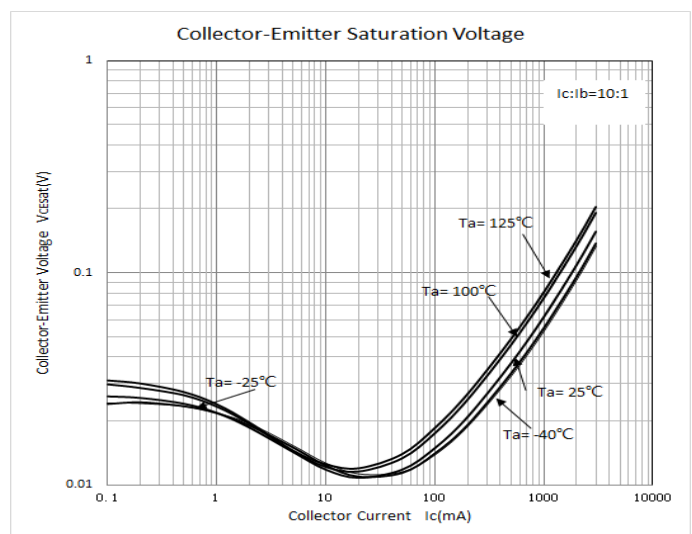
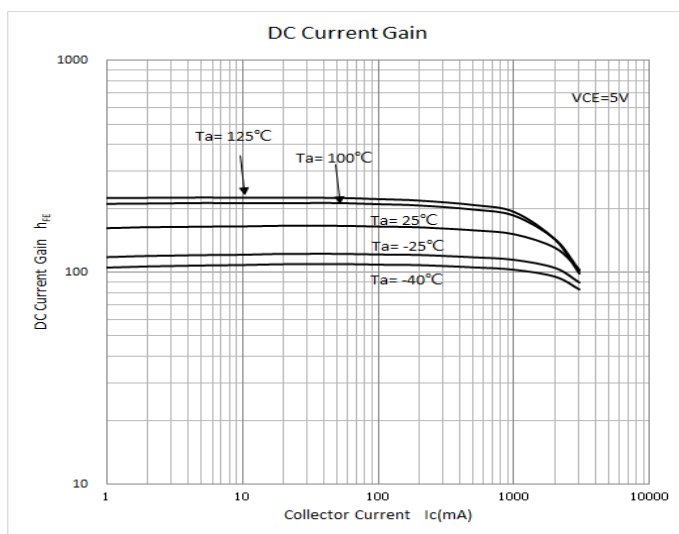
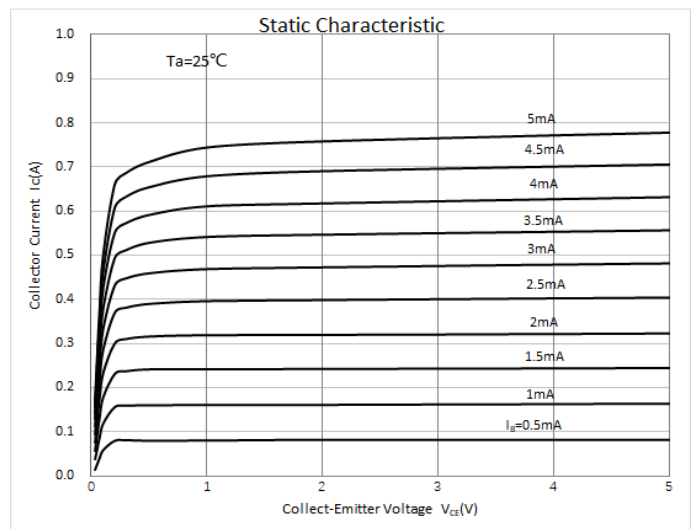
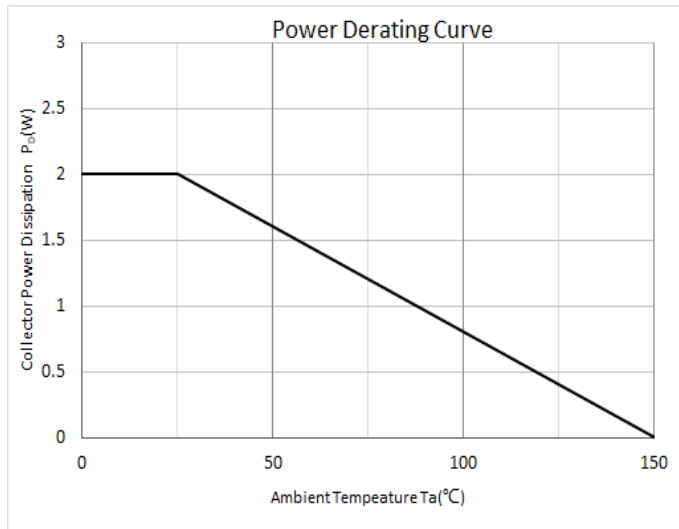
Note1: Device mounted on PCB with minimum recommended pad layout and additional heat sink (25mm x 23mm x 15mm) attached.

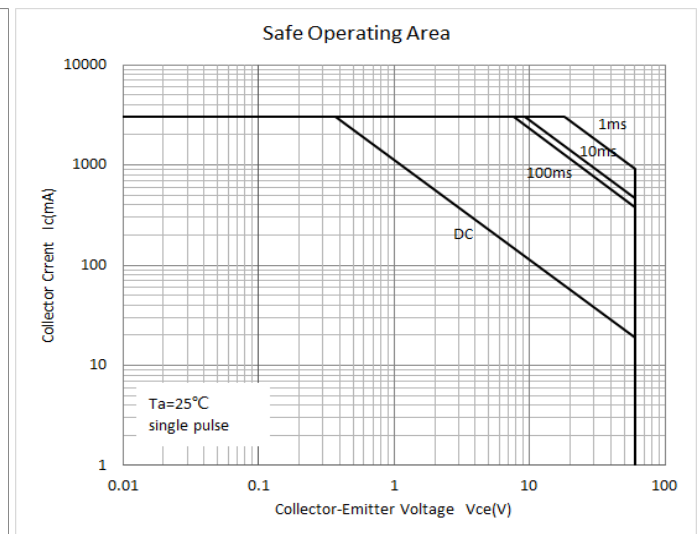
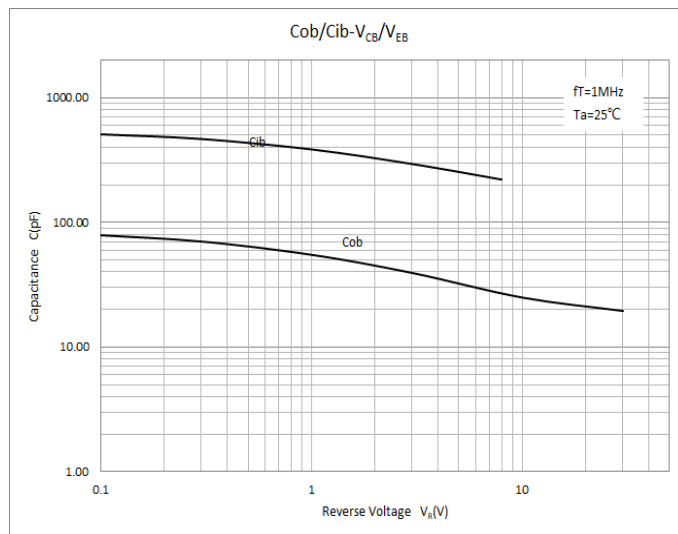
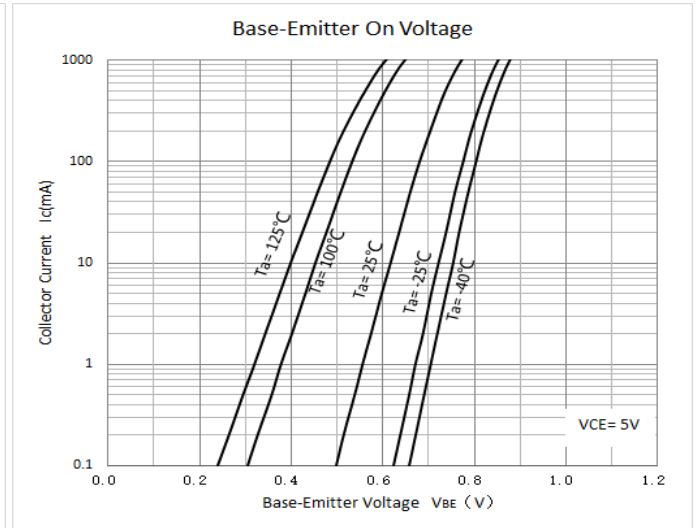
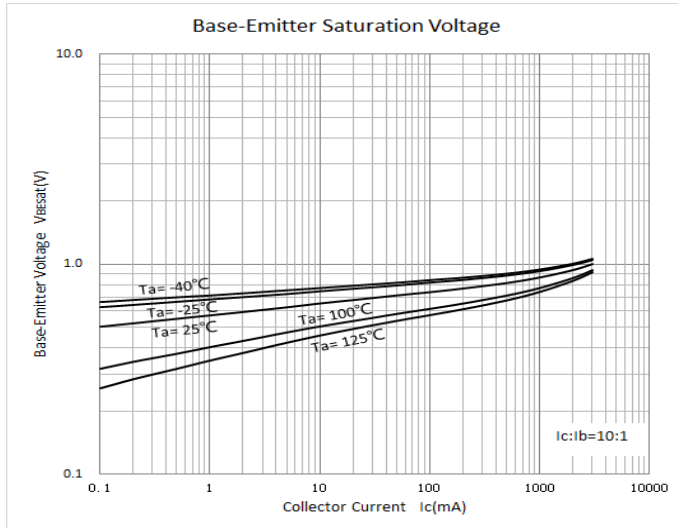


## ■ Electrical Characteristics (Ta=25°C unless otherwise noted)

| Item                                 | Symbol        | Unit    | Conditions                         | Min | Typ | Max |
|--------------------------------------|---------------|---------|------------------------------------|-----|-----|-----|
| Collector-base breakdown voltage     | $V_{(BR)CBO}$ | V       | $I_C = 50\mu A, I_E = 0$           | 80  |     |     |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}$ | V       | $I_C = 1mA, I_B = 0$               | 60  |     |     |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$ | V       | $I_E = 50\mu A, I_C = 0$           | 5   |     |     |
| Collector-base cut-off current       | $I_{CBO}$     | $\mu A$ | $V_{CB} = 60V$                     |     |     | 10  |
| Collector-emitter cut-off current    | $I_{CEO}$     | mA      | $V_{CB} = 60V$                     |     |     | 1   |
| Emitter-base cut-off current         | $I_{EBO}$     | $\mu A$ | $V_{EB} = 4V$                      |     |     | 10  |
| DC current gain                      | $h_{FE}$      |         | $V_{CE} = 5V, I_C = 0.5A$          | 100 |     | 320 |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | V       | $I_C = 2A, I_B = 0.2A$             |     |     | 1   |
| Base-emitter saturation voltage      | $V_{BE(sat)}$ | V       | $I_C = 2A, I_B = 0.2A$             |     |     | 1.5 |
| Collector-base output capacitance    | $C_{ob}$      | pF      | $V_{CB} = 10V, I_E = 0A, f = 1MHz$ |     | 30  |     |

## ■ Characteristics(Typical)



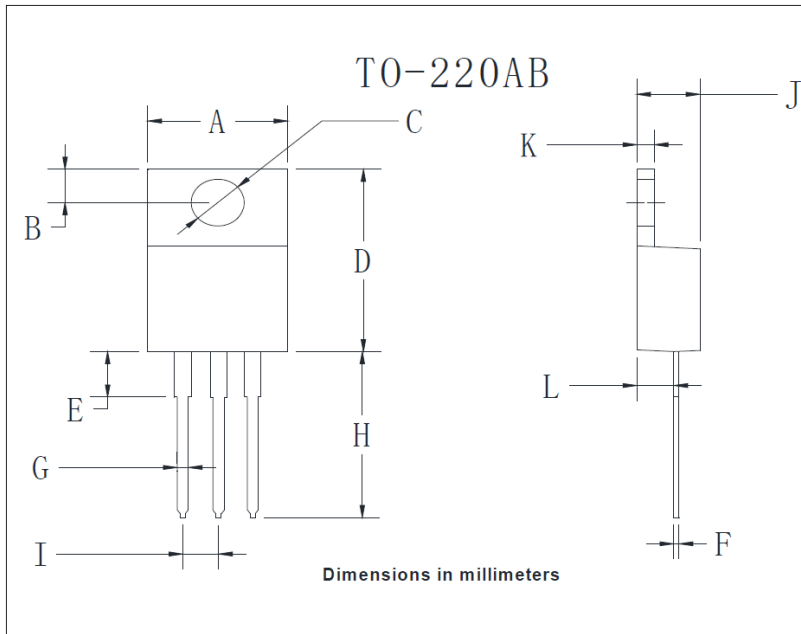




■ Ordering Information (Example)

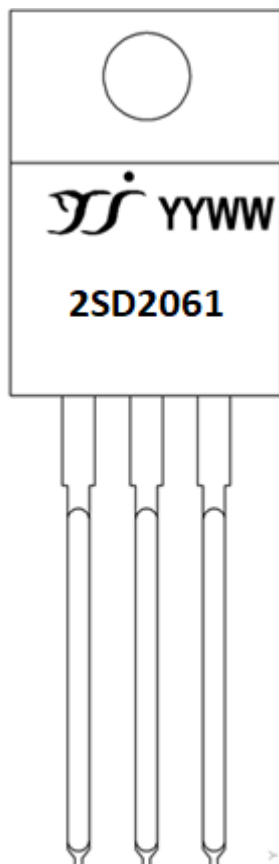
| PREFERED P/N | PACKING CODE | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|--------------|--------------|----------------------|-------------------------|----------------------------|---------------|
| 2SD2061      | B1           | 50/Tube              | 1000                    | 2000                       | Tube          |

■ TO-220AB Package information



| TO-220AB |       |       |
|----------|-------|-------|
| Dim      | Min   | Max   |
| A        | 9.95  | 10.35 |
| B        | 2.55  | 2.95  |
| C        | 3.8   | 4.0   |
| D        | 14.95 | 15.25 |
| E        | 3.75  | 4.25  |
| F        | 0.26  | 0.5   |
| G        | 0.68  | 0.94  |
| H        | 13.4  | 13.9  |
| I        | 2.35  | 2.65  |
| J        | 4.38  | 4.78  |
| K        | 1.14  | 1.4   |
| L        | 2.37  | 2.79  |

■ Marking code



Yangjie LOGO  
YYWW: YY, years; WW , week.  
For example,24 represents 2024; 01 represents the first week of this year.  
2SD2061: Product model.



### Disclaimer

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