

TRIPLE DIFFUSED PLANER TYPE
HIGH POWER DARLINGTON
SWITCHING

■ **Features**

- High D.C. current gain
- Low saturation voltage
- Excellent safe operating area
- High reliability

■ **Applications**

- Electronic ignitor
- Relay & solenoid drivers
- Switching regulators
- Motor controls

■ **Maximum ratings and characteristics**

● **Absolute maximum ratings (T_c=25°C unless otherwise specified)**

| Item | Symbol | Ratings | Unit |
|--------------------------------|-----------------------|-------------|------|
| Collector-Base voltage | V _{CB0} | 250 | V |
| Collector-Emitter voltage | V _{CEO} | 200 | V |
| Collector-Emitter voltage | V _{CEO(SUS)} | 180 | V |
| Emitter-Base voltage | V _{EBO} | 10 | V |
| Collector current | I _C | 4 | A |
| Base current | I _B | 0.3 | A |
| Collector power dissipation | P _C | 25 | W |
| Operating junction temperature | T _j | +150 | °C |
| Storage temperature | T _{stg} | -55 to +150 | °C |

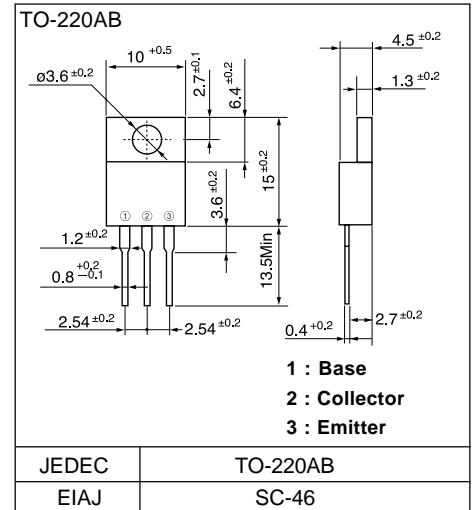
● **Electrical characteristics (T_c =25°C unless otherwise specified)**

| Item | Symbol | Test Conditions | Min. | Typ. | Max. | Units |
|--------------------------------------|-----------------------|---|------|------|------|-------|
| Collector-Base voltage | V _{CB0} | I _{CB0} = 0.1mA | 250 | | | V |
| Collector-Emitter voltage | V _{CEO} | I _{CEO} = 10mA | 200 | | | V |
| Collector-Emitter voltage | V _{CEO(SUS)} | I _C = 1A | 180 | | | V |
| Emitter-Base voltage | V _{EBO} | I _{EBO} = 10mA | 10 | | | V |
| Collector-Base leakage current | I _{CB0} | V _{CB0} = 250V | | | 0.1 | mA |
| Emitter-Base leakage current | I _{EBO} | V _{EBO} = 10V | | | 10 | mA |
| D.C. current gain | h _{FE} | I _C = 2A, V _{CE} = 2V | 1500 | 3000 | | |
| Collector-Emitter saturation voltage | V _{CE(Sat)} | I _C = 2A, I _B = 2mA | | | 1.5 | V |
| Base-Emitter saturation voltage | V _{BE(Sat)} | | | | 2.0 | V |
| *1 Switching time | t _{on} | I _C = 2A, I _{B1} = 5mA | | | 1.7 | μs |
| | t _{stg} | I _{B2} = -5mA, R _L = 10 ohm | | | 15.0 | μs |
| | t _f | P _w = 20μs Duty=<2% | | | 18.0 | μs |

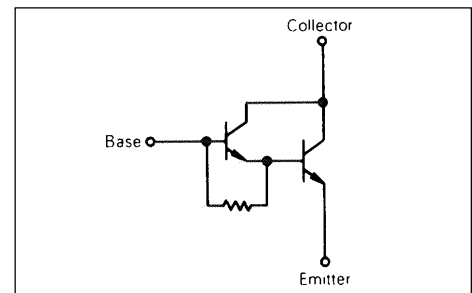
● **Thermal characteristics**

| Item | Symbol | Test Conditions | Min. | Typ. | Max. | Units |
|--------------------|----------------------|------------------|------|------|------|-------|
| Thermal resistance | R _{th(j-c)} | Junction to case | | | 5.0 | °C/W |

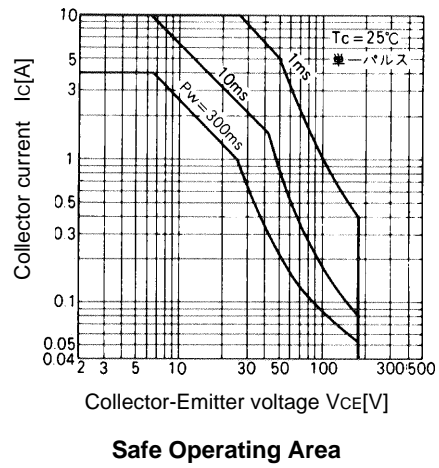
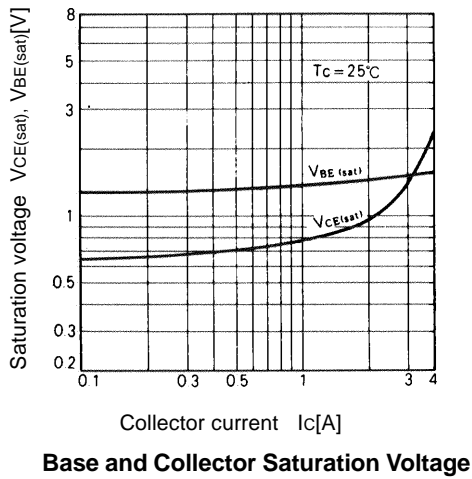
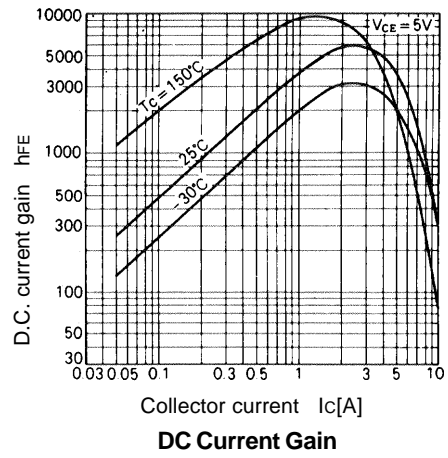
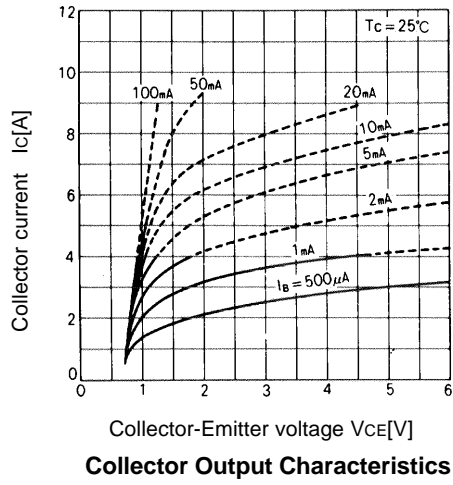
■ **Outline Drawings**



■ **Equivalent Circuit Schematic**



Characteristics



*1 Switching Time Test Circuit

