

Silicon PNP Power Transistors

MJ15016

DESCRIPTION

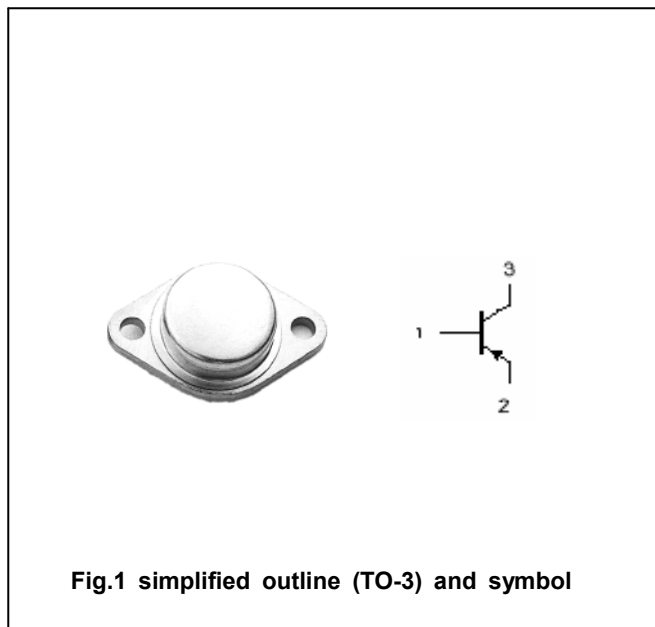
- With TO-3 package
- Complement to type MJ15015
- Excellent safe operating area

APPLICATIONS

- For high power audio ,stepping motor and other linear applications
- Relay or solenoid drivers
- DC-DC converters inverters

PINNING(see Fig.2)

| PIN | DESCRIPTION |
|-----|-------------|
| 1 | Base |
| 2 | Emitter |
| 3 | Collector |



ABSOLUTE MAXIMUM RATINGS(T_C=25 °C)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|------------------|-----------------------------|-----------------------|---------|------|
| V _{CBO} | Collector-base voltage | Open emitter | -200 | V |
| V _{CEO} | Collector-emitter voltage | Open base | -120 | V |
| V _{EBO} | Emitter-base voltage | Open collector | -7 | V |
| I _C | Collector current | | -15 | A |
| I _B | Base current | | -7 | A |
| P _C | Collector power dissipation | T _C =25 °C | 180 | W |
| T _j | Junction temperature | | 150 | °C |
| T _{stg} | Storage temperature | | -65~200 | °C |

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---------------------|-------------------------------------|------|------|
| R _{th j-c} | Thermal resistance junction to case | 0.98 | °C/W |

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CHARACTERISTICS

T_j=25 °C unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|------------------------|--|--|------|------|--------------|------|
| V _{CE0(SUS)} | Collector-emitter sustaining voltage | I _C =-0.2A ; I _B =0 | -120 | | | V |
| V _{CE(sat)-1} | Collector-emitter saturation voltage | I _C =-4A; I _B =-0.4A | | | -1.1 | V |
| V _{CE(sat)-2} | Collector-emitter saturation voltage | I _C =-10A; I _B =-3.3A | | | -3.0 | V |
| V _{CE(sat)-3} | Collector-emitter saturation voltage | I _C =-15A; I _B =-7.0A | | | -5.0 | V |
| V _{BE} | Base-emitter on voltage | I _C =-4A ; V _{CE} =-4V | | | -1.8 | V |
| I _{CEO} | Collector cut-off current | V _{CE} =-60V; V _{BE(off)} =0 | | | -0.1 | mA |
| I _{CEV} | Collector cut-off current | V _{CE} =Rated Value; V _{BE(off)} =1.5V T _C =150 °C | | | -1.0 -6.0 | mA |
| I _{EBO} | Emitter cut-off current | V _{EB} =-7V; I _C =0 | | | -0.2 | mA |
| h _{FE-1} | DC current gain | I _C =-4A ; V _{CE} =-2V | 10 | | 70 | |
| h _{FE-2} | DC current gain | I _C =-4A ; V _{CE} =-4V | 20 | | 70 | |
| h _{FE-3} | DC current gain | I _C =-10A ; V _{CE} =-4V | 5 | | | |
| I _{s/b} | Second breakdown collector current With base forward biased | V _{CE} =-60Vdc,t=0.5 s, Nonrepetitive | -3.0 | | | A |
| C _{OB} | Output capacitance | I _E =0 ; V _{CB} =-10V;f=1.0MHz | 60 | | 600 | pF |
| f _T | Transition frequency | I _C =-1A ; V _{CE} =-4V;f=1.0MHz | 2.2 | | | MHz |

PACKAGE OUTLINE

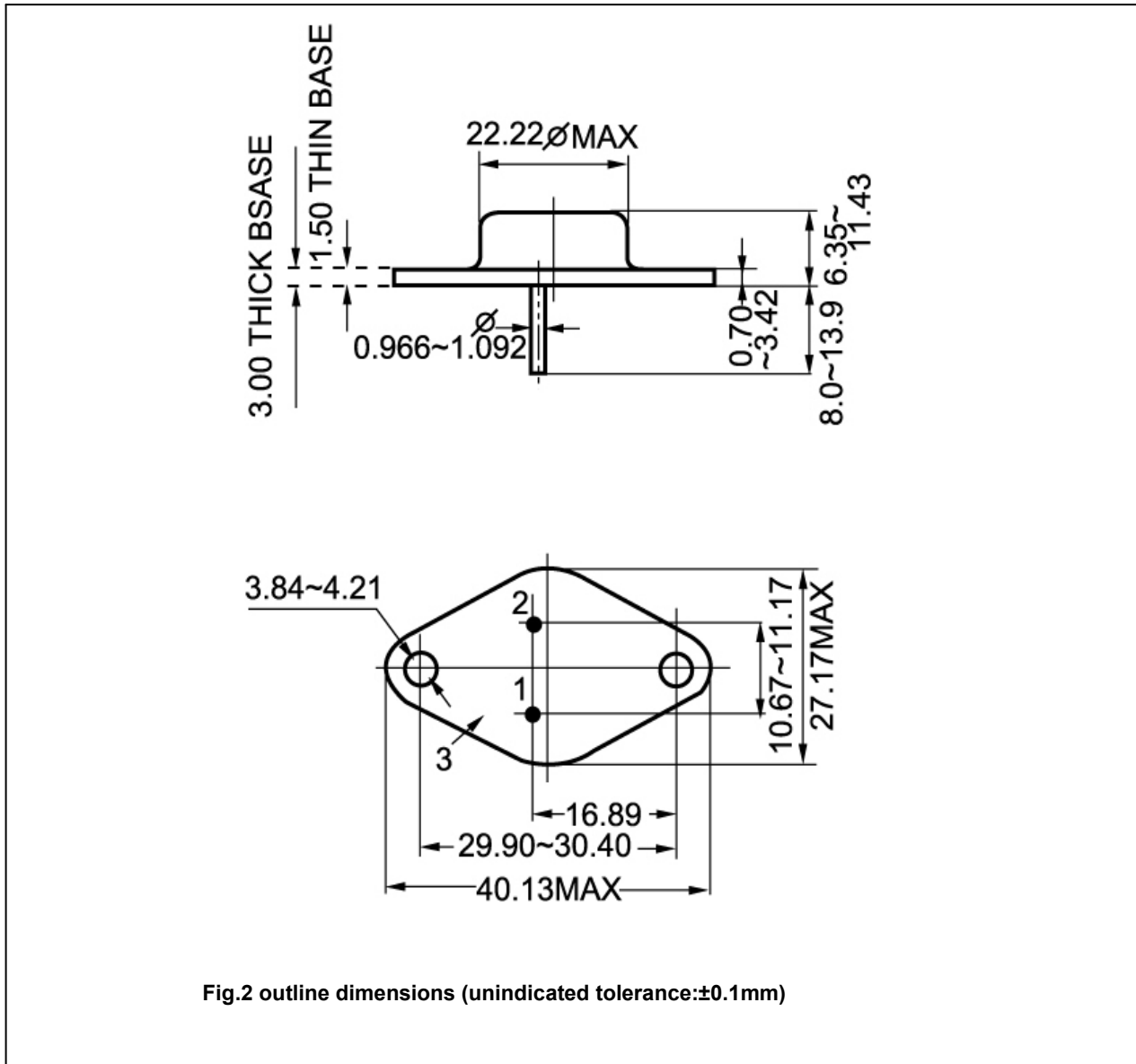


Fig.2 outline dimensions (unindicated tolerance:±0.1mm)

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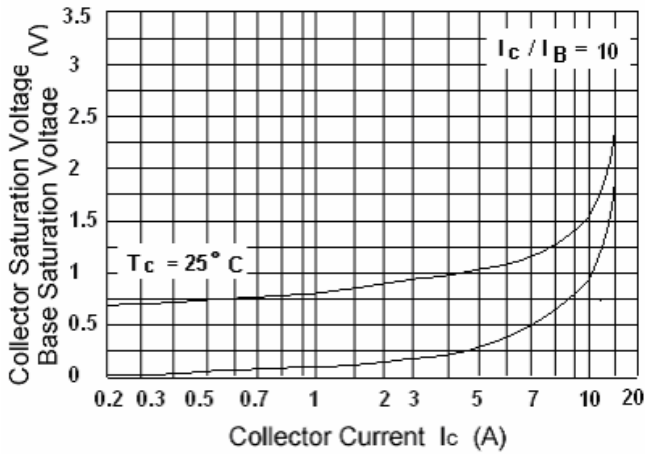


Fig.3 Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

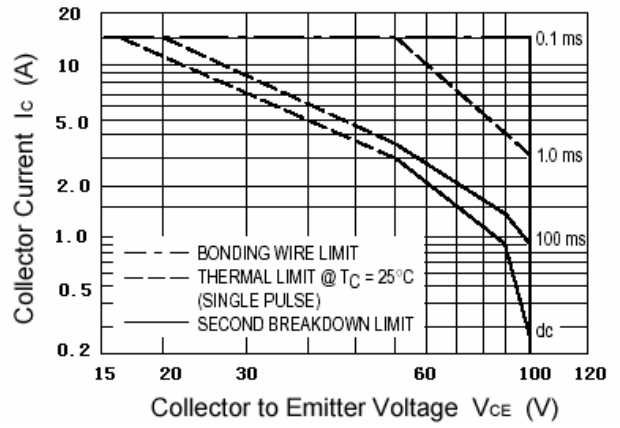


Fig.4 Safe Operating Area

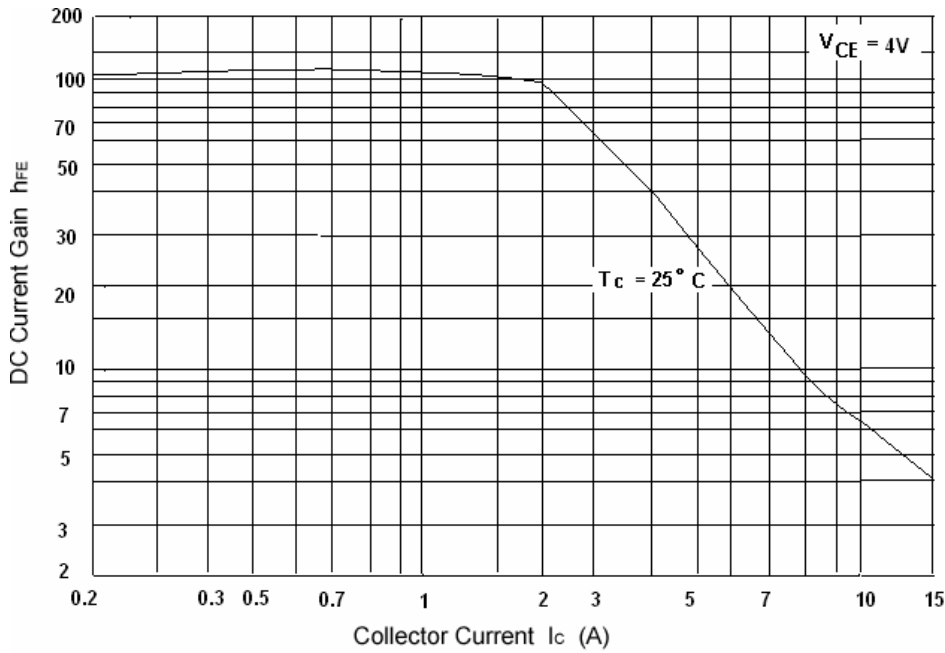


Fig.5 DC current Gain