

Silicon NPN Power Transistors

2SC4916

DESCRIPTION

- With TO-3P(H)IS package
- High speed ;high speed
- Low saturation voltage
- Bult-in damper diode

APPLICATIONS

- Horizontal deflection output for high resolution display,colorTV
- High speed switching applications

PINNING

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

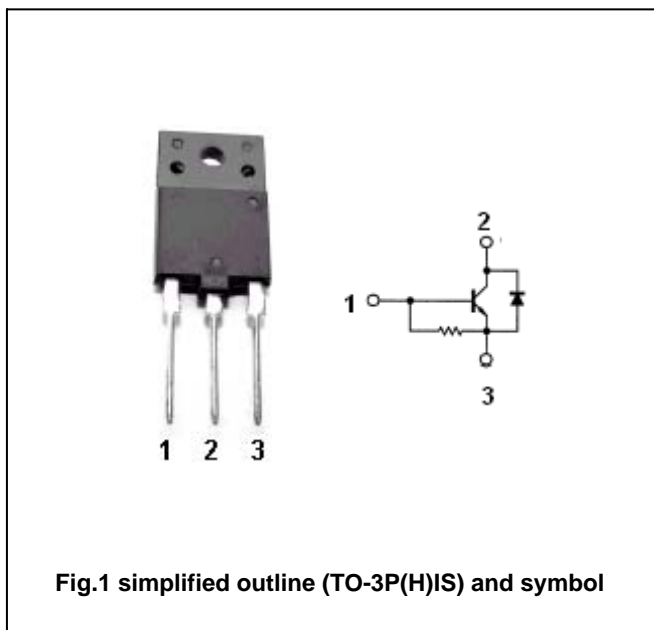


Fig.1 simplified outline (TO-3P(H)IS) and symbol

Absolute maximum ratings(Ta=25°C)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|-----------|-----------------------------|------------------------|---------|------|
| V_{CBO} | Collector-base voltage | Open emitter | 1500 | V |
| V_{CEO} | Collector-emitter voltage | Open base | 600 | V |
| V_{EBO} | Emitter-base voltage | Open collector | 5 | V |
| I_C | Collector current | | 7 | A |
| I_{CM} | Collector current-Peak | | 14 | A |
| I_B | Base current | | 3.5 | A |
| P_C | Collector power dissipation | $T_C=25^\circ\text{C}$ | 50 | W |
| T_j | Junction temperature | | 150 | °C |
| T_{stg} | Storage temperature | | -55~150 | °C |

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CHARACTERISTICS

T_j=25°C unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|----------------------|--------------------------------------|--|-----|------|-----|------|
| V _{(BR)EBO} | Emitter-base breakdown voltage | I _E =300mA ; I _C =0 | 5 | | | V |
| V _{CEsat} | Collector-emitter saturation voltage | I _C =5A ; I _B =1A | | | 5 | V |
| V _{BEsat} | Base-emitter saturation voltage | I _C =5A ; I _B =1A | | | 1.5 | V |
| I _{CBO} | Collector cut-off current | V _{CB} =1500V ; I _E =0 | | | 1 | mA |
| I _{EBO} | Emitter cut-off current | V _{EB} =5V ; I _C =0 | 83 | | 250 | mA |
| h _{FE-1} | DC current gain | I _C =1A ; V _{CE} =5V | 8 | | 20 | |
| h _{FE-2} | DC current gain | I _C =5A ; V _{CE} =5V | 3.8 | | 8 | |
| C _{ob} | Collector output capacitance | I _E =0 ; V _{CB} =10V, f=1MHz | | 160 | | pF |
| V _F | Diode forward voltage | I _F =5A | | 1.3 | 1.8 | V |
| f _T | Transition frequency | I _E =0.1A ; V _{CE} =10V | 1 | 3 | | MHz |

Switching times resistive load

| | | | | | | |
|----------------|--------------|--|--|-----|-----|-----|
| t _s | Storage time | I _{CP} =5A ; I _{B1} =1A I _{B2} =-2A ; R _L =39 Ω | | 2.0 | 3.0 | μ s |
| t _f | Fall time | | | 0.1 | 0.2 | μ s |

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PACKAGE OUTLINE

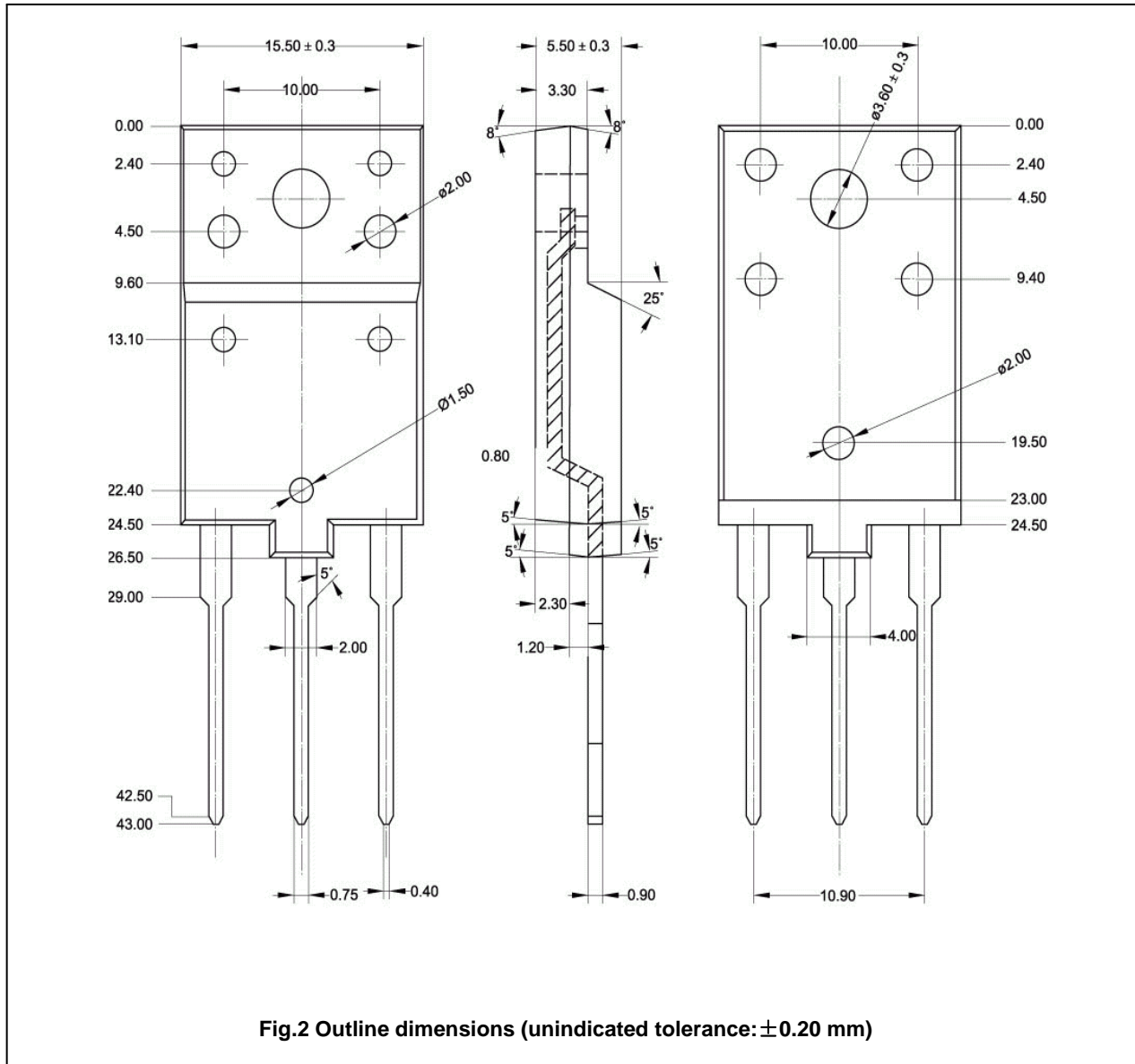


Fig.2 Outline dimensions (unindicated tolerance: ± 0.20 mm)

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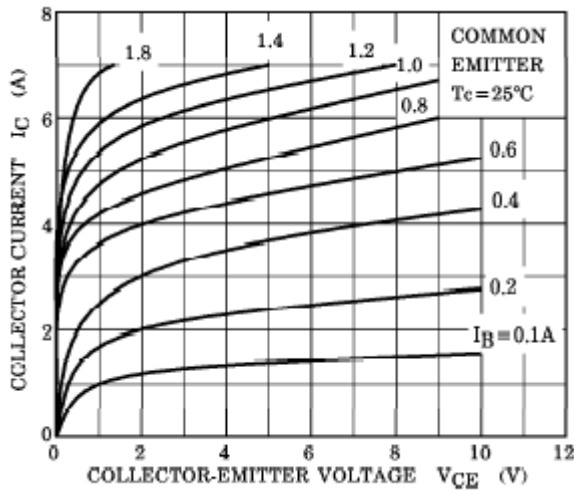


Fig.3 Static Characteristic

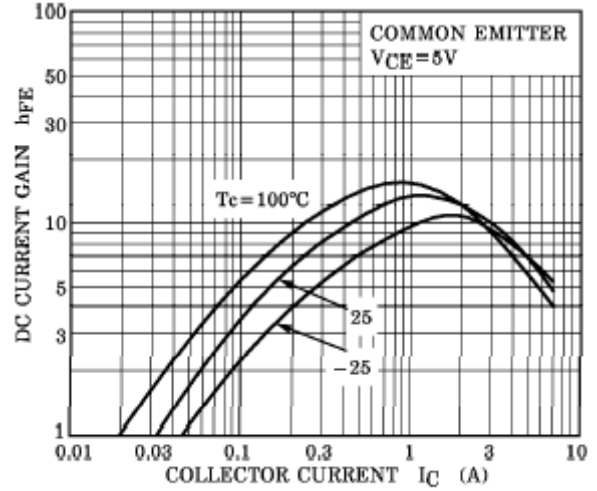


Fig.4 DC current Gain

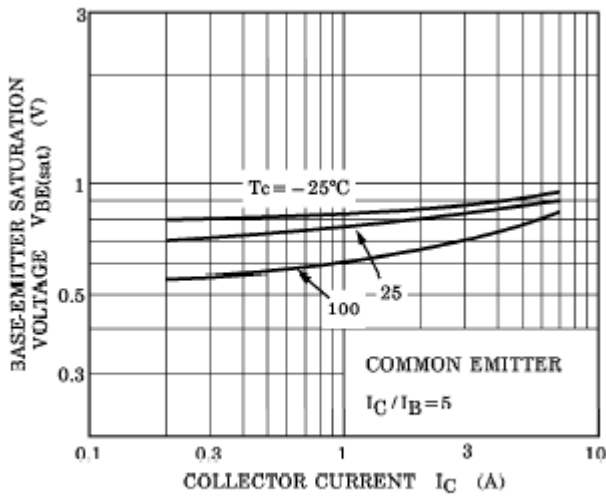


Fig.5 Base-Emitter Saturation Voltage

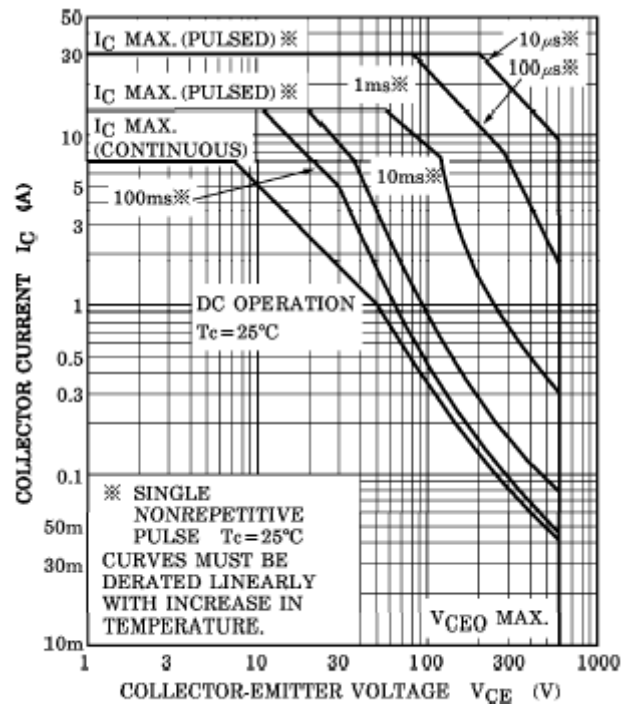


Fig.6 Safe Operating Area