

Silicon NPN Power Transistors

2N5239

DESCRIPTION

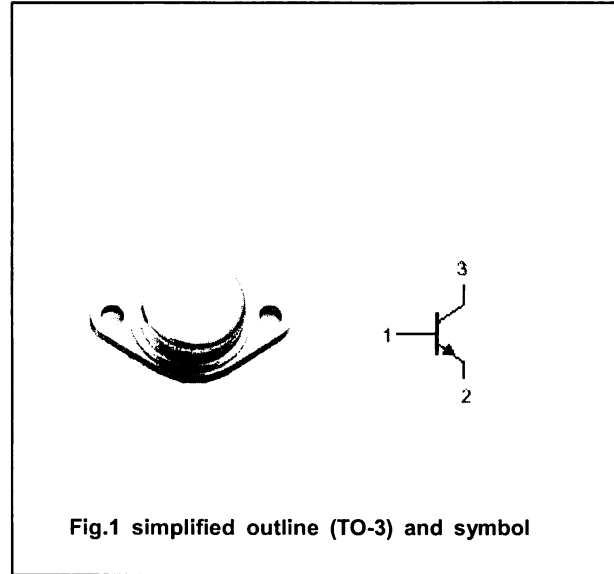
- With TO-3 package
- High breakdown voltage
- High power dissipation

APPLICATIONS

- Switching regulator
- Inverters
- Power amplifiers
- Deflection circuits
- High-voltage bridge amplifiers

PINNING (See Fig.2)

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



MAXIMUM RATINGS(Ta=25°C)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|------------------|---------------------------|----------------------|---------|------|
| V _{CBO} | Collector-base voltage | Open emitter | 300 | V |
| V _{CEO} | Collector-emitter voltage | Open base | 225 | V |
| V _{EBO} | Emitter-base voltage | Open collector | 6 | V |
| I _C | Collector current | | 5 | A |
| I _B | Base current | | 2 | A |
| P _T | Total power dissipation | T _c =25°C | 100 | W |
| T _j | Junction temperature | | 200 | °C |
| T _{stg} | Storage temperature | | -65~200 | °C |

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|--------------------|--|------|------|
| R _{th-jc} | Thermal resistance from junction to case | 1.75 | °C/W |

Silicon NPN Power Transistors

2N5239

CHARACTERISTICS

T_j=25°C unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|-----------------------|--------------------------------------|---|-----|------|------------|------|
| V _{CEO(SUS)} | Collector-emitter sustaining voltage | I _C =0.2A ; I _B =0 | 225 | | | V |
| V _{(BR)EBO} | Emitter-base breakdown voltage | I _E =20mA ; I _C =0 | 6 | | | V |
| V _{CEsat-1} | Collector-emitter saturation voltage | I _C =2A ; I _B =0.25A | | | 2.5 | V |
| V _{CEsat-2} | Collector-emitter saturation voltage | I _C =4.5A ; I _B =1.125A | | | 5.0 | V |
| V _{BE} | Base-emitter on voltage | I _C =2A ; V _{CE} =10V | | | 3.0 | V |
| I _{CEV} | Collector cut-off current | V _{CE} =300V ; V _{BE} =-1.5V T _C =150°C | | | 4.0 5.0 | mA |
| I _{CEO} | Collector cut-off current | V _{CE} =200V ; I _B =0 | | | 5.0 | mA |
| I _{EBO} | Emitter cut-off current | V _{EB} =5V ; I _C =0 | | | 5.0 | mA |
| h _{FE-1} | DC current gain | I _C =0.4A ; V _{CE} =10V | 20 | | 80 | |
| h _{FE-2} | DC current gain | I _C =2A ; V _{CE} =10V | | | | |
| h _{FE-3} | DC current gain | I _C =4.5A ; V _{CE} =10V | 5 | | | |
| C _{OB} | Output capacitance | I _E =0 ; V _{CB} =10V ; f=1MHz | | | 250 | pF |
| f _T | Transition frequency | I _C =0.2A ; V _{CE} =10V | 2 | | | MHz |

Silicon NPN Power Transistors

2N5239

PACKAGE OUTLINE

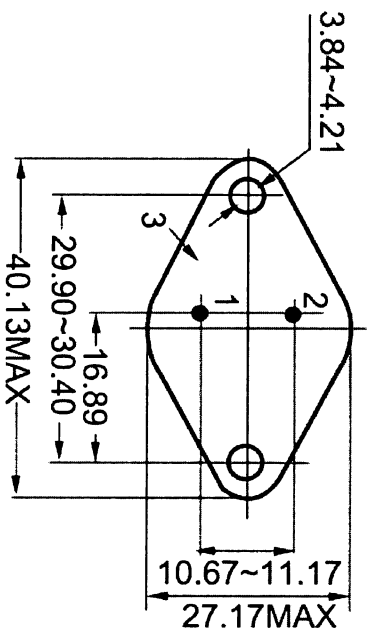
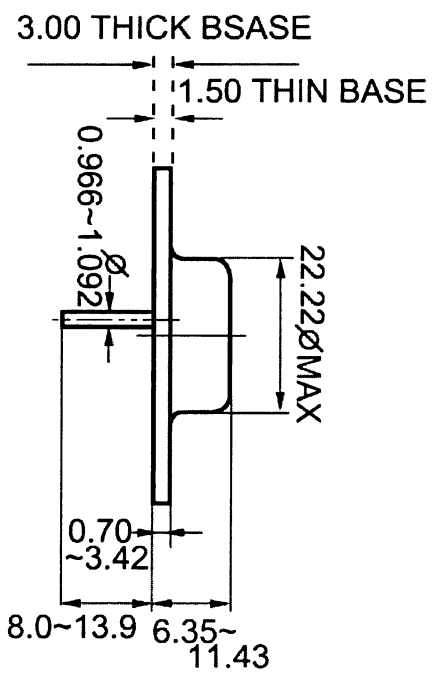


Fig.2 Outline dimensions