

Silicon PNP Power Transistors

2SA1388

DESCRIPTION

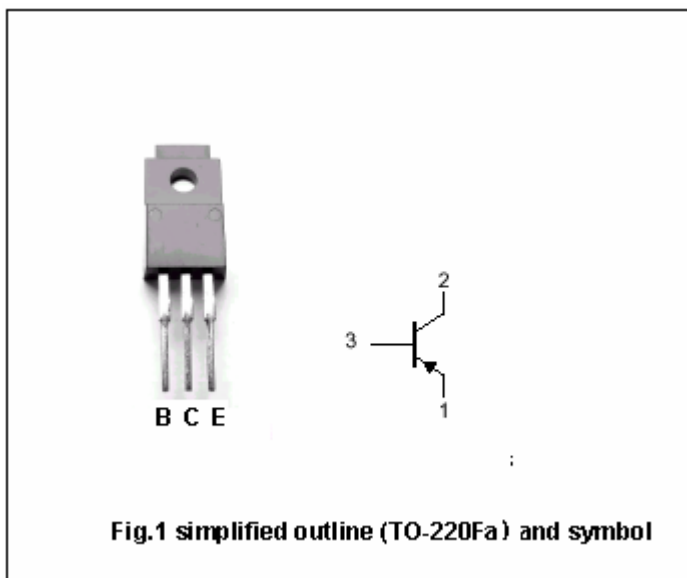
- With TO-220Fa package
- Low collector saturation voltage
- High speed switching time
- Complementary to 2SC3540

APPLICATIONS

- High current switching applications

PINNING

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



Absolute maximum ratings(Ta=25)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|-----------|-----------------------------|----------------|---------|------|
| V_{CBO} | Collector-base voltage | Open emitter | -100 | V |
| V_{CEO} | Collector-emitter voltage | Open base | -80 | V |
| V_{EBO} | Emitter-base voltage | Open collector | -7 | V |
| I_C | Collector current (DC) | | -5 | A |
| I_{CM} | Collector current (pulse) | | -8 | A |
| P_C | Collector power dissipation | $T_a=25$ | 2 | W |
| | | $T_C=25$ | 25 | |
| T_j | Junction temperature | | 150 | |
| T_{stg} | Storage temperature | | -55~150 | |

Silicon PNP Power Transistors

2SA1388

CHARACTERISTICS

T_j=25 unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|----------------------|--------------------------------------|--|-----|------|------|------|
| V _{(BR)CEO} | Collector-emitter breakdown voltage | I _C =-10mA ; I _B =0 | -80 | | | V |
| V _{CEsat} | Collector-emitter saturation voltage | I _C =-3A ; I _B =-0.15A | | -0.2 | -0.4 | V |
| V _{BEsat} | Base-emitter saturation voltage | I _C =-3A ; I _B =-0.15A | | -0.9 | -1.2 | V |
| I _{CBO} | Collector cut-off current | V _{CB} =-100V; I _E =0 | | | -1 | μ A |
| I _{EBO} | Emitter cut-off current | V _{EB} =-7V; I _C =0 | | | -1 | μ A |
| h _{FE-1} | DC current gain | I _C =-1A ; V _{CE} =-1V | 70 | | 240 | |
| h _{FE-2} | DC current gain | I _C =-3A ; V _{CE} =-1V | 30 | | | |
| f _T | Transition frequency | I _C =-1A ; V _{CE} =-4V | | 60 | | MHz |
| C _{ob} | Collector output capacitance | I _E =0; V _{CE} =-10V; f=1MHz | | 200 | | pF |

Switching times

| | | | | | | |
|-----------------|--------------|---|--|-----|--|-----|
| t _{on} | Turn-on time | I _{B1} =-I _{B2} =-0.15A V _{CC} =30V; R _L =10 | | 0.2 | | μ s |
| t _s | Storage time | | | 1.0 | | μ s |
| t _f | Fall time | | | 0.1 | | μ s |

◆ h_{FE-1} Classifications

| | |
|--------|---------|
| O | Y |
| 70-140 | 120-240 |

Silicon PNP Power Transistors

2SA1388

PACKAGE OUTLINE

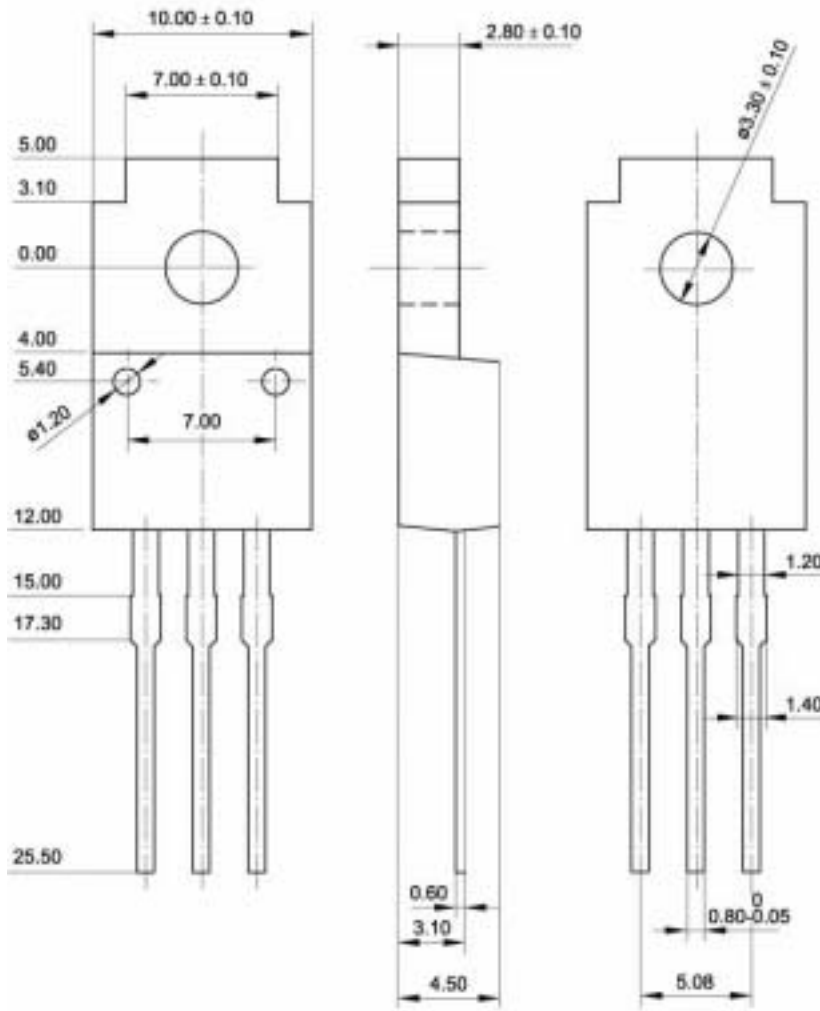


Fig.2 Outline dimensions (unindicated tolerance: ± 0.15 mm)

Silicon PNP Power Transistors

2SA1388

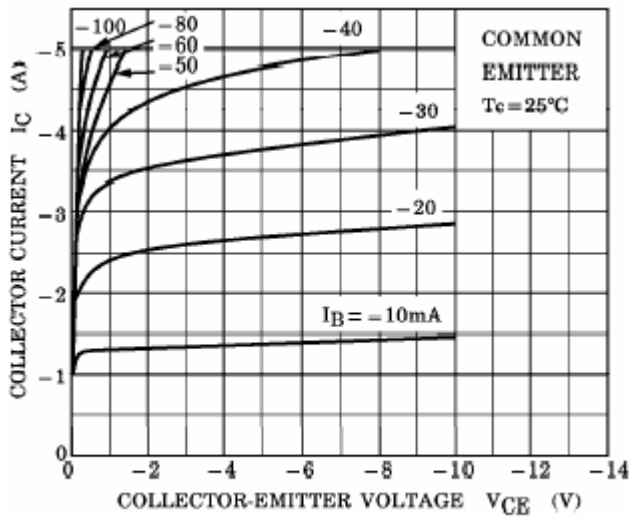


Fig.3 Static Characteristic

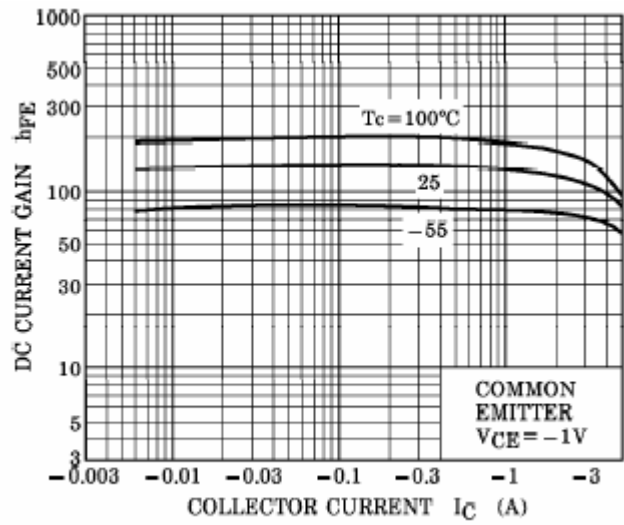


Fig.4 DC current Gain

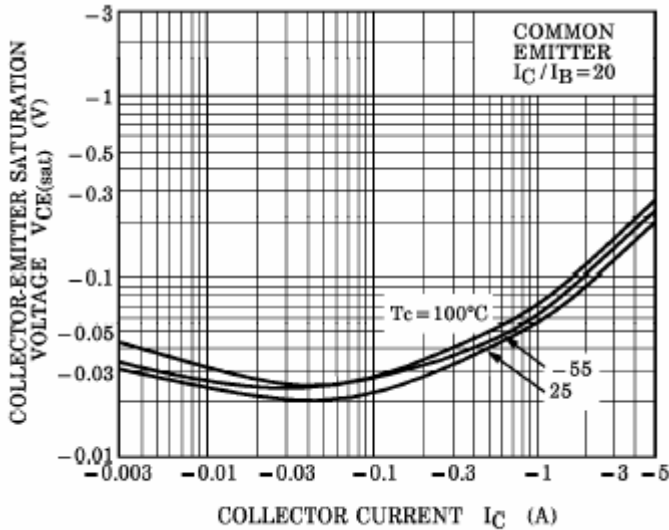


Fig.5 Collector-Emitter Saturation Voltage

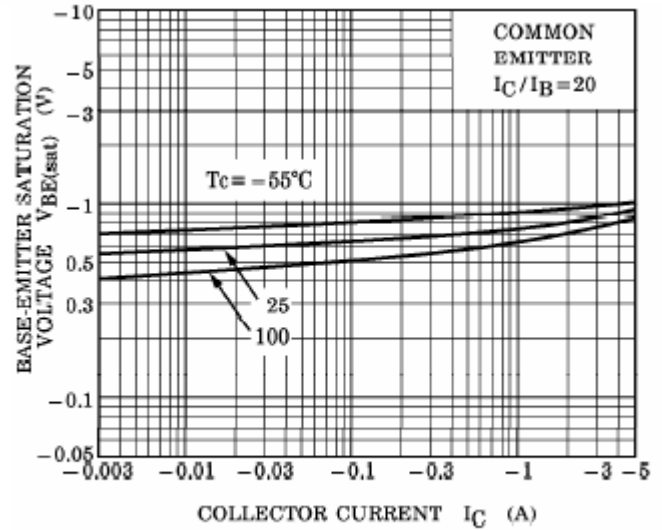


Fig.6 Base-Emitter Saturation Voltage

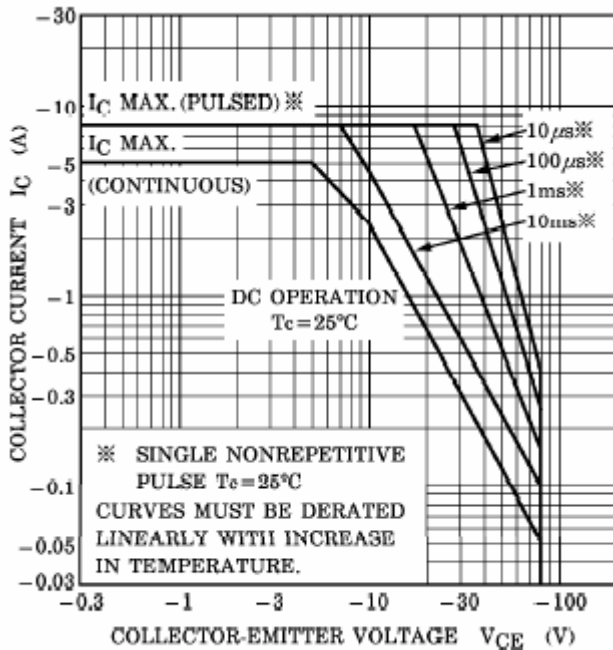


Fig.7 Safe Operating Area