

Silicon NPN Power Transistors

2SC3947

DESCRIPTION

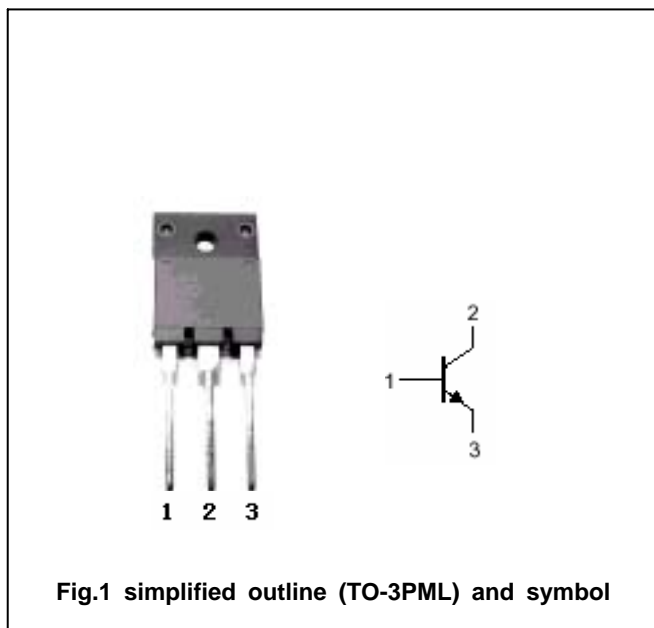
- With TO-3PML package
- High voltage ,high speed

APPLICATIONS

- For TV horizontal output and power switching applications

PINNING

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



Absolute maximum ratings (Ta=25)

| SYMBOL | PARAMETER | CONDITIONS | MAX | UNIT |
|-----------|---------------------------|----------------|---------|------|
| V_{CBO} | Collector-base voltage | Open emitter | 850 | V |
| V_{CEO} | Collector-emitter voltage | Open base | 500 | V |
| V_{EBO} | Emitter-base voltage | Open collector | 7 | V |
| I_C | Collector current | | 5 | A |
| I_{CM} | Collector current-peak | | 8 | A |
| I_B | Base current | | 2 | A |
| P_C | Collector dissipation | $T_C=25$ | 70 | W |
| T_j | Junction temperature | | 150 | |
| T_{stg} | Storage temperature | | -55~150 | |

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CHARACTERISTICS

T_j=25 unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|----------------------|--------------------------------------|--|-----|------|------------|------|
| V _{(BR)CEO} | Collector-emitter breakdown voltage | I _C =10mA ; R _{BE} = | 500 | | | V |
| V _{(BR)CBO} | Collector-base breakdown voltage | I _C =1mA ; I _E =0 | 850 | | | V |
| V _{(BR)EBO} | Emitter-base breakdown voltage | I _E =1mA ; I _C =0 | 7 | | | V |
| V _{CEsat} | Collector-emitter saturation voltage | I _C =2.5A ; I _B =0.5A | | | 1.0 | V |
| V _{BEsat} | Base-emitter saturation voltage | I _C =2.5A ; I _B =0.5A | | | 1.5 | V |
| I _{CBO} | Collector cut-off current | V _{CE} =800V ; I _E =0 T _C =100 | | | 0.1 1.0 | mA |
| I _{EBO} | Emitter cut-off current | V _{EB} =6V ; I _C =0 | | | 0.1 | mA |
| h _{FE} | DC current gain | I _C =2.5A ; V _{CE} =5V | 10 | | 30 | |
| f _T | Transition frequency | I _C =0.5A ; V _{CE} =10V | | 20 | | MHz |
| C _{OB} | Output capacitance | I _E =0 ; V _{CB} =10V ; f=1MHz | | 70 | | pF |

Switching times

| | | | | | | |
|------------------|--------------|--|--|--|-----|----|
| t _r | Rise time | I _C =2.5A ; V _{CC} =250V I _{B1} =0.5A ; I _{B2} =-1A | | | 0.5 | μs |
| t _{stg} | Storage time | | | | 3.0 | μs |
| t _f | Fall time | | | | 0.3 | μs |

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PACKAGE OUTLINE

