

# MICRO

ELECTRONICS

NPN  
SILICON  
TRANSISTOR

TO-92F

## DESCRIPTION

BSS38 is PNP silicon planar transistor designed for high voltage video amplifiers in television receivers.



## ABSOLUTE MAXIMUM RATINGS

|  |                                   |               |
|--|-----------------------------------|---------------|
| Collector-Emitter Voltage                | V <sub>CEO</sub>                  | 100V          |
| Collector-Base Voltage                   | V <sub>CBO</sub>                  | 120V          |
| Emitter-Base Voltage                     | V <sub>EBO</sub>                  | 5V            |
| Collector Current                        | I <sub>C</sub>                    | 100mA         |
| Continuous Power Dissipation             | P <sub>d</sub>                    | 300mW         |
| Operating & Storage Junction Temperature | T <sub>j</sub> , T <sub>stg</sub> | -55 to +150°C |

## ELECTRO-OPTICAL CHARACTERISTICS

(T<sub>a</sub>=25°C)

| PARAMETER                            | SYMBOL               | MIN | MAX | UNIT | CONDITIONS                               |
|--------------------------------------|----------------------|-----|-----|------|--|
| Collector-Emitter Breakdown Voltage  | LV <sub>CEO</sub>    | 100 |     | V    | I <sub>C</sub> =1mA IB=0                 |
| Collector-Base Breakdown Voltage     | BV <sub>CBO</sub>    | 120 |     | V    | I <sub>C</sub> =100μA IE=0               |
| Emitter-Base Breakdown Voltage       | BV <sub>EBO</sub>    | 5   |     | V    | IE=100μA IC=0                            |
| Collector Cutoff Current             | I <sub>CBO</sub>     |     | 200 | nA   | V <sub>CB</sub> =90V IE=0                |
| Emitter Cutoff Current               | I <sub>EBO</sub>     |     | 100 | nA   | V <sub>EB</sub> =4V IC=0                 |
| D.C. Current Gain                    | HFE                  | 20  |     |      | I <sub>C</sub> =4mA V <sub>CE</sub> =1V  |
| Collector-Emitter Saturation Voltage | V <sub>CE(sat)</sub> |     | 0.7 | V    | I <sub>C</sub> =4mA IB=0.4mA             |
|                                      |                      |     | 3   |      | I <sub>C</sub> =50mA IB=15mA             |
| Base-Emitter Saturation Voltage      | V <sub>BE(sat)</sub> |     | 1.2 |      | I <sub>C</sub> =4mA IB=0.4mA             |
| Current Gain Bandwidth Product       | f <sub>T</sub>       | 60  |     | MHz  | I <sub>C</sub> =4mA V <sub>CE</sub> =10V |
| Output Capacitance                   | C <sub>ob</sub>      |     | 4.5 | pF   | V <sub>CB</sub> =10V f=1MHz              |



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