

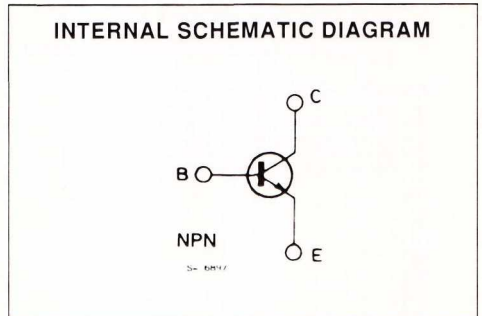
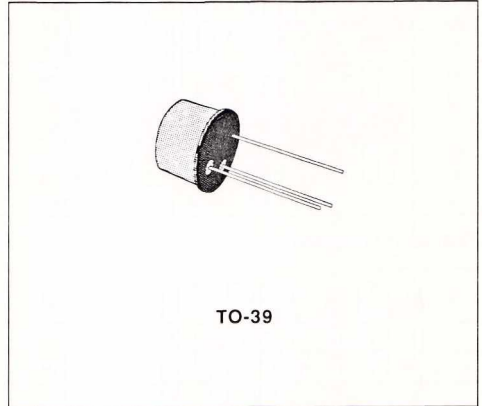


MEDIUM POWER VIDEO AMPLIFIERS

DESCRIPTION

The BF657, BF658 and BF659 are silicon planar epitaxial NPN transistors in Jedec TO-39 metal case.

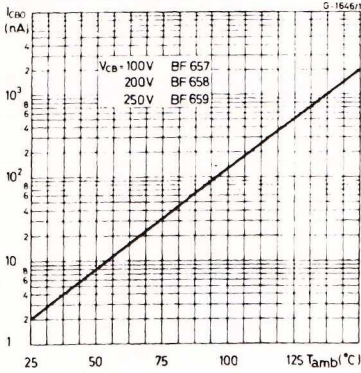
They are particularly designed for application with precision "IN-LINE" large screen CRT (thermal resistance $\leq 20^\circ \text{C/W}$).



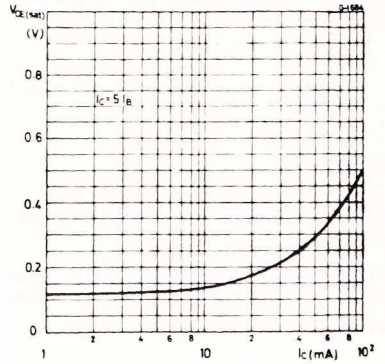
ABSOLUTE MAXIMUM RATINGS

| Symbol | Parameter | Value | | | Unit |
|-----------|---|-------------|-------|-------|------------------|
| | | BF657 | BF658 | BF659 | |
| V_{CBO} | Collector-base Voltage ($I_E = 0$) | 160 | 250 | 300 | V |
| V_{CEO} | Collector-emitter Voltage ($I_B = 0$) | 160 | 250 | 300 | V |
| V_{EBO} | Emitter-base Voltage ($I_C = 0$) | 5 | | | V |
| I_C | Collector Current | 100 | | | mA |
| I_{CM} | Collector Peak Current | 200 | | | mA |
| P_{tot} | Total Power Dissipation at $T_{case} \leq 60^\circ \text{C}$ at $T_{case} \leq 140^\circ \text{C}$ | 7 | | | W |
| | | 3 | | | W |
| T_{stg} | Storage Temperature | - 55 to 200 | | | $^\circ\text{C}$ |
| T_j | Junction Temperature | 200 | | | $^\circ\text{C}$ |

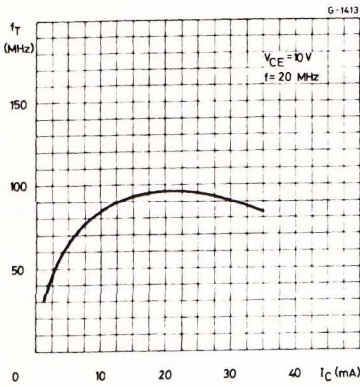
Collector Cutoff Current.



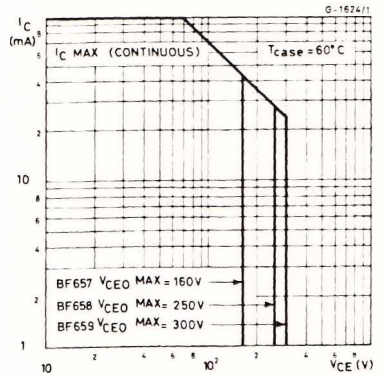
Collector-base and Reverse Capacitances.



Transition Frequency.



Safe Operating Areas.



THERMAL DATA

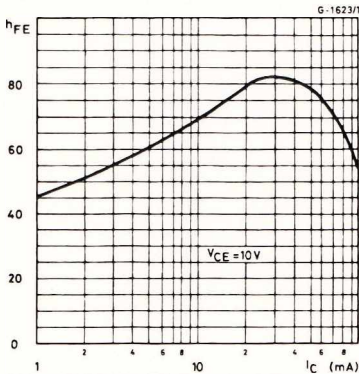
| | | | | |
|------------------------|-------------------------------------|-----|-----|------|
| R _{th j-case} | Thermal Resistance Junction-case | Max | 20 | °C/W |
| R _{th j-amb} | Thermal Resistance Junction-ambient | Max | 175 | °C/W |

ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

| Symbol | Parameter | Test Conditions | | Min. | Typ. | Max. | Unit |
|------------------------|--|--|---|-------------------|------|----------------|----------------|
| I _{CB0} | Collector Cutoff Current (I _E = 0) | for BF657 for BF658 for BF659 | V _{CB} = 100 V V _{CB} = 200 V V _{CB} = 250 V | | | 50 50 50 | nA nA nA |
| V _{(BR)CBO} | Collector-base Breakdown Voltage (I _E = 0) | I _C = 100 μA | for BF657 for BF658 for BF659 | 160 250 300 | | | V V V |
| V _{(BR)CEO} * | Collector-emitter Breakdown Voltage (I _B = 0) | I _C = 10 mA | for BF657 for BF658 for BF659 | 160 250 300 | | | V V V |
| V _{(BR)EBO} | Emitter-base Breakdown Voltage (I _C = 0) | I _E = 100 μA | | 5 | | | V |
| V _{CE(sat)} * | Collector-emitter Saturation Voltage | I _C = 30 mA | I _B = 6 mA | | | 1 | V |
| h _{FE} * | DC Current Gain | I _C = 30 mA | V _{CE} = 10 V | 25 | | | |
| f _T | Transition Frequency | I _C = 15 mA | V _{CE} = 10 V | | 90 | | MHz |
| C _{re} | Reverse Capacitance | I _C = 0 f = 1 MHz | V _{CE} = 30 V | | 3 | | pF |

* Pulsed : pulse duration = 300 μs, duty cycle = 1 %.

DC Current Gain.



Collector-emitter Saturation Voltage.

