

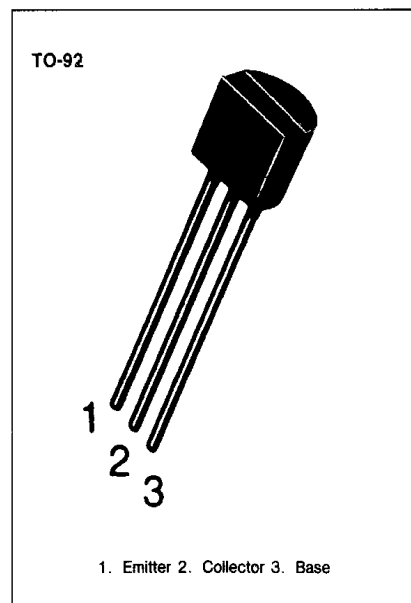
Transistors

BC638

SWITCHING AND AMPLIFIER APPLICATIONS

ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

| Characteristic | Symbol | Rating | Unit |
|------------------------------------------------------|-----------|-----------|------------------|
| Collector Emitter Voltage at $R_{BE} = 1\text{Kohm}$ | V_{CER} | -60 | V |
| Collector Emitter Voltage | V_{CES} | -60 | V |
| Collector Emitter Voltage | V_{CEO} | -60 | V |
| Emitter Base Voltage | V_{EBO} | -5 | V |
| Collector Current | I_C | -1 | A |
| Peak Collector Current | I_{CP} | -1.5 | A |
| Base Current | I_B | -100 | mA |
| Collector Dissipation | P_c | 1 | W |
| Junction Temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage Temperature | T_{stg} | -65 ~ 150 | $^\circ\text{C}$ |



ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

| Characteristic | Symbol | Test Condition | Min | Typ | Max | Unit |
|--------------------------------------|---------------|-----------------------------------------------------------------------------------------------------------|-----|-----|------|---------------|
| Collector Emitter Breakdown Voltage | BV_{CEO} | $I_C = -10\text{mA}, I_B = 0$ | -60 | | | V |
| Collector Cutoff Current | I_{CBO} | $V_{CB} = -30\text{V}, I_E = 0$ | | | -0.1 | μA |
| Emitter Cutoff Current | I_{EBO} | $V_{EB} = -5\text{V}, I_C = 0$ | | | -0.1 | μA |
| DC Current Gain | h_{FE} | $V_{CE} = -2\text{V}, I_C = -5\text{mA}$ $V_{CE} = -2\text{V}, I_C = -150\text{mA}$ | 25 | | | |
| Collector Emitter Saturation Voltage | $V_{CE(sat)}$ | $V_{CE} = -2\text{V}, I_C = -500\text{mA}$ | 40 | | 160 | V |
| Base Emitter On Voltage | $V_{BE(on)}$ | $I_C = -500\text{mA}, I_B = -50\text{mA}$ | 25 | | -0.5 | V |
| Current Gain Bandwidth Product | f_T | $V_{CE} = -2\text{V}, I_C = -500\text{mA}$ $V_{CE} = -5\text{V}, I_C = -10\text{mA}, f = 50\text{MHz}$ | | 100 | -1 | MHz |

