

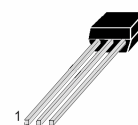
**APPLICATIONS**

Switching Circuit , Interface Circuit.

**ABSOLUTE MAXIMUM RATINGS (  $T_a=25$  )**

|           |                                |         |
|-----------|--------------------------------|---------|
| $T_{stg}$ | Storage Temperature.....       | -55~150 |
| $T_j$     | Junction Temperature.....      | 150     |
| $P_C$     | Collector Dissipation.....     | 300mW   |
| $V_{CBO}$ | Collector-Base Voltage.....    | 50V     |
| $V_{CEO}$ | Collector-Emitter Voltage..... | 50V     |
| $V_{EBO}$ | Emitter-Base Voltage.....      | 5V      |
| $I_C$     | Collector Current.....         | 100mA   |

TO-92S



1—Emitter , E  
2—Collector,C  
3—Base , B

**ELECTRICAL CHARACTERISTICS (  $T_a=25$  )**

| Symbol        | Characteristics                       | Min | Typ  | Max | Unit       | Test Conditions            |
|---------------|---------------------------------------|-----|------|-----|------------|----------------------------|
| $BV_{CBO}$    | Collector-Base Breakdown Voltage      | 50  |      |     | V          | $I_C=10\mu A$ , $I_E=0$    |
| $BV_{CEO}$    | Collector-Emitter Breakdown Voltage   | 50  |      |     | V          | $I_C=0.1mA$ , $I_B=0$      |
| $BV_{EBO}$    | Emitter-Base Breakdown Voltage        | 5   |      |     | V          | $I_E=50\mu A$ , $I_C=0$    |
| $I_{CBO}$     | Collector Cut-off Current             |     |      | 0.1 | $\mu A$    | $V_{CB}=40V$ , $I_E=0$     |
| $I_{EBO}$     | Emitter Cut-off Current               |     |      | 0.1 | $\mu A$    | $V_{EB}=5V$ , $I_C=0$      |
| $H_{FE}$      | DC Current Gain                       | 100 | 250  | 600 |            | $V_{CE}=5V$ , $I_C=1mA$    |
| $V_{CE(sat)}$ | Collector- Emitter Saturation Voltage |     | 0.1  | 0.3 | V          | $I_C=10mA$ , $I_B=0.5mA$   |
| $V_I(off)$    | Input Off Voltage                     | 0.4 | 0.55 | 0.8 | V          | $V_{CE}=5V$ , $I_C=0.1mA$  |
| $V_I(on)$     | Input On Voltage                      | 0.6 | 1.0  | 2.0 | V          | $V_{CE}=0.2V$ , $I_C=10mA$ |
| $R_I$         | Input Resistor                        | 3.3 | 4.7  | 6.1 | K $\Omega$ |                            |
| $f_r$         | Current Gain-Bandwidth Product        |     | 250  |     | MHz        | $V_{CE}=10V$ , $I_C=5mA$   |
| $C_{ob}$      | Output Capacitance                    |     | 3.7  |     | pF         | $V_{CB}=10V$ , $f=1MHz$    |