



## TO-92 Plastic-Encapsulate Transistors

### KTA1270 TRANSISTOR ( PNP )

#### FEATURES

- GENERAL PURPOSE APPLICATION SWITCHING

#### APPLICATION

#### MAXIMUM RATINGS\* $T_A=25^{\circ}\text{C}$ unless otherwise noted

| Symbol    | Parameter                     | Value   | Units              |
|-----------|-------------------------------|---------|--------------------|
| $V_{CBO}$ | Collector-Base Voltage        | -35     | V                  |
| $V_{CEO}$ | Collector-Emitter Voltage     | -30     | V                  |
| $V_{EBO}$ | Emitter-Base Voltage          | -5      | V                  |
| $I_C$     | Collector Current –Continuous | -0.5    | A                  |
| $P_C$     | Collector Dissipation         | 500     | mW                 |
| $T_J$     | Junction Temperature          | 150     | $^{\circ}\text{C}$ |
| $T_{stg}$ | Storage Temperature           | -55-150 | $^{\circ}\text{C}$ |

#### TO-92

1.EMITTER

2. COLLECTOR

3. BASE



#### ELECTRICAL CHARACTERISTICS ( $T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

| Parameter                            | Symbol        | Test conditions                                                      | MIN | TYP | MAX   | UNIT          |
|--------------------------------------|---------------|----------------------------------------------------------------------|-----|-----|-------|---------------|
| Collector-base breakdown voltage     | $V(BR)_{CBO}$ | $I_C = -100\mu\text{A}$ , $I_E = 0$                                  | -35 |     |       | V             |
| Collector-emitter breakdown voltage  | $V(BR)_{CEO}$ | $I_C = -1\text{ mA}$ , $I_B = 0$                                     | -30 |     |       | V             |
| Emitter-base breakdown voltage       | $V(BR)_{EBO}$ | $I_E = -100\mu\text{A}$ , $I_C = 0$                                  | -5  |     |       | V             |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB} = -35\text{ V}$ , $I_E = 0$                                  |     |     | -0.1  | $\mu\text{A}$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB} = -5\text{ V}$ , $I_C = 0$                                   |     |     | -0.1  | $\mu\text{A}$ |
| DC current gain                      | $h_{FE1}$     | $V_{CE} = -1\text{ V}$ , $I_C = -100\text{mA}$                       | 70  |     | 240   |               |
|                                      | $h_{FE2}$     | $V_{CE} = -6\text{ V}$ , $I_C = -400\text{mA}$                       | 25  |     |       |               |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -100\text{mA}$ , $I_B = -10\text{ mA}$                        |     |     | -0.25 | V             |
| Base-emitter voltage                 | $V_{BE(on)}$  | $V_{CE} = -1\text{V}$ , $I_C = -100\text{mA}$                        |     |     | -1    | V             |
| Transition frequency                 | $f_T$         | $V_{CE} = -6\text{ V}$ , $I_C = -20\text{mA}$<br>$F = 100\text{MHz}$ |     | 200 |       | MHz           |
| Collector output capacitance         | $C_{ob}$      | $V_{CB} = -6\text{V}$ , $I_E = 0$ , $f = 1\text{MHz}$                |     | 13  |       | pF            |

#### CLASSIFICATION OF $h_{FE}$

| Rank  |             | O       | Y       |
|-------|-------------|---------|---------|
| Range | $h_{FE(1)}$ | 70-140  | 120-240 |
|       | $h_{FE(2)}$ | 25(min) | 40(min) |

# Typical Characteristics

KTA1270

