

## TO-92L Plastic-Encapsulate Transistors

### KTC3207 TRANSISTOR (NPN)

#### FEATURES

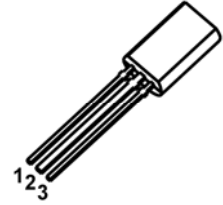
- High Voltage
- Small Collector Output Capacitance

#### MAXIMUM RATINGS ( $T_a=25^{\circ}\text{C}$ unless otherwise noted)

| Symbol          | Parameter                                   | Value    | Unit                        |
|-----------------|---|----------|-----------------------------|
| $V_{CBO}$       | Collector-Base Voltage                      | 300      | V                           |
| $V_{CEO}$       | Collector-Emitter Voltage                   | 300      | V                           |
| $V_{EBO}$       | Emitter-Base Voltage                        | 7        | V                           |
| $I_C$           | Collector Current                           | 0.1      | A                           |
| $P_C$           | Collector Power Dissipation                 | 1        | W                           |
| $R_{\theta JA}$ | Thermal Resistance From Junction To Ambient | 125      | $^{\circ}\text{C}/\text{W}$ |
| $T_j$           | Junction Temperature                        | 150      | $^{\circ}\text{C}$          |
| $T_{stg}$       | Storage Temperature                         | -55~+150 | $^{\circ}\text{C}$          |

#### TO - 92L

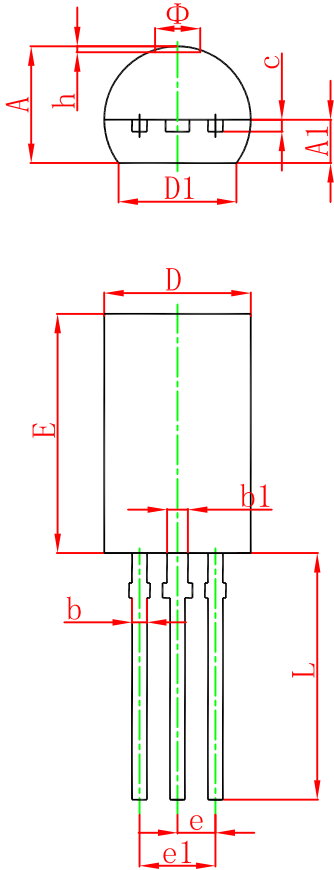
1. EMITTER
2. COLLECTOR
3. BASE



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

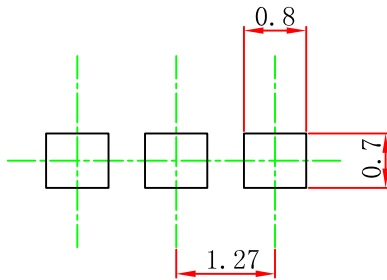
| Parameter                            | Symbol        | Test conditions                           | Min | Typ | Max | Unit          |
|--------------------------------------|---------------|---|-----|-----|-----|---------------|
| Collector-base breakdown voltage     | $V_{(BR)CBO}$ | $I_C=1\text{mA}, I_E=0$                   | 300 |     |     | V             |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}$ | $I_C=10\text{mA}, I_B=0$                  | 300 |     |     | V             |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$ | $I_E=1\text{mA}, I_C=0$                   | 7   |     |     | V             |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB}=240\text{V}, I_E=0$               |     |     | 1   | $\mu\text{A}$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB}=7\text{V}, I_C=0$                 |     |     | 1   | $\mu\text{A}$ |
| DC current gain                      | $h_{FE(1)}$   | $V_{CE}=10\text{V}, I_C=4\text{mA}$       | 20  |     |     |               |
|                                      | $h_{FE(2)}$   | $V_{CE}=10\text{V}, I_C=20\text{mA}$      | 30  |     | 150 |               |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=10\text{mA}, I_B=1\text{mA}$         |     |     | 1   | V             |
| Base-emitter saturation voltage      | $V_{BE(sat)}$ | $I_C=10\text{mA}, I_B=1\text{mA}$         |     |     | 1   | V             |
| Collector output capacitance         | $C_{ob}$      | $V_{CB}=20\text{V}, I_E=0, f=1\text{MHz}$ |     | 3   |     | pF            |
| Transition frequency                 | $f_T$         | $V_{CE}=10\text{V}, I_C=20\text{mA}$      | 50  |     |     | MHz           |

## TO-92L Package Outline Dimensions



| Symbol | Dimensions In Millimeters |        | Dimensions In Inches |       |
|--------|---------------------------|--------|----------------------|-------|
|        | Min.                      | Max.   | Min.                 | Max.  |
| A      | 3.750                     | 4.050  | 0.148                | 0.159 |
| A1     | 1.280                     | 1.580  | 0.050                | 0.062 |
| b      | 0.380                     | 0.550  | 0.015                | 0.022 |
| b1     | 0.620                     | 0.780  | 0.024                | 0.031 |
| c      | 0.350                     | 0.450  | 0.014                | 0.018 |
| D      | 4.750                     | 5.050  | 0.187                | 0.199 |
| D1     | 4.000                     |        | 0.157                |       |
| E      | 7.850                     | 8.150  | 0.309                | 0.321 |
| e      | 1.270 TYP.                |        | 0.050 TYP.           |       |
| e1     | 2.440                     | 2.640  | 0.096                | 0.104 |
| L      | 13.800                    | 14.200 | 0.543                | 0.559 |
| $\Phi$ |                           | 1.600  |                      | 0.063 |
| h      | 0.000                     | 0.300  | 0.000                | 0.012 |

## TO-92L Suggested Pad Layout



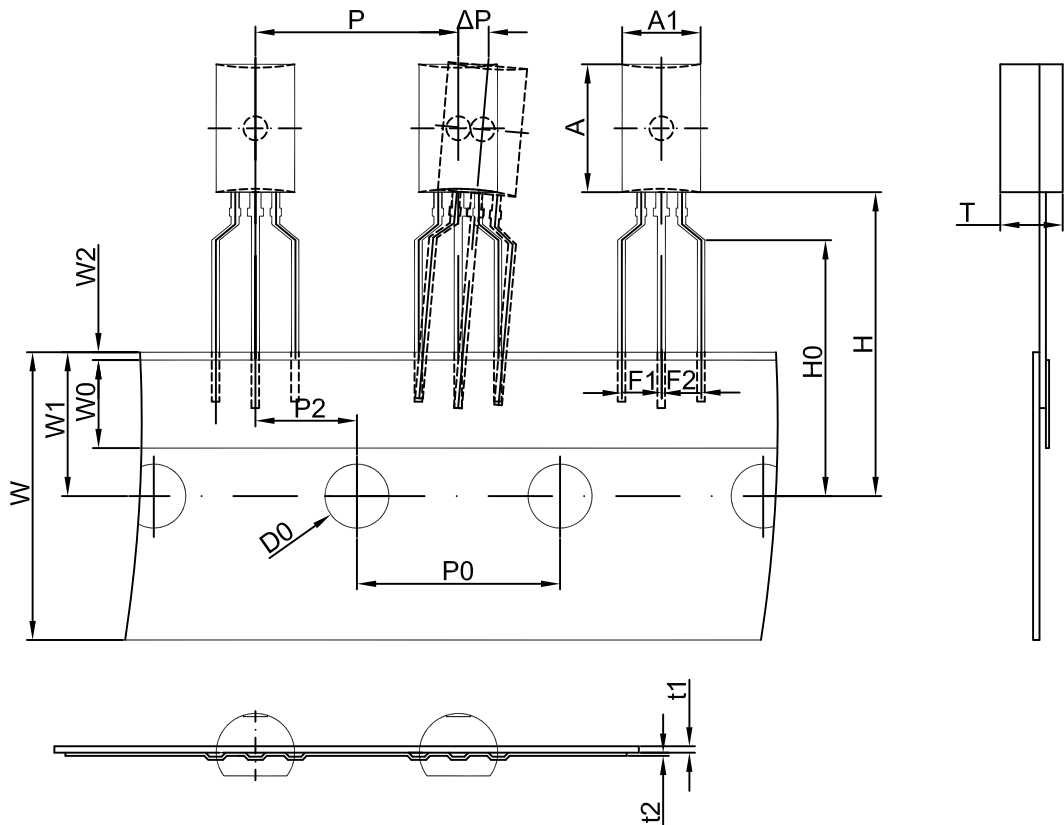
### Note:

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05$  mm.
3. The pad layout is for reference purposes only.

### NOTICE

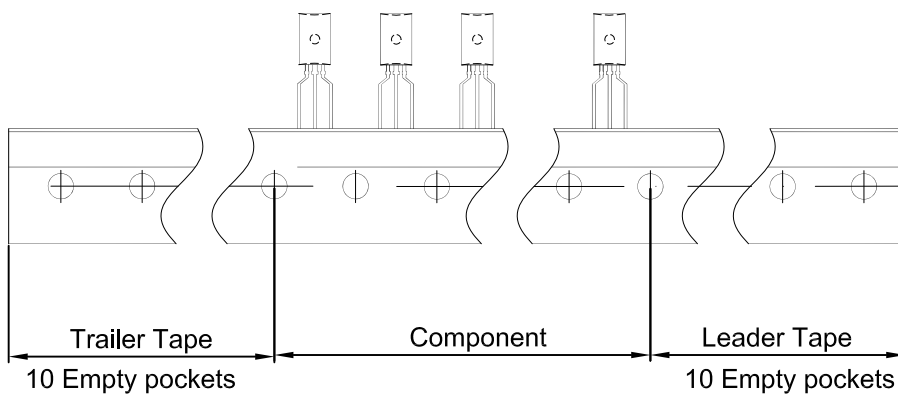
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# TO-92L PACKAGE TAPEING DIMENSION



Dimensions are in millimeter

| A1  | A   | T   | P    | P0   | P2   | F1  | F2  | W    |
|-----|-----|-----|------|------|------|-----|-----|------|
| 4.9 | 8.0 | 3.9 | 12.7 | 12.7 | 6.35 | 2.5 | 2.5 | 18.0 |
| W0  | W1  | W2  | H    | H0   | D0   | t1  | t2  | ΔP   |
| 6.0 | 9.0 | 1.0 | 19.0 | 16.0 | 4.0  | 0.4 | 0.2 | 0    |



| Package | Box      | Box Size(mm) | Carton     | Carton Size(mm) |
|---------|----------|--------------|------------|-----------------|
| TO-92L  | 2000 pcs | 333×203×42   | 20,000 pcs | 493×400×264     |