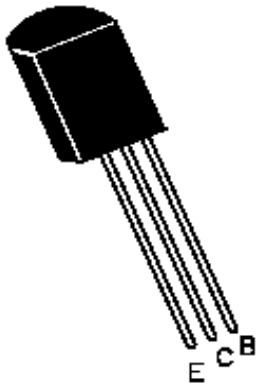
Continental Device India Limited

An ISO/TS 16949, ISO 9001 and ISO 14001 Certified Company

# NPN EPITAXIAL PLANAR SILICON TRANSISTOR

**CD1207**

**TO-92L**
**Plastic Package**




## High Cureent Switching Applications

### ABSOLUTE MAXIMUM RATINGS ($T_a$=25ºC )

| DESCRIPTION | SYMBOL | VALUE | UNITS |
|---|---|---|---|
| Collector Base Voltage | $V_{CBO}$ | 60 | V |
| Collector Emitter Voltage | $V_{CEO}$ | 50 | V |
| Emitter Base Voltage | $V_{EBO}$ | 6 | V |
| Collector Current | $I_C$ | 2 | A |
| Peak Collector Current | $I_{CP}$ | 4 | A |
| Collector Power Dissipation | $P_C$ | 1 | W |
| Junction Temperature | $T_j$ | 150 | ºC |
| Storage Temperature | $T_{stg}$ | - 55 to +150 | ºC |

### ELECTRICAL CHARACTERISTICS ($T_a$=25ºC unless specified otherwise)

| DESCRIPTION | SYMBOL | TEST CONDITION | MIN | TYP | MAX | UNITS |
|---|---|---|---|---|---|---|
| Collector Base Voltage | $V_{CBO}$ | $I_C$=10µA, $I_E$=0 | 60 | | | V |
| Collector Emitter Voltage | $V_{CEO}$ | $I_C$=1mA, $I_B$=0 | 50 | | | V |
| Emitter Base Voltage | $V_{EBO}$ | $I_E$=10µA, $I_C$=0 | 6 | | | V |
| Collector Cut Off Current | $I_{CBO}$ | $V_{CB}$ =50V, $I_E$=0 | | | 100 | nA |
| Emitter Cut Off Current | $I_{EBO}$ | $V_{EB}$=4V, $I_C$ = 0 | | | 100 | nA |
| DC Current Gain | *$h_{FE}$ | $I_C$ =100mA, $V_{CE}$=2V | 100 | | 560 | |
| | $h_{FE}$ | $I_C$ =1.5A, $V_{CE}$=2V | 40 | | | |
| Collector Emitter Saturation Voltage | $V_{CE\ (sat)}$ | $I_C$=1A, $I_B$=50mA | | | 0.4 | V |
| Base Emitter Saturation Voltage | $V_{BE\ (sat)}$ | $I_C$=1A, $I_B$=50mA | | | 1.2 | V |

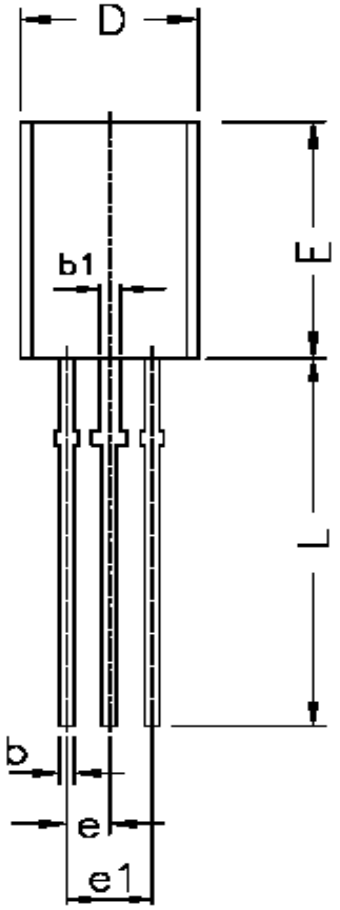
### DYNAMIC CHARACTERISTICS

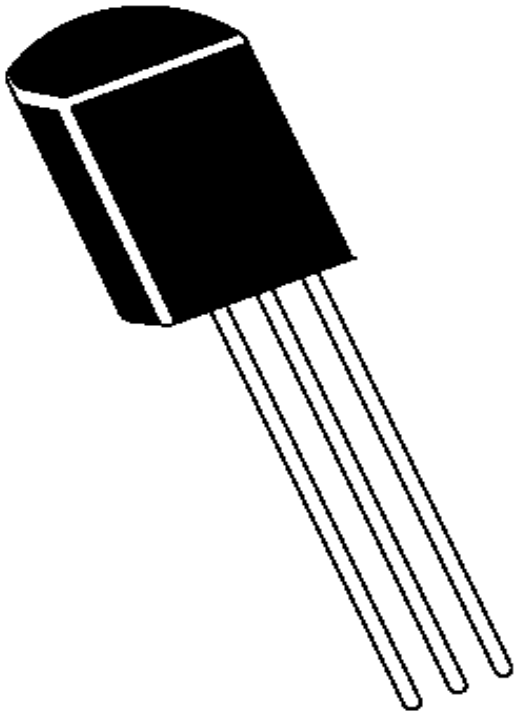
| | | | | | | |
|---|---|---|---|---|---|---|
| Transition Frequency | $f_T$ | $V_{CE}$=10V, $I_C$=50mA | | 150 | | MHz |
| Output Capacitance | $C_{ob}$ | $V_{CB}$=10V,$I_E$=0, f=1MHz | | 12 | | pF |

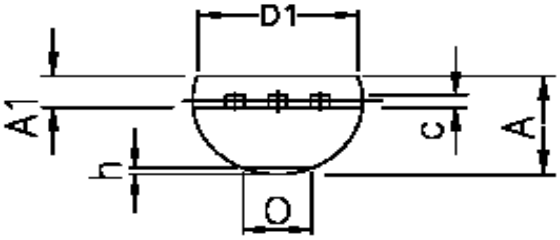
| CLASSIFICATION | R | S | T | U |
|---|---|---|---|---|
| *$h_{FE}$ | 100 - 200 | 140 - 280 | 200 - 400 | 280 - 560 |

**CD1207Rev140205E**

# PACKAGE TO-92L

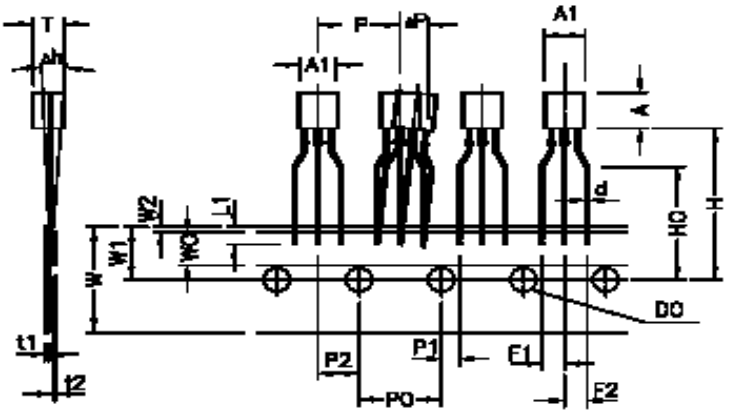


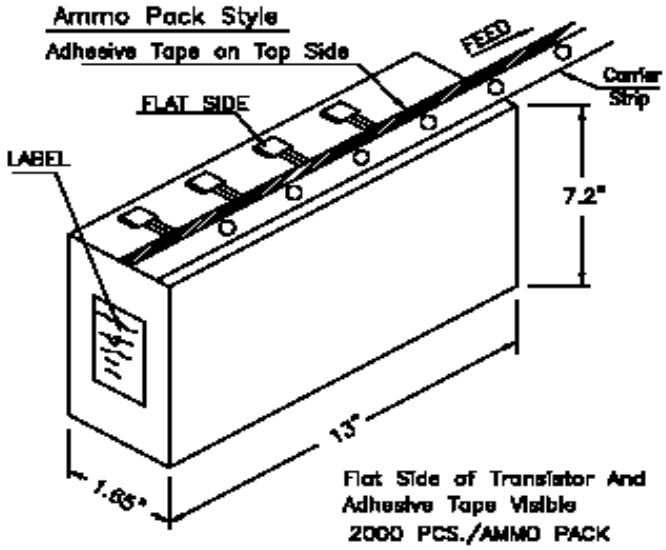






| DIM | MIN | MAX |
|---|---|---|
| A | 3.700 | 4.100 |
| A1 | 1.280 | 1.580 |
| b | 0.350 | 0.550 |
| b1 | 0.600 | 0.800 |
| c | 0.350 | 0.450 |
| D | 4.700 | 5.100 |
| D1 | 4.000 | — |
| E | 7.800 | 8.200 |
| e | 1.270 TYP. | |
| e1 | 2.440 | 2.640 |
| L | 13.600 | 14.200 |
| O | — | 1.600 |
| h | 0.000 | 0.300 |

# TO–92L TRANSISTOR ON TAPE AND AMMO PACK




Flat Side of Translator And Adhesive Tape Visible
2000 PCS./AMMO PACK

| ITEM | SYMBOL | VALUE & TOLERANCE |
|---|---|---|
| BODY WIDTH | A1 | 4.9 ±0.2 |
| BODY HEIGHT | A | 8.0 ±0.2 |
| BODY THICKNESS | T | 3.9 ±0.2 |
| LEAD WIRE DIAMETER | d | 0.45 ±0.05 |
| PITCH OF COMPONENT | P | 12.7 ±0.3 |
| FEED HOLE PITCH | P0 | 12.7 ±0.2 |
| HOLE CENTER TO COMPONENT CENTER | P2 | 6.35 ±0.3 |
| LEAD TO LEAD DISTANCE | F1,F2 | 2.5 ±0.3 |
| COMPONENT ALIGNMENT,F–R | Δh | 0 ±1.0 |
| TYPE WIDTH | W | 18.0 +1.0,–0.5 |
| HOLE DOWN TAPE WIDTH | W0 | 6.0 ±0.5 |
| HOLE POSITION | W1 | 9.0 ±0.5 |
| HOLE DOWN TAPE POSITION | W2 | 1.0 MAX. |
| HEIGHT OF COMPONENT FROM TAPE CENTER | H | 19.0 +2.0,–0 |
| LEAD WIRE CLINCH HEIGHT | H0 | 16.0 ±0.5 |
| LEAD WIRE (TAPE PORTION) | L1 | 2.5 MIN |
| FEED HOLE DIAMETER | D0 | 4.0 ±0.2 |
| TAPED LEAD THICKNESS | t1 | 0.4 ±0.05 |
| CARRIER TAPE THICKNESS | t2 | 0.2 ±0.05 |
| POSITION OF HOLE | P1 | 3.85 ±0.3 |
| COMPONENT ALIGNMENT | ΔP | 0 ±1.0 |

NOTES:–

1. MAXIMUM ALIGNMENT DEVIATION BETWEEN LEADS NOT TO BE GREATER THAN 0.2 mm
2. MAXIMUM NON–CUMULATIVE VARIATION BETWEEN TAPE FEED HOLES SHALL NOT EXCEED 1 mm IN 20 PITCHES.
3. HOLDDOWN TAPE NOT TO EXCEED BEYOND THE EDGE(S) OF CARRIER TAPE AND THERE SHALL BE NO EXPOSURE OF ADHESIVE.
4. NO MORE THAN 3 CONSECUTIVE MISSING COMPONENTS IS PERMITTED.
5. A TAPE TRAILER, HAVING AT LEAST THREE FEED HOLES IS REQUIRED AFTER THE LAST COMPONENT.
6. SPLICES SHALL NOT INTERFERE WITH THE SPROCKET FEED HOLES.

## Disclaimer

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