

TÜV MANAGEMENT SERVICE

An ISO/TS16949 and ISO 9001 Certified Company

PNP SILICON PLANAR EPITAXIAL TRANSISTORS

CSB621, CSB621A



TO-92 Plastic Package

AF Output Amplifier

ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

| DESCRIPTION | SYMBOL | CSB621 | CSB621A | UNITS |
|--|------------------|---------|---------|-------|
| Collector Emitter Voltage | V_{CEO} | 25 | 50 | V |
| Collector Base Voltage | V_{CBO} | 30 | 60 | V |
| Emitter Base Voltage | V_{EBO} | 5 | V | |
| Collector Current Peak | I _{CP} | 1 | А | |
| Collector Current | I _C | 1 | А | |
| Power Dissipation @ T _a =25°C | *P _C | 7 | mW | |
| Junction Temperature | T _j | 1 | °C | |
| Storage Temperature Range | T _{stg} | - 55 to | °C | |

^{*}P_C=600mW/Potting type: P_C=600mW

ELECTRICAL CHARACTERISTICS (T_a=25°C unless specified otherwise)

| DESCRIPTION | SYMBOL | TEST CONDITION | MIN | TYP | MAX | UNITS |
|--------------------------------------|------------------|---|-----|-----|-----|-------|
| Collector Cut off Current | I _{CBO} | $V_{CB}=20V, I_{E}=0$ | | | 0.1 | μΑ |
| Collector Base Voltage | V_{CBO} | $I_{C}=10\mu A, I_{E}=0$ | | | | |
| | | CSB621 | 30 | | | V |
| | | CSB621A | 60 | | | V |
| Collector Emitter Voltage | V_{CEO} | $I_C=2mA$, $I_B=0$ | | | | |
| | | CSB621 | 25 | | | V |
| | | CSB621A | 50 | | | V |
| Emitter Base Voltage | V_{EBO} | $I_{E}=10\mu A, I_{C}=0$ | 5 | | | V |
| DC Current Gain | *h _{FE} | V_{CE} =10V, I_{C} =500mA | 85 | | 340 | |
| | h_FE | $V_{CE}=5V$, $I_{C}=1A$ | 50 | | | |
| Collector Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=500$ mA, $I_B=50$ mA | | | 0.4 | V |
| Base Emitter Saturation Voltage | $V_{BE(sat)}$ | I _C =500mA, I _B =50mA | | | 1.2 | V |
| Transition Frequency | f _T | $I_C=50$ mA, $V_{CE}=10$ V | | 200 | | MHz |
| Output Capacitance | C_ob | $I_E=0$, $V_{CB}=10V$, $f=1MHz$ | | | 30 | pF |

^{*}h_{FE} Classifications

Q:85-170

R: 120 - 240

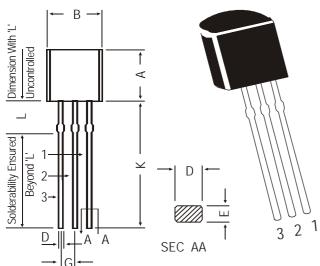
S: 170 - 340

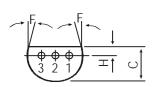
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TO-92 Transistors on Tape and Ammo Pack



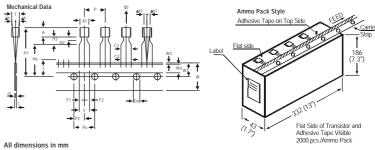


PIN CONFIGURATION

- 1. BASE
- 2. COLLECTOR
- 3. EMITTER

| > | EC AA | | | | | | | |
|---|-------|-------|-------|--|--|--|--|--|
| | DIM | MIN. | MAX. | | | | | |
| | А | 4.32 | 5.33 | | | | | |
| | В | 4.45 | 5.20 | | | | | |
| | С | 3.18 | 4.19 | | | | | |
| | D | 0.41 | 0.55 | | | | | |
| ı | Е | 0.35 | 0.50 | | | | | |
| | F | 5 D | EG | | | | | |
| ı | G | 1.14 | 1.40 | | | | | |
| ı | Н | 1.14 | 1.53 | | | | | |
| | K | 12.70 | | | | | | |
| | L | 1.982 | 2.082 | | | | | |
| | | | | | | | | |

All diminsions in mm.



| | | SPECIFICATION | | | ON | | | |
|---|---------|---------------|------|-------|-------|--|--|--|
| ITEM | SYMBOL | MIN. | NOM. | MAX. | TOL . | REMARKS | | |
| BODY WIDTH | A1 | 4.0 | | 4.8 | | | | |
| BODY HEIGHT | A | 4.8 | | 5.2 | | | | |
| BODY THICKNESS | T | 3.9 | | 4.2 | | | | |
| PITCH OF COMPONENT | P | | 12.7 | | ± 1.0 | | | |
| FEED HOLE PITCH | Po | | 12.7 | | ± 0.3 | CUMULATIVE PITCH ERROR 1.0 mm/20 PITCH | | |
| FEED HOLE CENTRE TO | | | | | | | | |
| COMPONENT CENTRE DISTANCE BETWEEN OUTER | P2 | | 6.35 | | ± 0.4 | TO BE MEASURED AT BOTTOM OF CLINCH | | |
| LEADS | F | | 5.08 | | + 0.6 | | | |
| COMPONENT ALIGNMENT SIDE VIEW | Δh | | 0 | 1.0 | - 0.2 | AT TOP OF BODY | | |
| COMPONENT ALIGNMENT FRONT VIEW | Δh1 | | 0 | 1.3 | | AT TOP OF BODY | | |
| TAPE WIDTH | W | | 18 | 1.3 | ± 0.5 | AT TOP OF BODT | | |
| HOLD-DOWN TAPE WIDTH | Wo | | 6 | | + 0.2 | | | |
| HOLE POSITION | W1 | | 9 | | + 0.7 | | | |
| TIOLE FOSITION | VVI | | ′ | | - 0.5 | | | |
| HOLD-DOWN TAPE POSITION | W2 | | 0.5 | | ± 0.2 | | | |
| LEAD WIRE CLINCH HEIGHT | Ho | | 16 | | ± 0.5 | | | |
| COMPONENT HEIGHT | H1 | | | 23.25 | | | | |
| LENGTH OF SNIPPED LEADS | L | | | 11.0 | | | | |
| FEED HOLE DIAMETER | Do | | 4 | | ± 0.2 | | | |
| TOTAL TAPE THICKNESS | t | | | 1.2 | | t1 0.3-0.6 | | |
| LEAD - TO - LEAD DISTANCE | F1, F2 | | 2.54 | | + 0.4 | | | |
| STAND OFF | H2 | 0.45 | | 1.45 | - 0.1 | | | |
| CLINCH HEIGHT | H3 | | | 3.0 | | | | |
| LEAD PARALLELISM | C1 - C2 | | | 0.22 | | | | |
| PULL - OUT FORCE | (P) | 6N | | | | | | |

- NOTES

 1. Maximum alignment deviation between leads will not to be greater than 0.2mm.

 2. Maximum on-cumulative variation between tape feed holes shall not exceed 1 mm in 20 pitches.

 3. Holddown tape will not exceed beyond the edge(\$) of carrier tape and there shall be no exposure of adhesive.

 4. There will be no more than three (\$) consecutive missing components in a tape.

 5. A tape trailer, having at least three feed holes are provided after the last component in a tape.

 6. Splices should not interfere with the sprocket feed holes.

Packing Detail

| PACKAGE | STANDARD PACK | | INNER CARTON BOX | | OUTER CARTON BOX | | |
|------------|--------------------------|---------------|-------------------|-----|-------------------|-----|----------|
| | Details Net Weight / Oty | | Size | Qty | Size | Qty | Gr Wt |
| TO-92 Bulk | 1K/polybag | 200 gm/1K pcs | 3" x 7.5" x 7.5" | 5K | 17" x 15" x 13.5" | 80K | 23 kgs |
| TO-92 T&A | 2K/ammo box | 645 gm/2K pcs | 12.5" x 8" x 1.8" | 2K | 17" x 15" x 13.5" | 32K | 12.5 kgs |

Notes

CSB621, CSB621A

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Disclaimer

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CDIL is a registered Trademark of
Continental Device India Limited
C-120 Naraina Industrial Area, New Delhi 110 028, India.
Telephone + 91-11-2579 6150, 5141 1112 Fax + 91-11-2579 5290, 5141 1119
email@cdil.com www.cdilsemi.com