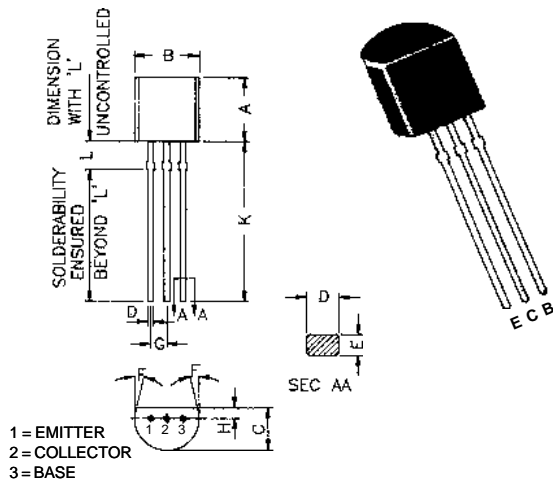


TO-92 Plastic Package

**CSA970
CSC2240**

**CSA 970 PNP SILICON PLANAR EPITAXIAL TRANSISTORS
CSC 2240 NPN SILICON PLANAR EPITAXIAL TRANSISTORS**

Low Noise Audio Amplifier



| DIM | MIN | MAX |
|-----|-------|-------|
| A | 4,32 | 5,33 |
| B | 4,45 | 5,20 |
| C | 3,18 | 4,19 |
| D | 0,41 | 0,55 |
| E | 0,35 | 0,50 |
| F | 5 DEG | |
| G | 1,14 | 1,40 |
| H | 1,14 | 1,53 |
| K | 12,70 | - |
| L | 1.982 | 2.082 |

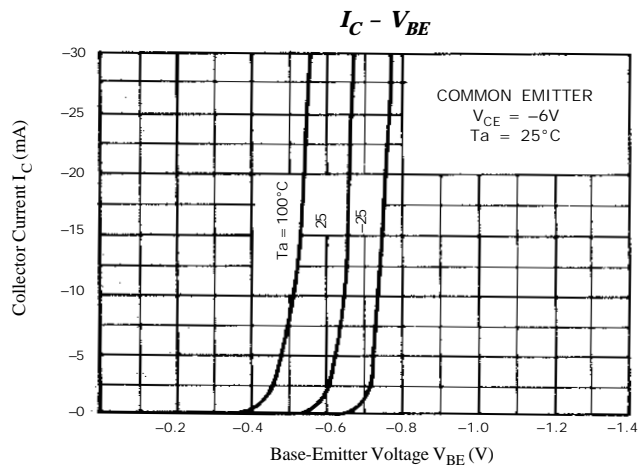
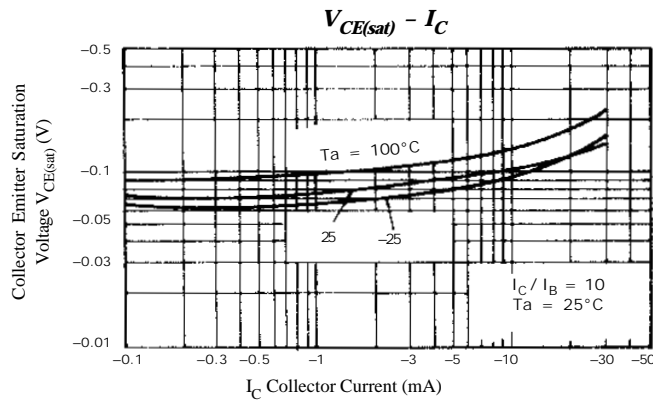
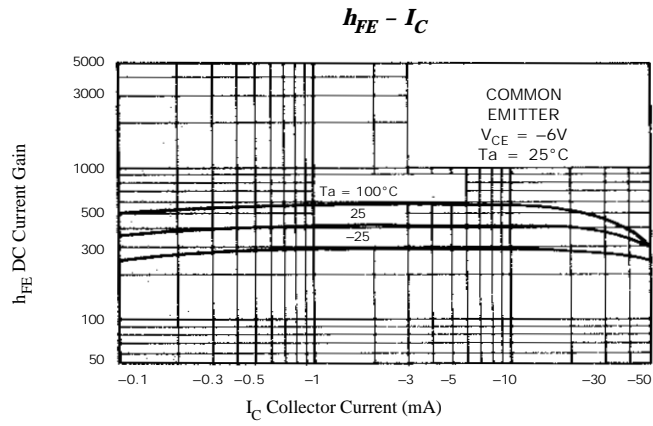
ALL DIMENSIONS IN M.M.

ABSOLUTE MAXIMUM RATINGS

| Rating | Symbol | Value | Unit |
|--|----------------|-------------|------|
| Collector Base Voltage | V_{CBO} | 120 | V |
| Collector Emitter Voltage | V_{CEO} | 120 | V |
| Emitter Base Voltage | V_{EBO} | 5 | V |
| Collector Current Continuous | I_C | 100 | mA |
| Emitter Current | I_E | 100 | mA |
| Power Dissipation | P_D | 300 | mW |
| Operating and Storage Junction Temperature Range | T_j, T_{stg} | -55 to +150 | °C |

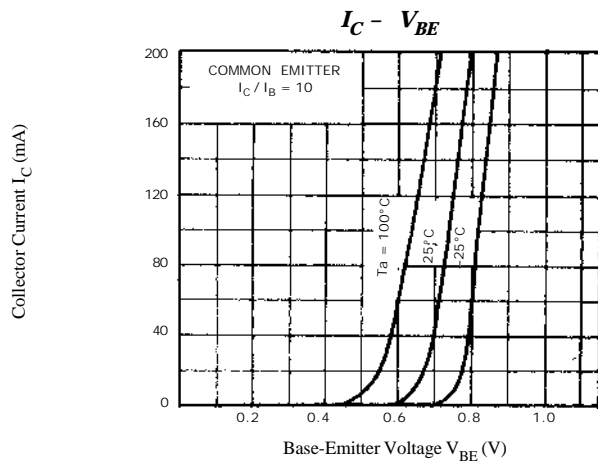
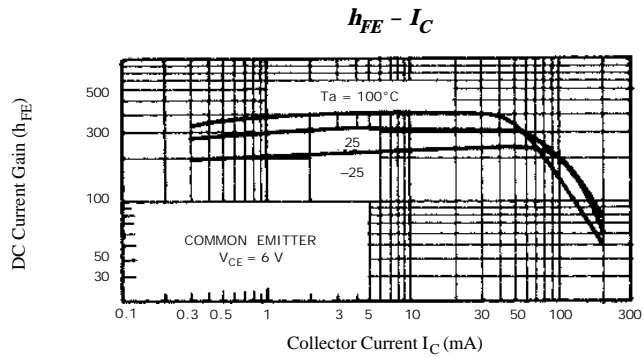
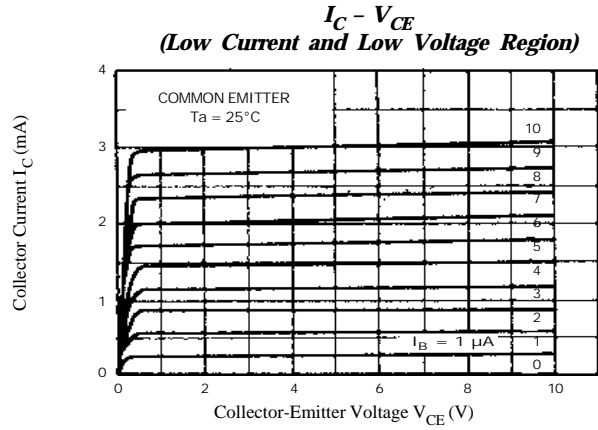
ELECTRICAL CHARACTERISTICS ($T_a = 25\text{ }^\circ\text{C}$ unless otherwise specified)

| Characteristic Unit | Symbol | Min | Typ | Max | | |
|--|---------------|-------------------|---------|-----|-----|----|
| Collector Cutoff Current $V_{CB}=120\text{V}, I_E=0$ | I_{CBO} | - | - | 100 | nA | |
| Emitter Cutoff Current $V_{EB}=5\text{V}, I_C=0$ | I_{EBO} | - | - | 100 | nA | |
| Collector Emitter Voltage $I_C=1\text{mA}, I_B=0$ | BV_{CEO} | 120 | - | - | V | |
| D.C. Current Gain $V_{CE}=6\text{V}, I_C=2\text{mA}$ | h_{FE} | 200 | - | 700 | | |
| Collector Emitter Saturation Voltage $I_C=10\text{mA}, I_B=1\text{mA}$ | $V_{CE(sat)}$ | - | - | 0.3 | V | |
| Base Emitter On Voltage $V_{CE}=6\text{V}, I_C=2\text{mA}$ | $V_{BE(on)}$ | - | 0.65 | - | V | |
| DYNAMIC CHARACTERISTICS | | | | | | |
| Transition Frequency $V_{CE}=6\text{V}, I_C=1\text{mA}$ | f_T | - | 100 | - | MHz | |
| Collector Output Capacitance $V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$ | C_{ob} | CSA970 CSC2240 | - | 4.0 | - | pF |
| | | | - | 3.0 | - | pF |
| Noise Figure $V_{CE}=5\text{V}, I_C=250\mu\text{A}$ $R_g=1\text{k}\Omega, f=10\text{Hz to } 15.7\text{ kHz}$ | NF | - | - | 10 | dB | |
| | | | - | 3 | dB | |
| h_{FE} Classification | | GR | BL | | | |
| | | 200-400 | 350-700 | | | |



CSA970
CSC2240

CSC2240



Notes

Disclaimer

The product information and the selection guides facilitate selection of the CDIL's Discrete Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Device(s) meet functionality parameters for your application. The information furnished on the CDIL Web Site/ CD is believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever, arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Discrete Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s).

CDIL strives for continuous improvement and reserves the right to change the specifications of its products without prior notice.



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