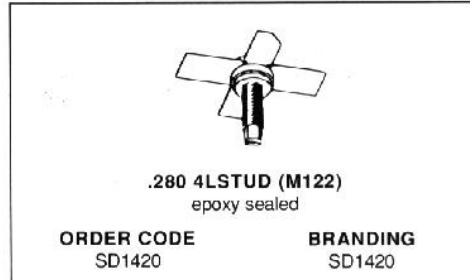


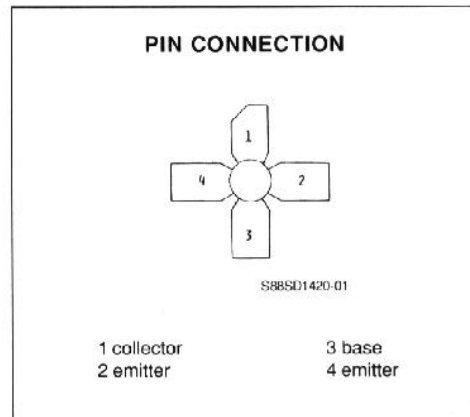
RF & MICROWAVE TRANSISTORS
860-960MHz CLASS AB BASE STATION

- FREQUENCY 860 - 960MHz
- POWER OUT 2.1W
- VOLTAGE 24V
- POWER GAIN 9.0dB
- CLASS AB
- DESIGNED FOR LINEAR OPERATION
- GOLD METALLIZATION FOR HIGH RELIABILITY
- COMMON EMITTER CONFIGURATION



DESCRIPTION

The SD1420 is a gold metallized epitaxial silicon NPN Planar Transistor designed for high linearity Class AB operation for Cellular Base Station applications. The SD1420 was developed as a driver for the SD1423. The SD1420 is available in a studless package as the SD1420-01.



ABSOLUTE MAXIMUM RATINGS ($T_{case} = 25^{\circ}C$)

| Symbol | Parameter | Value | Unit |
|-----------|------------------------------------|---------------|------|
| V_{CBO} | Collector - Base Voltage | 40.0 | V |
| V_{CEO} | Collector - Emitter Voltage | 28.0 | V |
| V_{EBO} | Emitter - Base Voltage | 3.5 | V |
| I_C | Collector Current (max.) | .250 | A |
| P_{TOT} | Total Device Dissipation at + 25°C | 7.0 | W |
| T_{STG} | Storage Temperature | - 55 to + 150 | °C |
| T_J | Junction Temperature | + 200 | °C |

THERMAL DATA

| | | | |
|---------------|----------------------------------|------|------|
| $R_{th(J-C)}$ | Junction-case Thermal Resistance | 20.0 | °C/W |
|---------------|----------------------------------|------|------|

SD1420**ELECTRICAL CHARACTERISTICS** ($T_{\text{case}} = 25^{\circ}\text{C}$)

STATIC

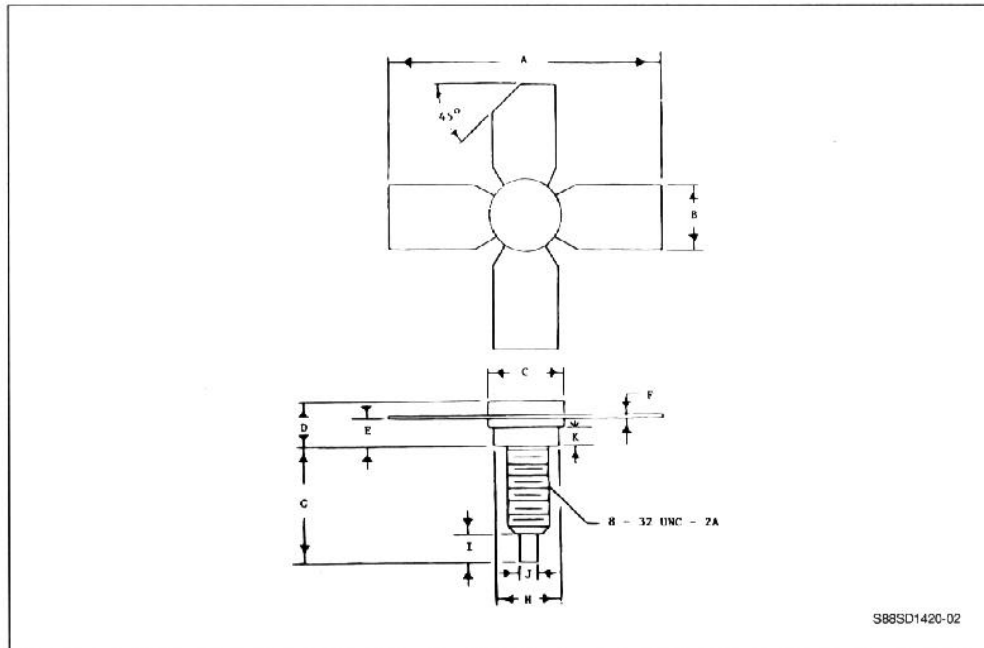
| Symbol | Test Conditions | Value | | | Unit |
|-------------------|--|-------|------|------|------|
| | | Min. | Typ. | Max. | |
| BV_{CEO} | $I_{\text{C}} = 1\text{mA}$ | 28 | 30 | | V |
| BV_{CBO} | $I_{\text{C}} = 1\text{mA}$ | 40.0 | | | V |
| BV_{EBO} | $I_{\text{E}} = .25\text{mA}$ | 3.5 | | | V |
| I_{CEO} | $V_{\text{CB}} = 24.0\text{V}$ | | | .5 | mA |
| h_{FE} | $V_{\text{C}} = 5.0\text{V}$ $I_{\text{C}} = .1\text{A}$ | 20 | | 120 | |

DYNAMIC

| Symbol | Test Conditions | Value | | | Unit |
|-----------------|---|-------|------|------|---------------|
| | | Min. | Typ. | Max. | |
| P_{O} | $f = 960\text{MHz}$ $V_{\text{CE}} = 24\text{V}$ $I_{\text{CC}} = .2\text{A}$ | 2.1 | | | W |
| P_{G} | $f = 960\text{MHz}$ $V_{\text{CE}} = 24\text{V}$ | 8.9 | 9.0 | | dB |
| C_{ob} | $f = 1\text{MHz}$ $V_{\text{CB}} = 28.0\text{V}$ | | | 5.0 | μF |

PACKAGE MECHANICAL DATA

.280 4LSTUD



| | Minimum Inches | Maximum Inches |
|---|----------------|----------------|
| A | | 1.055 |
| B | .220 | .230 |
| C | .275 | .285 |
| D | .178 | .192 |
| E | .110 | .125 |
| F | .004 | .006 |

| | Minimum Inches | Maximum Inches |
|---|----------------|----------------|
| G | .445 | .465 |
| H | .245 | .255 |
| I | .120 | .140 |
| J | .055 | .065 |
| K | .055 | .065 |