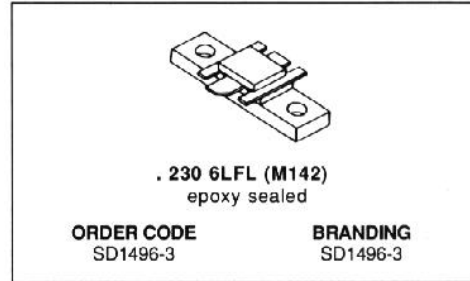


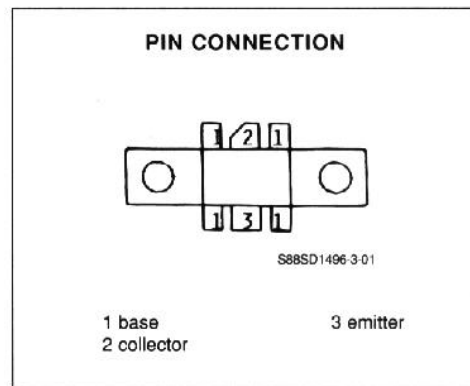
RF & MICROWAVE TRANSISTORS
900-960MHz CLASS C, BASE STATIONS

- CLASS C TRANSISTOR
- FREQUENCY 960MHz
- VOLTAGE 24V
- POWER OUT 55W
- POWER GAIN 7.4dB
- EFFICIENCY 50%
- COMMON BASE



DESCRIPTION

The SD1496-3 is a 24V epitaxial silicon NPN planar transistor designed primarily for amplifier applications in the 900-960MHz frequency range. In the 900-960MHz frequency range, internal input matching and common base configuration assure optimum gain and efficiency across the entire frequency band.



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

| Symbol | Parameter | Value | Unit |
|-----------|-----------------------------|-------------|-------------|
| V_{CBO} | Collector - Base Voltage | 50 | V |
| V_{CEO} | Collector - Emitter Voltage | 26 | V |
| V_{CES} | Collector - Emitter Voltage | 50 | V |
| V_{EBO} | Emitter - Base Voltage | 4 | V |
| I_C | Collector Current | 9 | A |
| P_{tot} | Total Power Dissipation | 190 | W |
| T_{stg} | Storage Temperature | - 65 to 150 | $^{\circ}C$ |
| T_J | Junction Temperature | 200 | $^{\circ}C$ |

THERMAL DATA

| | | | |
|---------------|----------------------------------|-----|---------------|
| $R_{th(j-c)}$ | Junction-case Thermal Resistance | 0.9 | $^{\circ}C/W$ |
|---------------|----------------------------------|-----|---------------|

SD1496-3**ELECTRICAL CHARACTERISTICS** ($T_{\text{case}} = 25^{\circ}\text{C}$)

STATIC

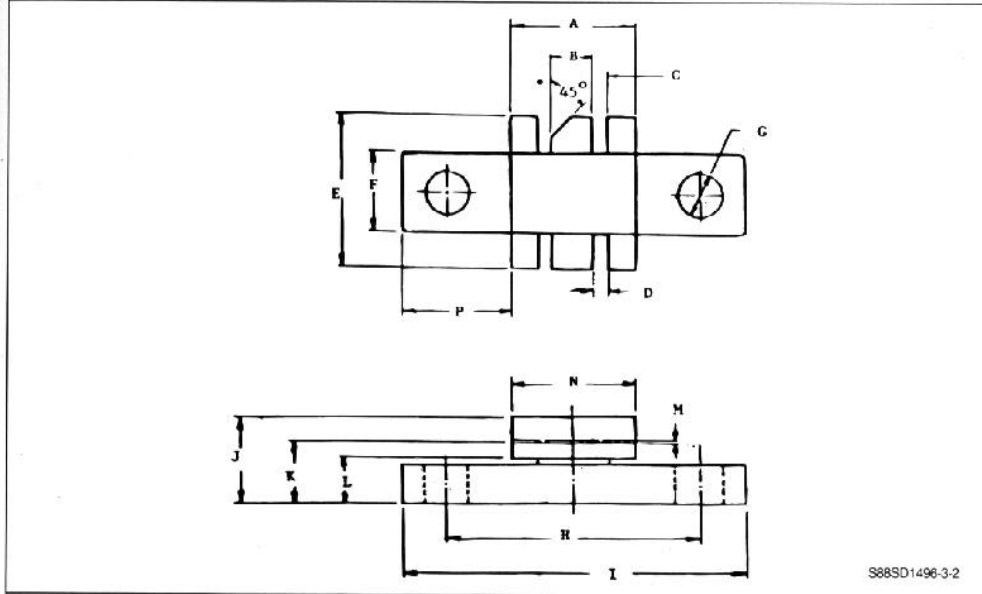
| Symbol | Test Conditions | | Value | | | Unit |
|-------------------|------------------------------|----------------------------|-------|------|------|------|
| | | | Min. | Typ. | Max. | |
| BV_{CES} | $I_{\text{C}} = 50\text{mA}$ | $V_{\text{BE}} = 0$ | 50 | | | V |
| BV_{CEO} | $I_{\text{E}} = 50\text{mA}$ | $I_{\text{B}} = 0$ | 26 | | | V |
| BV_{EBO} | $I_{\text{E}} = 10\text{mA}$ | $I_{\text{C}} = 0$ | 3 | | | V |
| I_{CBO} | $V_{\text{CB}} = 30\text{V}$ | $I_{\text{E}} = 0$ | | | 5 | mA |
| h_{FE} | $V_{\text{CE}} = 5\text{V}$ | $I_{\text{C}} = 1\text{A}$ | 20 | | | |

DYNAMIC

| Symbol | Test Conditions | | Value | | | Unit |
|-------------------|---------------------|------------------------------|-------|------|------|------|
| | | | Min. | Typ. | Max. | |
| P_{O} | $f = 960\text{MHz}$ | $V_{\text{CE}} = 24\text{V}$ | 55 | | | W |
| G_{P} | $f = 960\text{MHz}$ | $V_{\text{CE}} = 24\text{V}$ | 7.4 | | | dB |
| η_{C} | $f = 960\text{MHz}$ | $V_{\text{CC}} = 24\text{V}$ | | 50 | | % |

PACKAGE MECHANICAL DATA

.230 6LFL



| | Minimum Inch/mm | Maximum Inch/mm |
|---|--------------------|--------------------|
| A | .355/9.01 | .365/9.27 |
| B | .115/2.92 | .125/3.18 |
| C | .075/1.91 | .085/2.16 |
| D | .035/0.89 | .045/1.14 |
| E | .425/10.80 | .435/11.05 |
| F | .225/5.72 | .235/5.97 |
| G | .115/2.92 | .130/3.30 |
| H | .720/18.29 | .730/18.54 |

| | Minimum Inch/mm | Maximum Inch/mm |
|---|--------------------|--------------------|
| I | .970/24.64 | .980/24.89 |
| J | .230/5.84 | .260/6.60 |
| K | .155/3.94 | .175/4.45w |
| L | .120/3.05 | .130/3.30 |
| M | .004/0.10 | .006/0.15 |
| N | .345/8.76 | .360/9.14 |
| P | .300/7.62 | .314/7.98 |