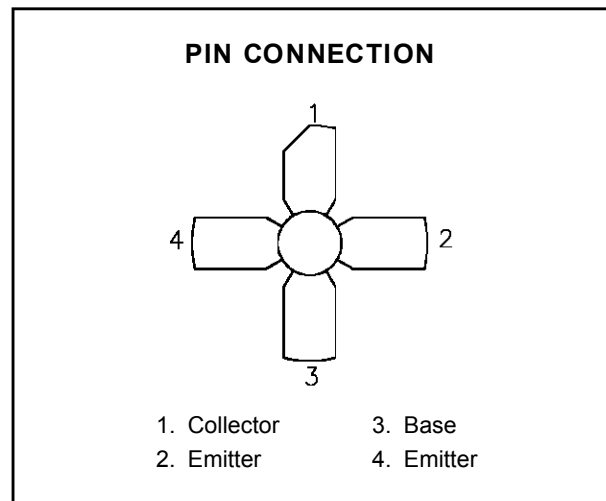
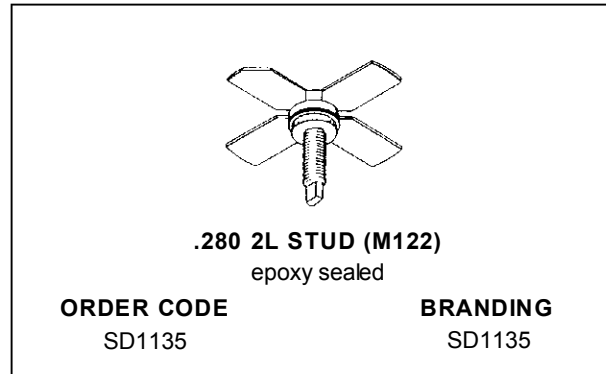


- 470 MHz
- 12.5 VOLTS
- EFFICIENCY 60%
- COMMON EMITTER
- P<sub>OUT</sub> = 5.0 W MIN. WITH 8.5 dB GAIN



**DESCRIPTION**

The SD1135 is a 12.5 V Class C epitaxial silicon NPN planar transistor designed primarily for UHF communications. This device utilizes improved metallization to achieve infinite VSWR at rated operating conditions.

**ABSOLUTE MAXIMUM RATINGS (T<sub>case</sub> = 25°C)**

| Symbol            | Parameter                 | Value        | Unit |
|-------------------|---------------------------|--------------|------|
| V <sub>CB0</sub>  | Collector-Base Voltage    | 36           | V    |
| V <sub>CER</sub>  | Collector-Emitter Voltage | 18           | V    |
| V <sub>CES</sub>  | Collector-Emitter Voltage | 36           | V    |
| V <sub>EBO</sub>  | Emitter-Base Voltage      | 4.0          | V    |
| I <sub>C</sub>    | Device Current            | 2.0          | A    |
| P <sub>DISS</sub> | Power Dissipation         | 37           | W    |
| T <sub>J</sub>    | Junction Temperature      | +200         | °C   |
| T <sub>STG</sub>  | Storage Temperature       | - 65 to +150 | °C   |

**THERMAL DATA**

|                      |                                  |      |      |
|----------------------|----------------------------------|------|------|
| R <sub>TH(j-c)</sub> | Junction-Case Thermal Resistance | 11.6 | °C/W |
|----------------------|----------------------------------|------|------|

Note : Above parameters , ratings , limits and conditions are subject to change.

**ELECTRICAL SPECIFICATIONS** ( $T_{case} = 25^{\circ}C$ )

STATIC

| Symbol     | Test Conditions |                |  | Value |      |      | Unit |
|------------|-----------------|----------------|--|-------|------|------|------|
|            |                 |                |  | Min.  | Typ. | Max. |      |
| $BV_{CES}$ | $I_C = 10mA$    | $V_{BE} = 0mA$ |  | 36    | —    | —    | V    |
| $BV_{CEO}$ | $I_C = 50mA$    | $I_B = 0mA$    |  | 16    | —    | —    | V    |
| $BV_{EBO}$ | $I_E = 2mA$     | $I_C = 0mA$    |  | 4.0   | —    | —    | V    |
| $I_{CBO}$  | $V_{CB} = 15V$  | $I_E = 0mA$    |  | —     | —    | 1    | mA   |
| $h_{FE}$   | $V_{CE} = 5V$   | $I_C = 200mA$  |  | 20    | —    | —    | —    |

DYNAMIC

| Symbol    | Test Conditions      |                          |                          | Value |      |      | Unit |
|-----------|----------------------|--------------------------|--------------------------|-------|------|------|------|
|           |                      |                          |                          | Min.  | Typ. | Max. |      |
| $P_{OUT}$ | $f = 470\text{ MHz}$ | $P_{IN} = 0.70\text{ W}$ | $V_{CC} = 12.5\text{ V}$ | 5.0   | —    | —    | W    |
| $G_P$     | $f = 470\text{ MHz}$ | $P_{IN} = 0.70\text{ W}$ | $V_{CC} = 12.5\text{ V}$ | 8.5   | —    | —    | dB   |
| $C_{OB}$  | $f = 1\text{ MHz}$   | $V_{CB} = 12\text{ V}$   |                          | —     | 19   | —    | pF   |

Note : Above parameters , ratings , limits and conditions are subject to change .