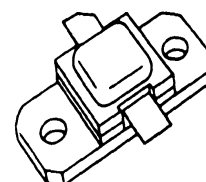


**AM82223-018**

## RF & MICROWAVE TRANSISTORS TELEMETRY APPLICATIONS

### Features

- 2.2 - 2.3 GHz
- 24 VOLTS
- INPUT / OUTPUT MATCHING
- $P_{OUT} = 18 \text{ W}$  MINIMUM
- $G_P = 6.5 \text{ dB}$  GAIN MINIMUM
- COMMON BASE CONFIGURATION



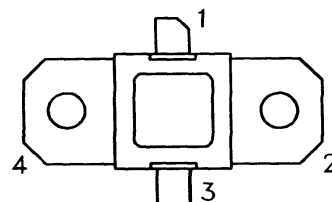
.400 x .400 2LFL  
Hermetically Sealed

### DESCRIPTION:

The AM82223-018 is a common base NPN silicon bipolar transistor designed for high gain and efficiency in telemetry applications in the 2.2-2.3 GHz frequency range.

The AM82223-018 incorporates internal input and output impedance matching structures along with a rugged, emitter-site ballasted die geometry.

#### PIN CONNECTION



1. Collector      3. Emitter  
2. Base          4. Base

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

| Symbol     | Parameter                 | Value       | Unit |
|------------|---------------------------|-------------|------|
| $P_{DISS}$ | Power Dissipation         | 58.3        | W    |
| $I_C$      | Device Current*           | 3.0         | A    |
| $V_{CC}$   | Collector-Supply Voltage* | 28          | V    |
| $T_J$      | Junction Temperature      | 200         | °C   |
| $T_{STG}$  | Storage Temperature       | -65 to +200 | °C   |

### Thermal Data

|               |                                  |     |      |
|---------------|----------------------------------|-----|------|
| $R_{TH(J-C)}$ | Junction-case Thermal Resistance | 3.0 | °C/W |
|---------------|----------------------------------|-----|------|

## ELECTRICAL SPECIFICATIONS (T<sub>case</sub> = 25°C)

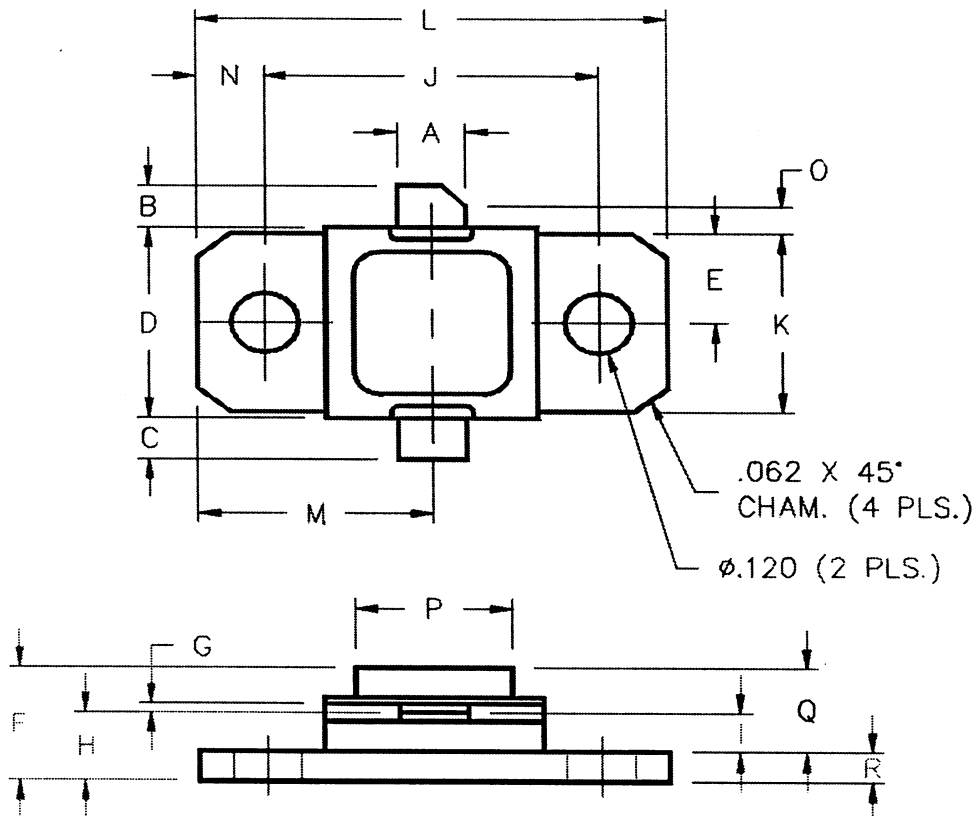
### STATIC

| Symbol            | Test Conditions        |                       | Value |      |      | Unit |
|-------------------|------------------------|-----------------------|-------|------|------|------|
|                   |                        |                       | Min.  | Typ. | Max. |      |
| BV <sub>cbo</sub> | I <sub>C</sub> = 5 mA  | I <sub>E</sub> = 0 mA | 45    | ---  | ---  | V    |
| BV <sub>ebo</sub> | I <sub>E</sub> = 1 mA  | I <sub>C</sub> = 0 mA | 3.5   | ---  | ---  | V    |
| I <sub>cbo</sub>  | V <sub>CB</sub> = 24 V |                       | ---   | ---  | 2.0  | mA   |
| HFE               | V <sub>CE</sub> = 5 V  | I <sub>C</sub> = 2 A  | 30    | ---  | 300  | ---  |

### DYNAMIC

| Symbol           | Test Conditions   |                        |                       |  | Value |      |      | Unit |
|------------------|-------------------|------------------------|-----------------------|--|-------|------|------|------|
|                  |                   |                        |                       |  | Min.  | Typ. | Max. |      |
| P <sub>OUT</sub> | f = 2.2 - 2.3 GHz | P <sub>IN</sub> = 4.0W | V <sub>CC</sub> = 24V |  | 18    | ---  | ---  | W    |
| η <sub>c</sub>   | f = 2.2 - 2.3 GHz | P <sub>IN</sub> = 4.0W | V <sub>CC</sub> = 24V |  | 40    | ---  | ---  | %    |
| G <sub>p</sub>   | f = 2.2 - 2.3 GHz | P <sub>IN</sub> = 4.0W | V <sub>CC</sub> = 24V |  | 6.5   | ---  | ---  | dB   |

**PACKAGE MECHANICAL DATA**



|   | MINIMUM<br>INCHES/MM | MAXIMUM<br>INCHES/MM |   | MINIMUM<br>INCHES/MM | MAXIMUM<br>INCHES/MM |
|---|----------------------|----------------------|---|----------------------|----------------------|
| A | .140/3,56            |                      | J | .650/16,51           |                      |
| B | .110/2,80            |                      | K | .386/9,80            |                      |
| C | .110/2,80            |                      | L | .900/22,86           |                      |
| D | .395/10,03           | .407/10,34           | M | .450/11,43           |                      |
| E | .193/4,90            |                      | N | .125/3,18            |                      |
| F |                      | .230/5,84            | O | .050/1,27            |                      |
| G | .003/0,08            | .006/0,15            | P | .405/10,29           |                      |
| H | .118/3,00            | .131/3,33            | Q | .170/4,32            |                      |
| I | .063/1,60            |                      | R | .062/1,58            |                      |