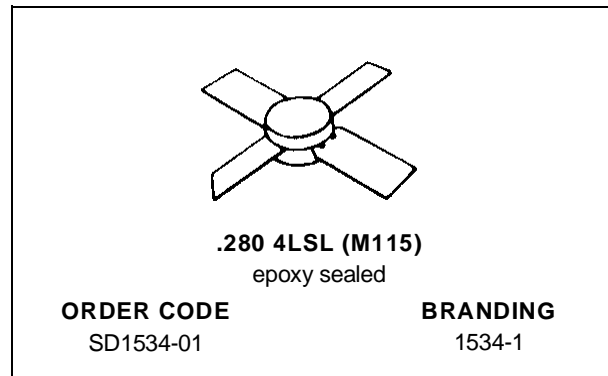
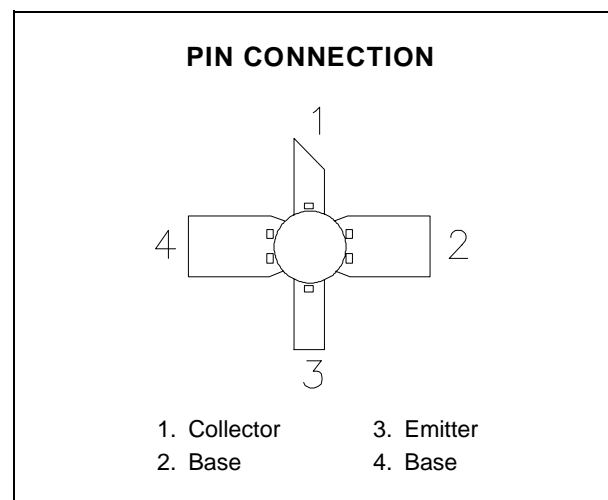


**RF & MICROWAVE TRANSISTORS  
AVIONICS APPLICATIONS**

- DESIGNED FOR HIGH POWER PULSED IFF, DME, TACAN APPLICATIONS
- 80 WATTS (typ.) IFF 1030 - 1090 MHz
- 75 WATTS (min.) DME 1025 - 1150 MHz
- 50 WATTS (typ.) TACAN 960 - 1215 MHz
- 8.0 dB MIN. GAIN
- REFRACTORY GOLD METALLIZATION
- EMITTER BALLASTING AND LOW THERMAL RESISTANCE FOR RELIABILITY AND RUGGEDNESS
- INFINITE LOAD VSWR CAPABILITY AT SPECIFIED OPERATING CONDITIONS
- INPUT MATCHED, COMMON BASE CONFIGURATION


**DESCRIPTION**

The SD1534-01 is a gold metallized silicon, NPN power transistor designed for applications requiring high peak power and low duty cycles such as IFF, DME and TACAN. The SD1534-01 is packaged in the .280" input matched stripline package resulting in improved broadband performance and a low thermal resistance.


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

| Symbol     | Parameter                 | Value        | Unit        |
|------------|---------------------------|--------------|-------------|
| $V_{CBO}$  | Collector-Base Voltage    | 65           | V           |
| $V_{CES}$  | Collector-Emitter Voltage | 65           | V           |
| $V_{EBO}$  | Emitter-Base Voltage      | 3.5          | V           |
| $I_C$      | Device Current            | 5.5          | A           |
| $P_{DISS}$ | Power Dissipation         | 218.7        | W           |
| $T_J$      | Junction Temperature      | +200         | $^{\circ}C$ |
| $T_{STG}$  | Storage Temperature       | - 65 to +150 | $^{\circ}C$ |

**THERMAL DATA**

|               |                                  |     |               |
|---------------|----------------------------------|-----|---------------|
| $R_{TH(j-c)}$ | Junction-Case Thermal Resistance | 0.8 | $^{\circ}C/W$ |
|---------------|----------------------------------|-----|---------------|

## SD1534-01

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

#### STATIC

| Symbol     | Test Conditions |               | Value |      |      | Unit |
|------------|-----------------|---------------|-------|------|------|------|
|            |                 |               | Min.  | Typ. | Max. |      |
| $BV_{CBO}$ | $I_C = 10mA$    | $I_E = 0mA$   | 65    | —    | —    | V    |
| $BV_{CES}$ | $I_C = 25mA$    | $V_{BE} = 0V$ | 65    | —    | —    | V    |
| $BV_{EBO}$ | $I_E = 10mA$    | $I_C = 0mA$   | 3.5   | —    | —    | V    |
| $I_{CES}$  | $V_{CE} = 50V$  | $I_E = 0mA$   | —     | —    | 5    | mA   |
| $h_{FE}$   | $V_{CE} = 5V$   | $I_C = 100mA$ | 10    | —    | —    | —    |

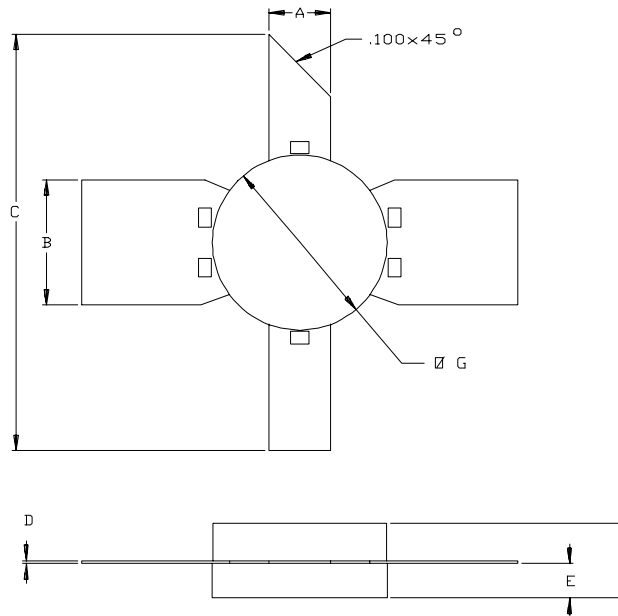
#### DYNAMIC

| Symbol    | Test Conditions      |                  |                 | Value |      |      | Unit |
|-----------|----------------------|------------------|-----------------|-------|------|------|------|
|           |                      |                  |                 | Min.  | Typ. | Max. |      |
| $P_{OUT}$ | $f = 1025 - 1150MHz$ | $P_{IN} = 13.0W$ | $V_{CE} = 50 V$ | 75    | —    | —    | W    |
| $G_P$     | $f = 1025 - 1150MHz$ | $P_{IN} = 13.0W$ | $V_{CE} = 50 V$ | 7.6   | —    | —    | dB   |

Note: Pulse Width = 10 $\mu$ Sec, Duty Cycle = 1%  
This device is suitable for use under other pulse width/duty cycle conditions.  
Please contact the factory for specific applications assistance.

## PACKAGE MECHANICAL DATA

Ref.: Dwg. No.12-0115



| SGS-THOMSON MICROELECTRONICS |                      |                      |
|------------------------------|----------------------|----------------------|
|                              | MINIMUM<br>Inches/mm | MAXIMUM<br>Inches/mm |
| A                            | .095/2,41            | .105/2,67            |
| B                            | .195/4,95            | .205/5,21            |
| C                            | 1.000/25,40          |                      |
| D                            | .004/0,10            | .007/0,18            |
| E                            | .050/1,27            | .065/1,65            |
| F                            |                      | .145/3,68            |
| G                            | .275/6,99            | .285/7,21            |
|                              |                      |                      |
|                              |                      |                      |
|                              |                      |                      |

Information furnished is believed to be accurate and reliable. However, SGS-THOMSON Microelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of SGS-THOMSON Microelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. SGS-THOMSON Microelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of SGS-THOMSON Microelectronics.

© 1994 SGS-THOMSON Microelectronics - All Rights Reserved

SGS-THOMSON Microelectronics GROUP OF COMPANIES  
 Australia - Brazil - France - Germany - Hong Kong - Italy - Japan - Korea - Malaysia - Malta - Morocco - The Netherlands -  
 Singapore - Spain - Sweden - Switzerland - Taiwan - Thailand - United Kingdom - U.S.A