

**RF & MICROWAVE TRANSISTORS**  
**130... 230MHz FM MOBILE APPLICATIONS**

- FM CLASS C TRANSISTOR
- FREQUENCY 175MHz
- VOLTAGE 12.5V
- POWER OUT 25W
- POWER GAIN 9.2dB
- COMMON EMITTER

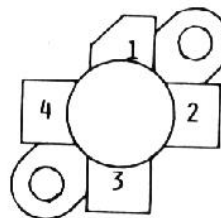


.380 4LFL (M113)  
epoxy sealed

ORDER CODE  
SD1272-02

BRANDING  
SD1272-2

**PIN CONNECTION**



S88SD1272-2 01

1 collector  
2 emitter

3 base  
4 emitter

**DESCRIPTION**

The SD1272-2 is a 12.5V epitaxial silicon NPN planar transistor designed primarily for VHF communications. This device utilizes a nichrome aluminium metallization system to withstand very high VSWR under severe operating conditions.

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

| Symbol    | Parameter                   | Value         | Unit        |
|-----------|-----------------------------|---------------|-------------|
| $V_{CBO}$ | Collector - Base Voltage    | 36.0          | V           |
| $V_{CEO}$ | Collector - Emitter Voltage | 18.0          | V           |
| $V_{EBO}$ | Emitter - Base Voltage      | 4.0           | V           |
| $I_C$     | Collector Current           | 4.0           | A           |
| $P_{Tot}$ | Total Power Dissipation     | 65.0          | 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 | 3.5 | $^{\circ}C/W$ |
|---------------|----------------------------------|-----|---------------|

## SD1272-2

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

#### STATIC

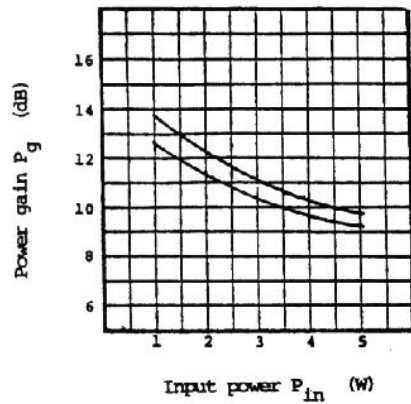
| Symbol     | Test Conditions               | Value |      |      | Unit |
|------------|-------------------------------|-------|------|------|------|
|            |                               | Min.  | Typ. | Max. |      |
| $BV_{CBO}$ | $I_C = 20mA$ $I_E = 0$        | 36.0  |      |      | V    |
| $BV_{CEO}$ | $I_C = 50mA$ $I_B = 0$        | 18.0  |      |      | V    |
| $BV_{EBO}$ | $I_E = 5mA$ $I_C = 0$         | 4.0   |      |      | V    |
| $I_{CBO}$  | $V_{CB} = 15.0V$ $I_E = 0$    |       |      | 5.0  | mA   |
| $h_{FE}$   | $V_{CE} = 5.0V$ $I_C = 250mA$ | 20.0  |      |      |      |

#### DYNAMIC

| Symbol   | Test Conditions                       | Value |      |       | Unit |
|----------|---------------------------------------|-------|------|-------|------|
|          |                                       | Min.  | Typ. | Max.  |      |
| $P_O$    | $f = 175MHz$ $V_{GE} = 12.5V$         | 25.0  |      |       | W    |
| $G_P$    | $f = 175MHz$ $V_{CE} = 12.5V$         | 9.2   |      |       | dB   |
| $C_{OB}$ | $f = 1MHz$ $V_{CB} = 15.0V$ $I_E = 0$ |       |      | 130.0 | pF   |

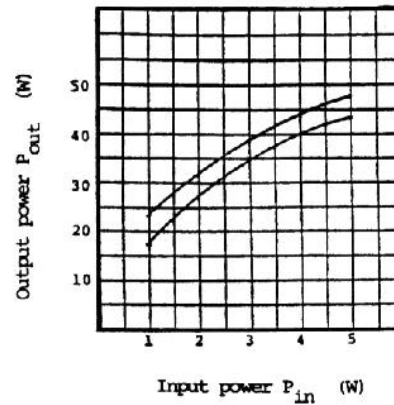
### APPLICATION INFORMATION (typical curves)

POWER GAIN VS INPUT POWER

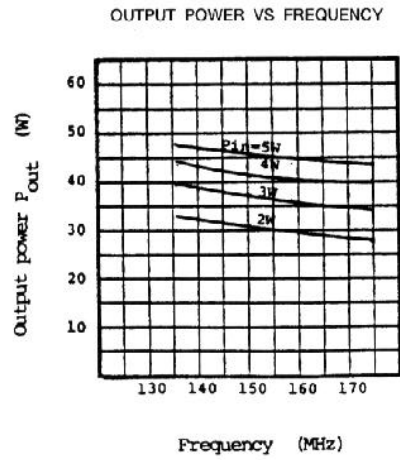


S88SD1272-1-02

OUTPUT POWER VS INPUT POWER



S88SD1272-2-03

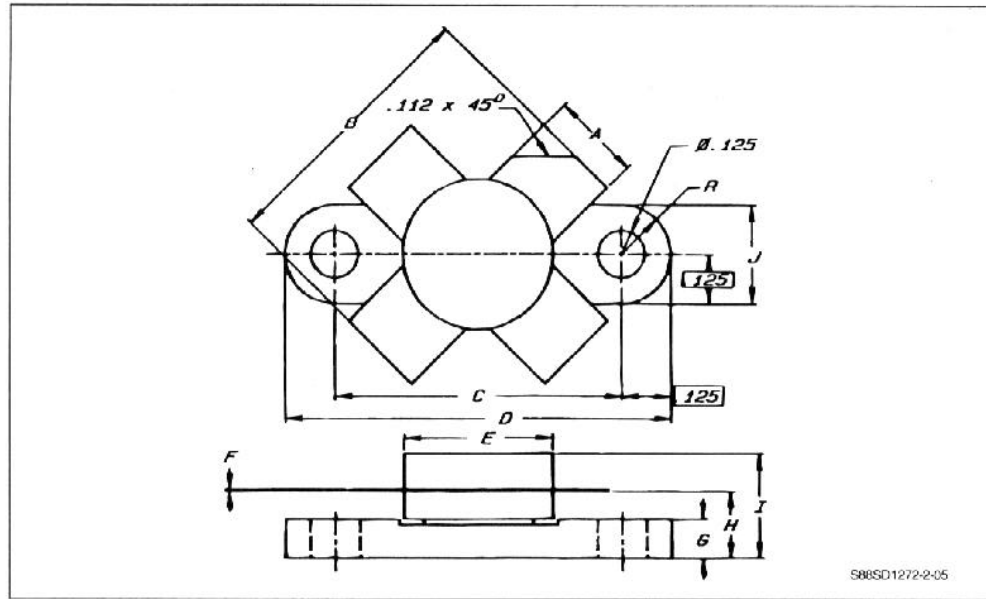


S88SD1272-3-04

## SD1272-2

## PACKAGE MECHANICAL DATA

.380 4LFL



|   | <b>Minimum<br/>Inches/mm</b> | <b>Maximum<br/>Inches/mm</b> |
|---|------------------------------|------------------------------|
| A | .220/5.59                    | .230/5.84                    |
| B | .785/19.94                   |                              |
| C | .720/18.29                   | .730/18.54                   |
| D | .970/24.64                   | .980/24.89                   |
| E |                              | .385/9.78                    |
| F | .004/0.10                    | .006/0.15                    |
| G | .085/2.16                    | .105/2.67                    |
| H | .160/4.06                    | .180/4.57                    |
| I |                              | .280/7.11                    |
| J | .240/6.10                    | .255/6.48                    |