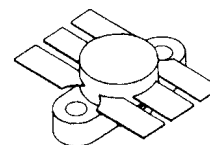


# SD1422

## RF & MICROWAVE TRANSISTORS UHF MOBILE APPLICATIONS

### Features

- 470 MHz
- 12.5 VOLTS
- $P_{OUT} = 25.0$  WATTS
- $G_P = 6.2$  dB MINIMUM
- COMMON EMITTER CONFIGURATION

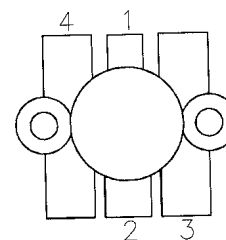


.500 6LFL (M111)  
epoxy sealed

### DESCRIPTION:

The MS1429-03 is an epitaxial silicon NPN planar transistor designed for broadband applications in the 450-512MHz land Mobile radio band. This device utilizes diffused emitter resistors to withstand 20:1 VSWR at rated operating conditions.

#### PIN CONNECTION



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

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

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	36	V
$V_{CEO}$	Collector-Emitter Voltage	18	V
$V_{CES}$	Collector-Emitter Voltage	36	V
$V_{EBO}$	Emitter-Base Voltage	4.0	V
$I_C$	Collector Current	7.5	W
$P_{tot}$	Total Power Dissipation	70.0	A
$T_J$	Junction Temperature	+200	$^{\circ}C$
$T_{STG}$	Storage Temperature	-65 to +150	$^{\circ}C$

### THERMAL DATA

$R_{TH(J-C)}$	Thermal Resistance Junction-case	2.5	$^{\circ}C/W$
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**SD1422**

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

**STATIC**

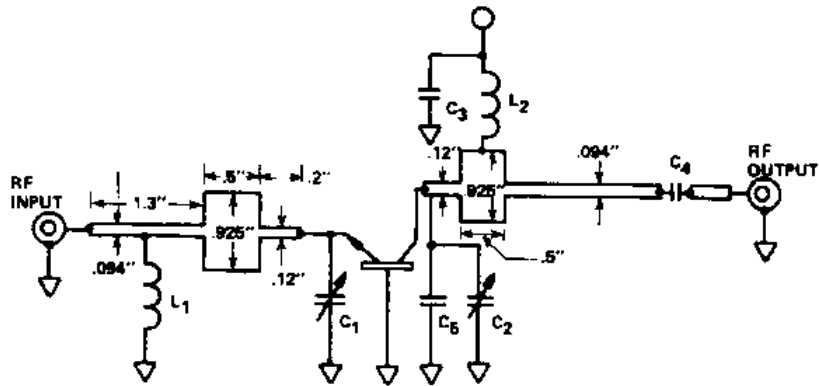
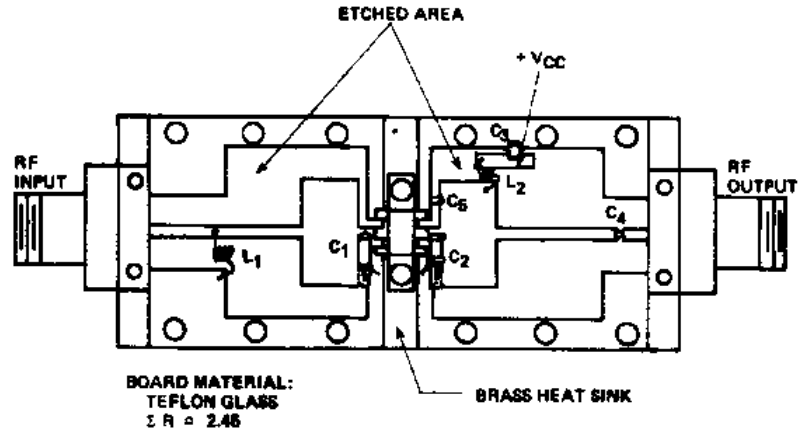
Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
<b>BV<sub>CES</sub></b>	<b>I<sub>C</sub> = 10 mA</b> <b>V<sub>BE</sub> = 0 mA</b>	<b>36</b>	---	---	<b>V</b>
<b>BV<sub>CEO</sub></b>	<b>I<sub>C</sub> = 50 mA</b> <b>I<sub>B</sub> = 0 V</b>	<b>18</b>	---	---	<b>V</b>
<b>BV<sub>EBO</sub></b>	<b>I<sub>C</sub> = 5 mA</b> <b>I<sub>C</sub> = 0 mA</b>	<b>4.0</b>	---	---	<b>V</b>
<b>I<sub>CBO</sub></b>	<b>V<sub>CB</sub> = 15 V</b> <b>I<sub>E</sub> = 0 mA</b>	---	---	<b>5</b>	<b>mA</b>
<b>h<sub>FE</sub></b>	<b>V<sub>CE</sub> = 5.0 V</b> <b>I<sub>C</sub> = 1.0 A</b>	<b>10.0</b>	---		---

**DYNAMIC**

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
<b>P<sub>OUT</sub></b>	<b>f = 836 MHz</b> <b>V<sub>CE</sub> = 12.5V</b>	<b>25.0</b>	---	---	<b>W</b>
<b>G<sub>P</sub></b>	<b>f = 836 MHz</b> <b>V<sub>CE</sub> = 12.5V</b>	<b>5.5</b>	---	---	<b>dB</b>
<b>C<sub>OB</sub></b>	<b>f = 1 MHz</b> <b>V<sub>CB</sub> = 12.5 V</b>	---	---	<b>75</b>	<b>pF</b>

**SD1422**

**TEST CIRCUIT**



S88SD1421-06

**COMPONENTS LIST**

C1, C2 .5 - 5.0pF Johanson E5851  
 L1, L2 4.5 TURNS # 22 .09" I.D.

C3 470pF, 100MIL SQ ATC  
 C4 .001MF 50MIL SQ ATC 200A 102MC 50  
 C5 3.2pF 50MIL SQ ATC

**SD1422**

**PACKAGE MECHANICAL DATA**

