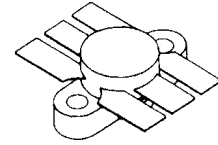


**SD1422**
**RF & MICROWAVE TRANSISTORS  
UHF MOBILE APPLICATIONS**
**Features**

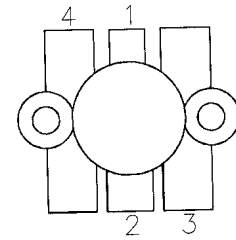
- 470 MHz
- 12.5 VOLTS
- P<sub>OUT</sub> = 25.0 WATTS
- G<sub>p</sub> = 6.2 dB MINIMUM
- COMMON EMITTER CONFIGURATION



.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<sub>case</sub> = 25°C)**

Symbol	Parameter	Value	Unit
V <sub>CBO</sub>	Collector-Base Voltage	36	V
V <sub>CEO</sub>	Collector-Emitter Voltage	16	V
V <sub>CES</sub>	Collector-Emitter Voltage	36	V
V <sub>EBO</sub>	Emitter-Base Voltage	4.0	V
I <sub>C</sub>	Collector Current	4.8	W
P <sub>tot</sub>	Total Power Dissipation	70.0	A
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>	Thermal Resistance Junction-case	2.5	°C/W
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**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>I<sub>VBE</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>16</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>CES</sub></b>	<b>V<sub>CE</sub> = 12.5 V</b>	<b>V<sub>BE</sub> = 0 mA</b>	---	---	<b>5</b>	<b>mA</b>
<b>HFE</b>	<b>V<sub>CE</sub> = 5.0 V</b>	<b>I<sub>C</sub> = 1.0 A</b>	<b>10.0</b>	---	<b>150</b>	---

**DYNAMIC**

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
<b>P<sub>OUT</sub></b>	<b>f = 470 MHz</b>	<b>P<sub>IN</sub> = 6.0W</b>	<b>V<sub>CE</sub> = 12.5V</b>	<b>25.0</b>	---	---	<b>W</b>
<b>G<sub>p</sub></b>	<b>f = 470 MHz</b>	<b>P<sub>IN</sub> = 6.0W</b>	<b>V<sub>CE</sub> = 12.5V</b>	<b>6.2</b>	---	---	<b>dB</b>
<b>C<sub>OB</sub></b>	<b>f = 1 MHz</b>	<b>V<sub>CE</sub> = 12.5 V</b>		---	---	<b>85</b>	<b>pf</b>

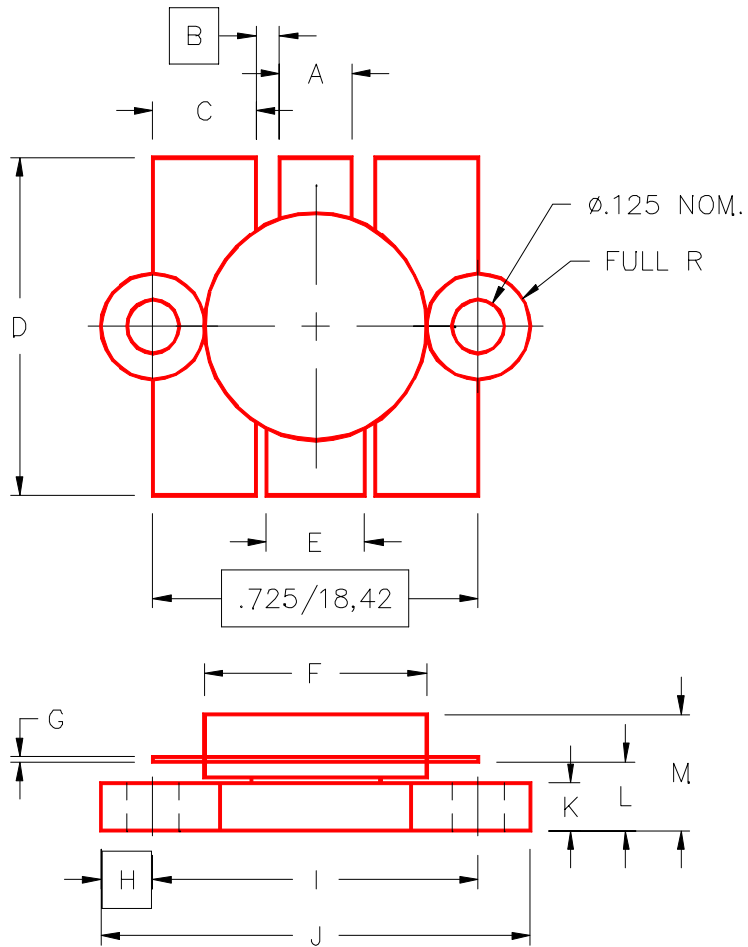
**IMPEDANCE DATA**

FREQ	Z <sub>IN</sub> (Ω)	Z <sub>CL</sub> (Ω)
<b>450 MHz</b>	<b>1.8 - j 2.0</b>	<b>1.9 - j 0.75</b>
<b>470MHz</b>	<b>1.6 - j 1.6</b>	<b>2.0 - j 0.5</b>
<b>512 MHz</b>	<b>1.1 - j 2.1</b>	<b>1.4 - j 1.3</b>

**P<sub>OUT</sub> = 25 W**  
**V<sub>CE</sub> = 12.5 V**

**PACKAGE MECHANICAL DATA**

PACKAGE STYLE M111



	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.150/3,43	.160/4,06	I	.720/18,29	.730/18,54
B	.045/1,14		J	.970/24,64	.980/24,89
C	.210/5,33	.220/5,59	K	.095/2,41	.105/2,67
D	.835/21,21	.865/21,97	L	.150/3,81	.170/4,32
E	.200/5,08	.210/5,33	M		.280/7,11
F	.490/12,45	.510/12,95			
G	.003/0,08	.007/0,18			
H	.125/3,18				