

SD1422

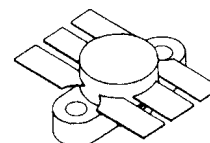
RF & MICROWAVE TRANSISTORS UHF MOBILE APPLICATIONS

Features

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

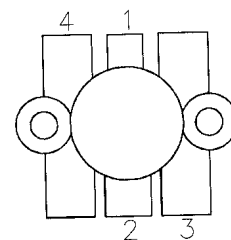
DESCRIPTION:

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.



.500 6LFL (M111)
epoxy sealed

PIN CONNECTION



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

ABSOLUTE MAXIMUM RATINGS (Tcase = 25°C)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	36	V
V_{CEO}	Collector-Emitter Voltage	16	V
V_{CES}	Collector-Emitter Voltage	36	V
V_{EBO}	Emitter-Base Voltage	4.0	V
I_C	Collector Current	4.8	W
P_{tot}	Total Power Dissipation	70.0	A
T_J	Junction Temperature	+200	°C
T_{STG}	Storage Temperature	-65 to +150	°C

Thermal Data

$R_{TH(J-C)}$	Thermal Resistance Junction-case	2.5	°C/W
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ELECTRICAL SPECIFICATIONS (Tcase = 25°C)

STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CES}	$I_C = 10\text{ mA}$	$I_{VBE} = 0\text{ mA}$	36	---	---	V
BV_{CEO}	$I_C = 50\text{ mA}$	$I_B = 0\text{ V}$	16	---	---	V
BV_{EBO}	$I_C = 5\text{ mA}$	$I_C = 0\text{ mA}$	4.0	---	---	V
I_{CES}	$V_{CE} = 12.5\text{ V}$	$V_{BE} = 0\text{ mA}$	---	---	5	mA
HFE	$V_{CE} = 5.0\text{ V}$	$I_C = 1.0\text{ A}$	10.0	---	150	---

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	$f = 470\text{ MHz}$	$P_{IN} = 6.0\text{ W}$	$V_{CE} = 12.5\text{ V}$	25.0	---	---	W
G_P	$f = 470\text{ MHz}$	$P_{IN} = 6.0\text{ W}$	$V_{CE} = 12.5\text{ V}$	6.2	---	---	dB
C_{OB}	$f = 1\text{ MHz}$	$V_{CE} = 12.5\text{ V}$		---	---	85	pf

IMPEDANCE DATA

FREQ	$Z_{IN}(\Omega)$	$Z_{CL}(\Omega)$
450 MHz	1.8 – j 2.0	1.9 – j 0.75
470MHz	1.6 – j 1.6	2.0 – j 0.5
512 MHz	1.1 – j 2.1	1.4 – j 1.3

$P_{OUT} = 25\text{ W}$

$V_{CE} = 12.5\text{ V}$

PACKAGE MECHANICAL DATA

