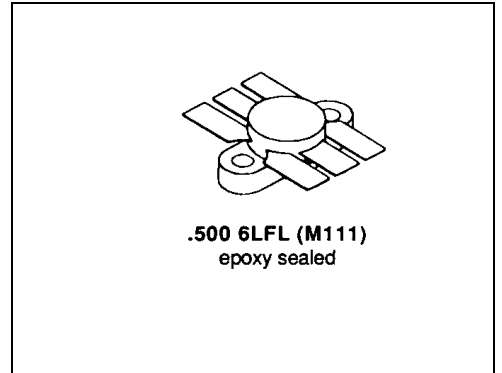


MS1490

RF & MICROWAVE TRANSISTORS UHF MOBILE APPLICATIONS

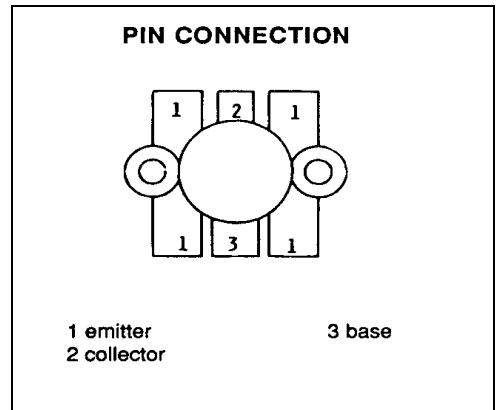
Features

- 512 MHz
- 12.5 VOLTS
- $P_{OUT} = 50\text{ W}$
- $G_P = 5.2\text{ dB MINIMUM}$
- GOLD METALIZATION
- COMMON EMITTER CONFIGURATION



DESCRIPTION:

The MS1490 is a 12.5 volt silicon NPN transistor designed primarily for UHF communications. The device utilizes an emitter ballasted die geometry capable of operating into an infinite load VSWR under specified operating conditions.



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

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	36	V
V_{CEO}	Collector-Emitter Voltage	16	V
V_{EBO}	Emitter-Base Voltage	4.0	V
I_C	Collector Current	10	A
P_{TOT}	Total Power Dissipation	175	W
T_{STG}	Storage Temperature	-65 to +200	$^{\circ}\text{C}$
T_J	Junction Temperature	+200	$^{\circ}\text{C}$

Thermal Data

$R_{TH(J-C)}$	Junction-case Thermal Resistance	1.0	$^{\circ}\text{C/W}$
---------------	----------------------------------	-----	----------------------

ELECTRICAL SPECIFICATIONS (T_{case} = 25°C)

STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV _{cbo}	I _C = 5 mA	I _E = 0 mA	36	---	---	V
BV _{ces}	I _C = 20 mA	V _{BE} = 0 V	36	---	---	V
BV _{ceo}	I _C = 50 mA	I _B = 0 mA	16	---	---	V
BV _{ebo}	I _E = 5 mA	I _C = 0 mA	4.0	---	---	V
I _{ces}	V _{CE} = 22 V	I _E = 0 mA	---	---	5	mA
H _{FE}	V _{CE} = 5 V	I _C = 1 A	20	---	200	---

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P _{OUT}	f = 512 MHz	P _{IN} = 15W	V _{CE} = 12.5V	50	---	---	W
G _P	f = 512 MHz	P _{IN} = 15W	V _{CE} = 12.5V	5.2	---	---	dB
η _C	f = 512 MHz	P _{IN} = 15W	V _{CE} = 12.5V	50	---	---	%
C _{OB}	f = 1 MHz	V _{CE} = 12.5V		---	---	170	pf

IMPEDANCE DATA

FREQ	Z _{IN} (Ω)	Z _{CL} (Ω)
470 MHz	1.5 – j2.8	1.6 – j2.4
512 MHz	0.75 – j1.8	0.82 – j1.1

P_{IN} = 15W
V_{CE} = 12.5V

PACKAGE MECHANICAL DATA

