

140 COMMERCE DRIVE MONTGOMERYVILLE, PA 18936-1013 PHONE: (215) 631-9840 FAX: (215) 631-9855

RF & MICROWAVE TRANSISTORS UHF MOBILE APPLICATIONS

Features

- 512 MHz
- 12.5 VOLTS
- P_{OUT} = 50 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 (Tcase = 25°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
Ιc	Collector Current	10	Α
Ρτοτ	Total Power Dissipation	175	W
T _{STG}	Storage Temperature	-65 to +200	°C
TJ	Junction Temperature	+200	°C

Thermal Data

R _{TH(J-C)}	Junction-case Thermal Resistance	1.0	°C/W
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MS1490



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ELECTRICAL SPECIFICATIONS (Tcase = 25°C) STATIC

Symbol Tost Condition		Test Conditions	Value			Unit
Symbol			Min.	Typ.	Max.	Onit
BVcbo	I _c = 5 mA	l _E = 0 mA	36			V
BVces	l _c = 20 mA	$V_{BE} = 0 V$	36			V
BVceo	l _c = 50 mA	I _B = 0 mA	16			V
BVebo	l _E = 5 mA	I _c = 0 mA	4.0			V
Ices	V _{CE} = 22 V	I _E = 0 mA			5	mA
H _{FE}	$V_{CE} = 5 V$	I _C = 1 A	20		200	

DYNAMIC

Symbol Tost Conditions		Value		Unit			
Symbol			Min.	Typ.	Max.	Unit	
Pout	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
ης	f = 512 MHz	P _{IN} = 15W	V _{CE} = 12.5V	50			%
Сов	f = 1 MHz	V _{CE} = 12.5V				170	pf

IMPEDANCE DATA

FREQ	$Z_{IN}(\Omega)$	$Z_{CL}(\Omega)$
470 MHz	1.5 – j2.8	1.6 – j2.4
512 MHz	0.75 – j1.8	0.82 – j1.1
P _{IN} = 15W		

 $V_{CE} = 12.5V$



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PACKAGE MECHANICAL DATA



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