



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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MS1406

**RF & MICROWAVE TRANSISTORS
FM MOBILE APPLICATIONS**

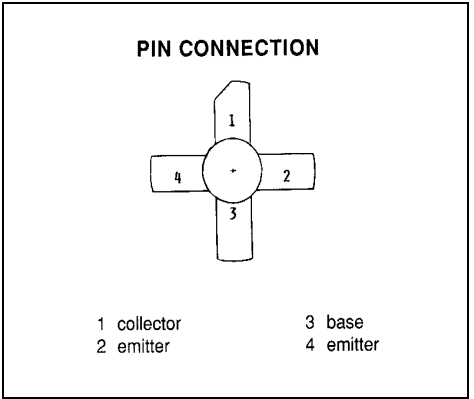
Features

- 175MHz
- 12.5 VOLTS
- GOLD METALIZATION
- Pout = 20WATTS
- Gp = 8.0 dB MINIMUM
- COMMON EMITTER CONFIGURATION



DESCRIPTION:

The MS1406 is a silicon NPN transistor designed for 12.5V AM Class C amplifiers operating in the 118–136 MHz aviation band and for 28V FM Class C amplifiers used in ground station transmitters. Diffused emitter ballast and gold metalization provide maximum ruggedness and reliability.



ABSOLUTE MAXIMUM RATINGS (Tcase = 25°C)

Symbol	Parameter	Value	Unit
V _{CBO}	Collector- Base Voltage	65	V
V _{CEO}	Collector-Emitter Voltage	35	V
V _{EBO}	Emitter-Base Voltage	4.0	V
I _C	Continuous Collector Current	3.0	A
P _D	Total Dissipation	30	W
T _j	Junction Temperature	200	°C
T _{STG}	Storage Temperature	-65 to +200	°C

Thermal Data

R _{TH(J-C)}	Thermal Resistance Junction-case	5.8	°C/W
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ELECTRICAL SPECIFICATIONS (T_{case} = 25°C)
STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CES}	I_C = 200 mA	V_{BE} = 0 mA	65	---	---	V
BV_{CEO}	I_C = 200 mA	I_B = 0 mA	35	---	---	V
BV_{EBO}	I_E = 10 mA	I_C = 0 mA	4.0	---	---	V
I_{CB0}	V_{CB} = 30 V	I_E = 0 mA	---	---	1.0	mA
h_{FE}	V_{CE} = 5 V	I_C = 200 mA	10	---	200	---

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	f = 175MHz	P_{IN} = 3.0W	V_{CE} = 28V	20	---	---	W
G_p	f = 175MHz	P_{IN} = 3.0W	V_{CE} = 28V	8.2	---	---	dB
η_C	f = 175MHz	P_{IN} = 3.0W	V_{CE} = 28V	60	---	---	%
C_{OB}	V_{CB} = 30V	f = 1 MHz		---	---	35	pf

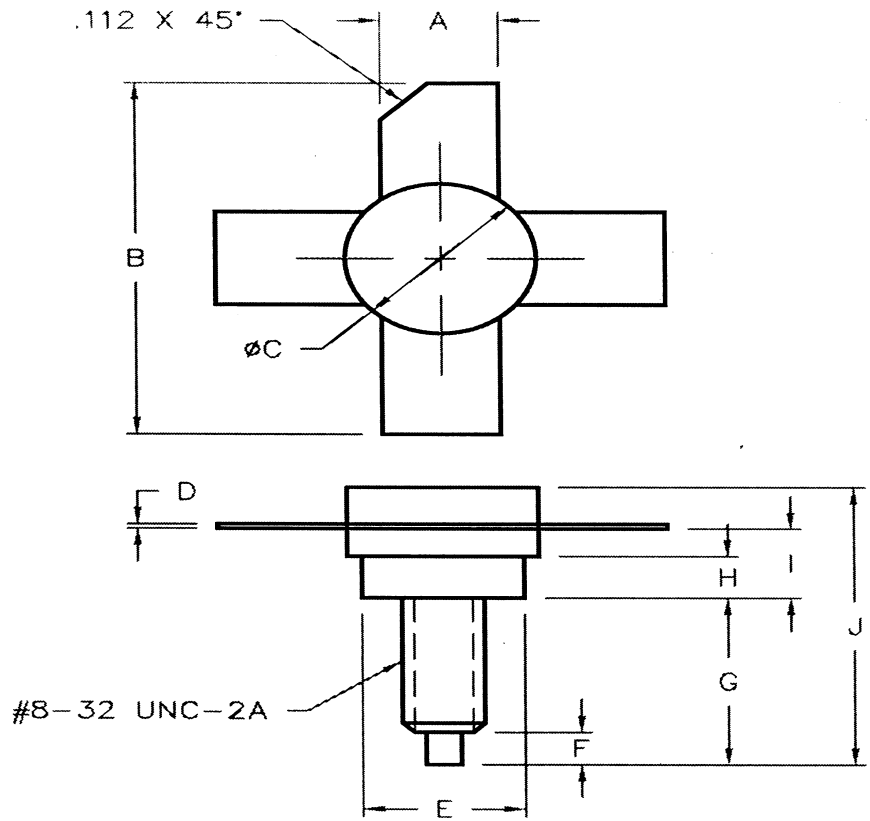
IMPEDANCE DATA

FREQ	Z _{IN} (Ω)	Z _{CL} (Ω)
175 MHz	1.1 + j1.15	9.0 - j9.60

P_{IN} = 3.0W
V_{CC} = 28V

PACKAGE MECHANICAL DATA

PACKAGE STYLE M135



	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.220/5,59	.230/5,84	I	.155/3,94	.175/4,45
B	.980/24,89		J		.750/19,05
C	.370/9,40	.385/9,78			
D	.004/0,10	.007/0,18			
E	.320/8,13	.330/8,38			
F	.100/2,54	.130/3,30			
G	.450/11,43	.490/12,45			
H	.090/2,29	.100/2,54			