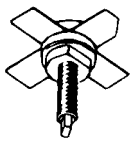
ADVANCED POWER TECHNOLOGY RF®

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

MS1506

RF & MICROWAVE TRANSISTORS
VHF MOBILE APPLICATIONS

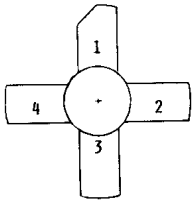


.380 4LSTUD(M135)
epoxy sealed

Features

- 160 MHz
- 13.6 VOLTS
- P_{OUT} = 40 WATTS
- G_P = 9.0 dB MINIMUM
- COMMON EMITTER CONFIGURATION

PIN CONNECTION



1 collector
2 emitter
3 base
4 emitter

DESCRIPTION:

The MS1506 is a 13.6 volt Class C epitaxial silicon NPN planar transistor designed primarily for VHF communications. The MS1506 utilizes an emitter ballasted die geometry to withstand severe load mismatch conditions.

ABSOLUTE MAXIMUM RATINGS (Tcase = 25°C)

Symbol			
V_{CBO}	Collector-Base Voltage	36	V
V_{CEO}	Collector-Emitter Voltage	18	V
V_{CES}	Collector-Emitter Voltage	36	V
V_{EBO}	Emitter-Base Voltage	4.0	V
I_C	Device Current	8.0	A
P_{DISS}	Power Dissipation	70	W
T_J	Junction Temperature	+200	°C
T_{STG}	Storage Temperature	-65 to +150	°C

Thermal Data

$R_{TH(J-C)}$	Junction-case Thermal Resistance	1.2	°C/W

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ELECTRICAL SPECIFICATIONS (Tcase = 25°C)

STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CES}	I_C = 15 mA	V_{BE} = 0 mA	36	---	---	V
BV_{CEO}	I_C = 50 mA	I_B = 0 mA	18	---	---	V
BV_{EBO}	I_E = 5 mA	I_C = 0 mA	4.0	---	---	V
I_{CBO}	V_{CB} = 15 V	I_E = 0 mA	---	---	5	mA
h_{FE}	V_{CE} = 5 V	I_C = 250 mA	20	---	200	---

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	f = 160 MHz	P_{IN} = 5.0 W	V_{CE} = 13.6 V	40	---	---	W
G_P	f = 160 MHz	P_{IN} = 5.0 W	V_{CE} = 13.6 V	9	---	---	dB
Cob	V_{CE} = 12.5V	f = 1 MHz		---	95	---	pf

IMPEDANCE DATA

FREQ	$Z_{IN}(\Omega)$	$Z_{CL}(\Omega)$
160 MHz	1.0 +j0.4	2.3 + j0.1

P_{IN} = 3.0 W
V_{CE} = 12.5V

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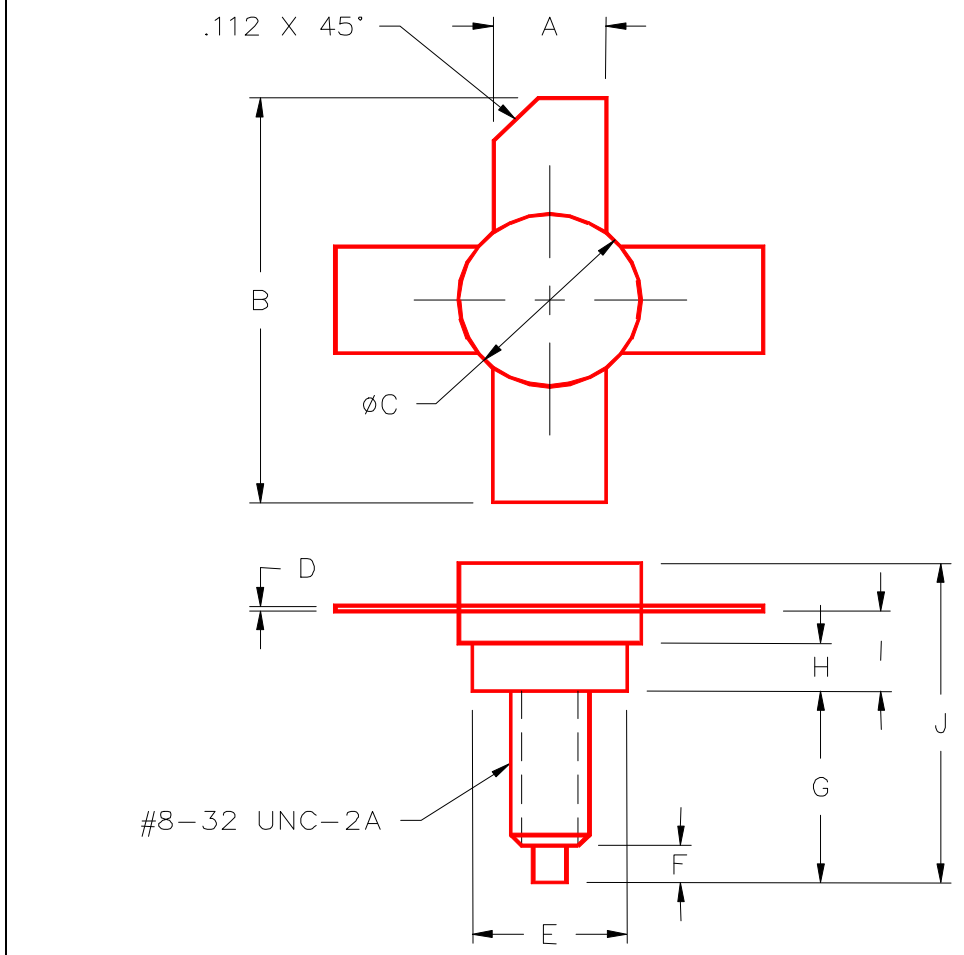
PACKAGE MECHANICAL DATA

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			