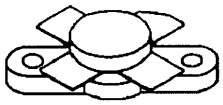
MS1281

RF & MICROWAVE TRANSISTORS
FM BROADCAST APPLICATIONS

Features

- 108 MHz
- 28 VOLTS
- GOLD METALLIZATION
- P_{OUT} = 150 WATTS
- G_P = 9.2dB MINIMUM
- COMMON EMITTER CONFIGURATION

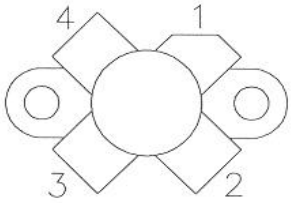


.500 4LFL (M174)
epoxy sealed

DESCRIPTION:

The MS1281 is a 28V silicon NPN planar transistor designed primarily for VHF FM broadcast transmitters. Diffused emitter ballast provide infinite VSWR capability under rated operating conditions.

PIN CONNECTION



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

ABSOLUTE MAXIMUM RATINGS (Tcase = 25°C)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	25	V
V_{CES}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	4.0	V
I_C	Device Current	16	A
P_D	Power Dissipation	230	W
Tj	Junction Temperature	200	°C
T_{STG}	Storage Temperature	-65 to +150	°C

Thermal Data

$R_{TH(J-C)}$	Thermal Resistance Junction-case	0.75	°C/W

ELECTRICAL SPECIFICATIONS (Tcase = 25°C)

STATIC

Symbol	Test Conditions		Value			
			Min.	Typ.	Max.	Unit
BV_{CBO}	I_C = 100 mA	I_E = 0 mA	60	---	---	V
BV_{CES}	I_C = 100 mA	R_{BE} = 10 Ω	55	---	---	V
BV_{CEO}	I_C = 100 mA	I_B = 0 mA	25	---	---	V
BV_{EBO}	I_E = 20 mA	I_C = 0 mA	4.0	---	---	V
h_{FE}	V_{CE} = 5 V	I_C = 1 A	20	---	150	---

DYNAMIC

Symbol	Test Conditions			Value			
				Min.	Typ.	Max.	Unit
P_{OUT}	f = 108MHz	P_{IN} = 18W	V_{CE} = 28V	150	---	---	W
G_P	f = 108MHz	P_{IN} = 18W	V_{CE} = 28V	9.2	---	---	dB
η	f = 108MHz	P_{IN} = 18W	V_{CE} = 28V	70	---	---	%
C_{OB}	f = 1 MHz	V_{CB} = 28V		---	---	150	pF

IMPEDANCE DATA

FREQ	$Z_{IN}(\Omega)$	$Z_{CL}(\Omega)$
88 MHz	1.0 - j0.2	3.6 + j2.4
100 MHz	0.7 + j0.0	3.9 + j3.0
108 MHz	1.0 - j0.5	4.4 + j1.2

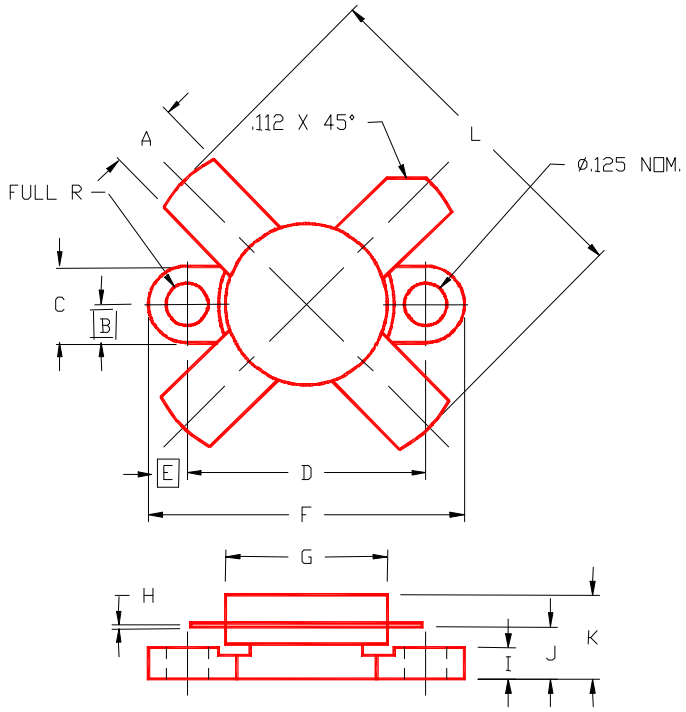
P_{OUT} = 150 W
V_{CC} = 28 V

ADVANCED POWER TECHNOLOGY RF®

MS1281

PACKAGE MECHANICAL DATA

PACKAGE STYLE M174



	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.220/5,59	.230/5,84	I	.090/2,29	.110/2,79
B	.125/3,18		J	.160/4,06	.175/4,45
C	.245/6,22	.255/6,48	K		.280/7,11
D	.720/18,28	.730/18,54	L		1.050/26,67
E	.125/3,18				
F	.970/24,64	.980/24,89			
G	.495/12,57	.505/12,83			
H	.003/0,08	.007/0,18			