ADVANCED POWER TECHNOLOGY RF®

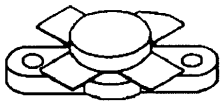
140 COMMERCE DRIVE
MONTGOMERYVILLE, PA
18936-1013
PHONE: (215) 631-9840
FAX: (215) 631-9855

MS1000

RF & MICROWAVE TRANSISTORS
HF SSB APPLICATIONS

Features

- 30 MHz
- 28 VOLTS
- IMD = -30 dB
- GOLD METALLIZATION
- P_{OUT} = 125 WATTS
- G_P = 15dB MINIMUM
- COMMON EMITTER CONFIGURATION

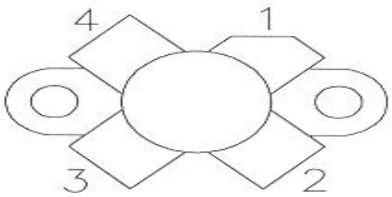


.500 4LFL (M174)
epoxy sealed

DESCRIPTION:

The MS1000 is a 28V Class A silicon NPN planar transistor designed primarily for SSB communications. 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	65	V
V_{CEO}	Collector-Emitter Voltage	36	V
V_{EBO}	Emitter-Base Voltage	4.0	V
I_C	Device Current	20	A
P_D	Power Dissipation	270	W
Tj	Junction Temperature	200	°C
T_{STG}	Storage Temperature	-65 to +150	°C

Thermal Data

$R_{TH(J-C)}$	Thermal Resistance Junction-case	0.65	°C/W

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ELECTRICAL SPECIFICATIONS (Tcase = 25°C)

STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	I_C = 100 mA	I_E = 0 mA	65	---	---	V
BV_{CES}	I_C = 100 mA	V_{BE} = 0 V	65	---	---	V
BV_{CEO}	I_C = 100 mA	I_B = 0 mA	35	---	---	V
BV_{EBO}	I_E = 10 mA	I_C = 0 mA	4.0	---	---	V
I_{CES}	V_{CE} = 30 V	I_E = 0 mA	---	---	15	mA
h_{FE}	V_{CE} = 5 V	I_C = 5 A	10	---	200	---

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	f = 30MHz	P_{IN} = 3.95W	V_{CE} = 28V	125	---	---	W
G_P	f = 30MHz	P_{IN} = 3.95W	V_{CE} = 28V	15	---	---	dB
IMD*	f = 30MHz	V_{CC} = 28V	I_{CQ} = 100mA	---	---	-30	dB
C_{OB}	f = 1 MHz	V_{CB} = 30V		---	---	285	pf

*** TWO-TONE MEASUREMENT**

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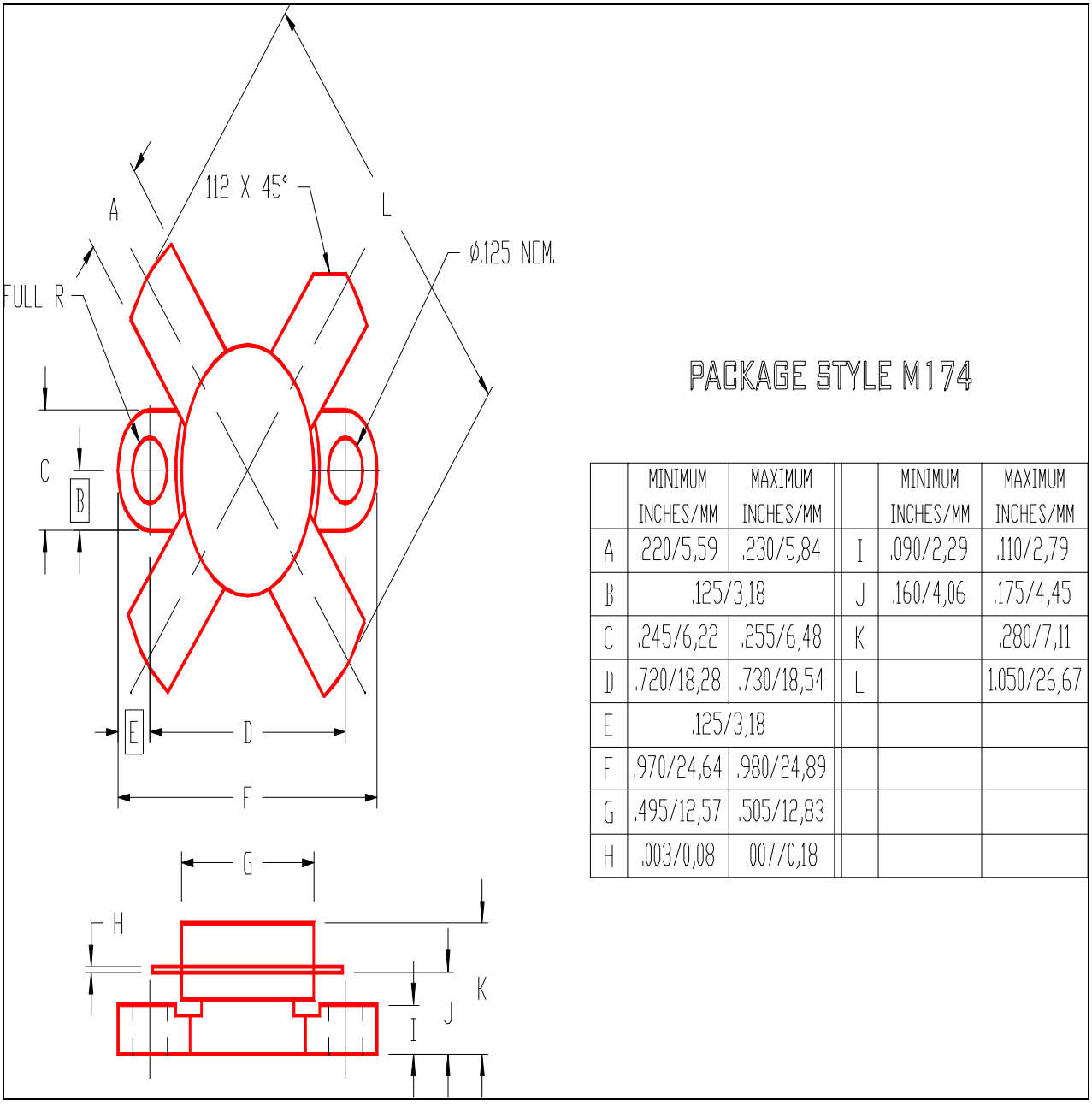
PACKAGE MECHANICAL DATA



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			