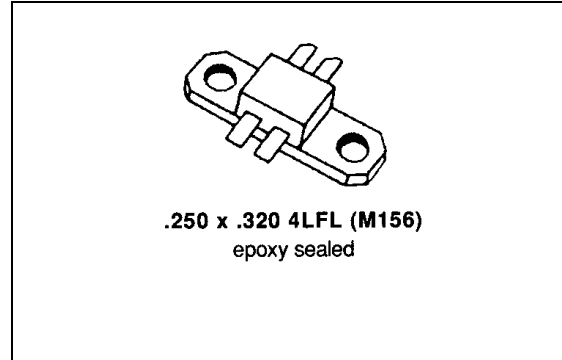


MS1452

RF & MICROWAVE TRANSISTORS
800-900 MHz BASE STATION APPLICATIONS

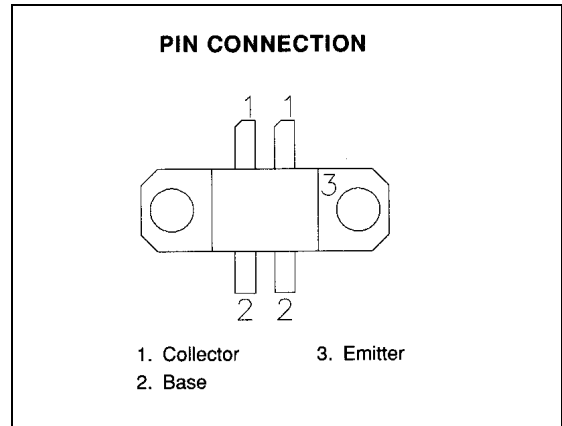
Features

- 800-900 MHz
- 24 VOLTS
- COMMON EMITTER
- GOLD METALLIZATION
- INTERNAL INPUT MATCHING
- CLASS AB LINEAR OPERATION
- P_{OUT} = 30 W MINIMUM
- G_P = 7.5 dB



DESCRIPTION:

The MS1452 is a gold metallized epitaxial silicon NPN planar transistor using diffused emitter ballast resistors for high linearity Class AB operation in cellular base station application.



ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C)

Symbol	Parameter	Value	Unit
V _{CBO}	Collector-Base Voltage	48	V
V _{CES}	Collector-Emitter Voltage	45	V
V _{EBO}	Emitter-Base Voltage	4.0	V
P _{DISS}	Power Dissipation	43	W
I _C	Device Current	5	A
T _J	Junction Temperature	+200	°C
T _{STG}	Storage Temperature	-65 to +150	°C

Thermal Data

R _{TH(J-C)}	Thermal Resistance Junction-case	3.0	°C/W
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**ELECTRICAL SPECIFICATIONS (T_{case} = 25°C)
STATIC**

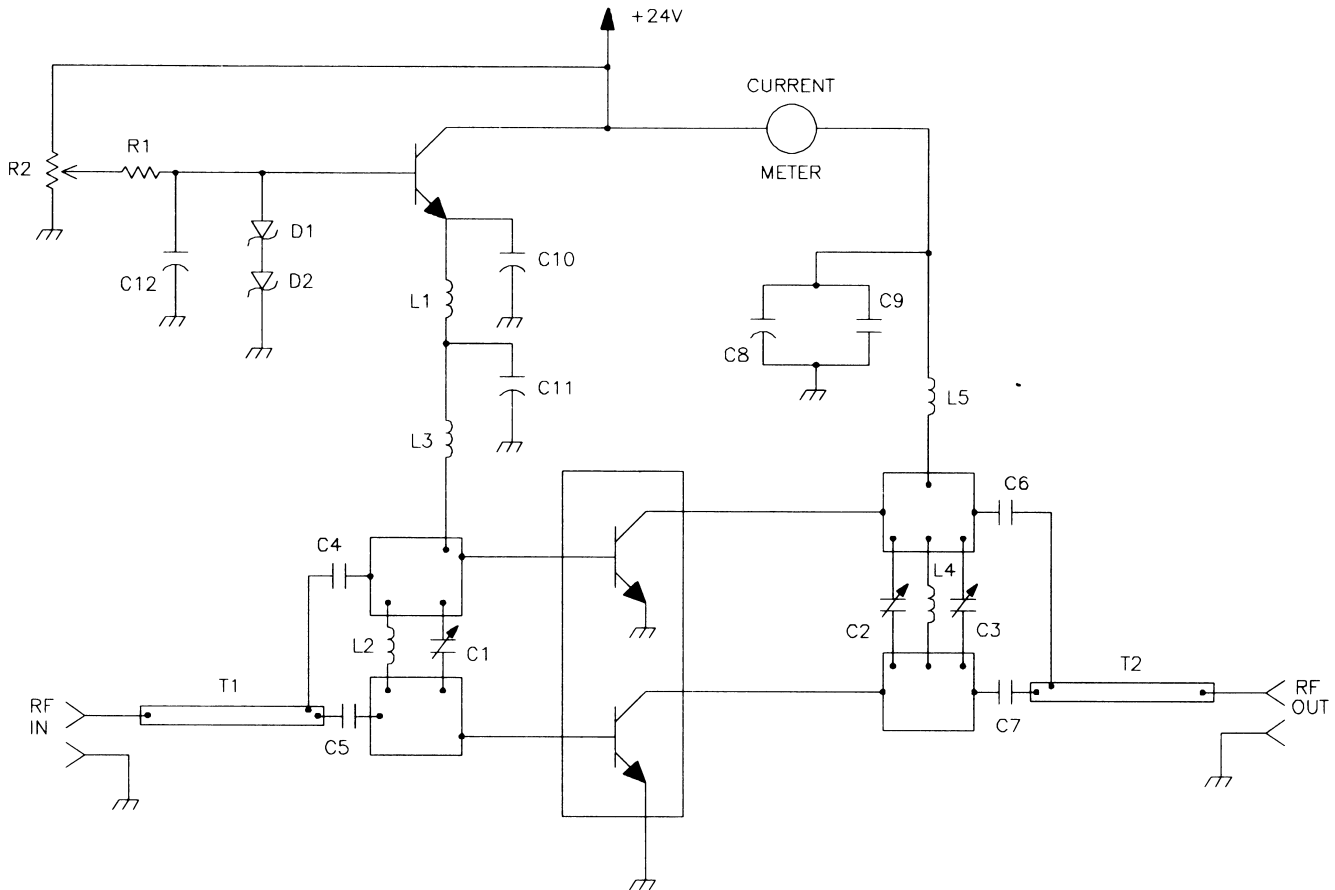
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	I_C = 50 mA	I_E = 0 mA	48	50	---	V
BV_{CEO}	I_C = 20 mA	I_B = 0 mA	25	30	---	V
BV_{EBO}	I_E = 5 mA	I_C = 0 mA	3.5	4.0	---	V
I_{CBO}	V_{CB} = 24 V	I_E = 0 mA	---	---	1.0	mA
HFE	V_{CE} = 5 V	I_C = 100mA	20	---	100	---

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	f = 960 MHz	P_{IN} = 5.3 W	V_{CC} = 24V	30	---	---	W
G_P	f = 960 MHz	P_{IN} = 5.3 W	V_{CC} = 24V	7.5	---	---	dB
η_C	f = 960 MHz	P_{IN} = 5.3 W	V_{CC} = 24V	45	50	---	%
C_{OB}	f = 1 MHz	V_{CB} = 24V		---	20	24	pF

Conditions: I_{CQ} = 150 mA

TEST CIRCUIT



C1, C2,
C3 : 0.8 - 8pF Variable Capacitors
C4, C5,
C6, C7 : 62pF
C8 : 22 μ F
C9 : 180pF
C10 : 47 μ F, 63V
C11 : 180pF
C12 : 10 μ F, 63V

D1, D2 : SD1423 Devices

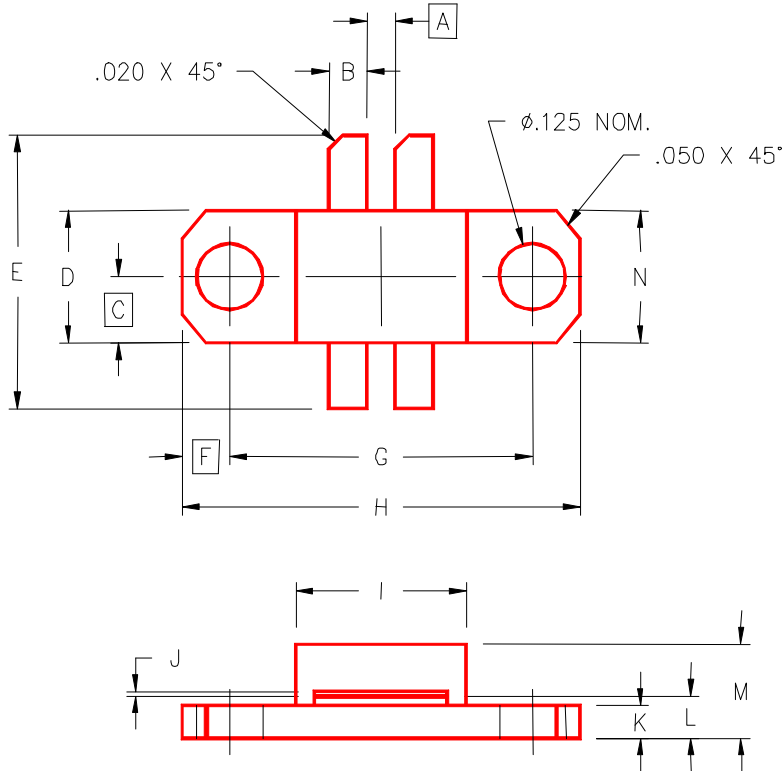
L1, L2 : #22 AWG with Ferrite Core
L3 : 4 Turns, #22 AWG
L4 : 2 Turns, #22 AWG
L5 : 5 Turns, #22 AWG

T1, T2 : $\lambda/4$ Transformers

Material: Epsilam 10, Er = 10.5, Height = .050"

PACKAGE MECHANICAL DATA

PACKAGE STYLE M156



	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.060/1,52		I	.315/8,00	.325/8,26
B	.055/1,40	.065/1,65	J	.002/0,05	.006/0,15
C	.124/3,15		K	.055/1,40	.065/1,65
D	.243/6,17	.253/6,43	L	.075/1,91	.095/2,41
E	.635/16,13	.665/16,89	M		.190/4,83
F	.092/2,34		N	.245/6,22	.255/6,48
G	.555/14,10	.565/14,35			
H	.739/18,77	.749/19,02			