

MS1451

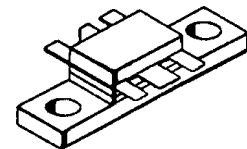
RF & MICROWAVE TRANSISTORS 800-960 MHz BASE STATION APPLICATIONS

Features

- 800-960 MHz
- 24 VOLTS
- CLASS AB LINEAR OPERATION
- $P_{OUT} = 15$ WATTS
- $G_p = 8.0$ dB MINIMUM
- COMMON EMITTER CONFIGURATION

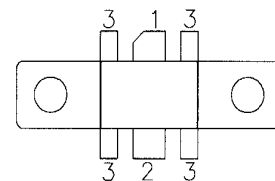
DESCRIPTION:

The MS1451 is a gold metallized silicon NPN planar transistor designed for high linearity Class AB operation in cellular base station applications. The MS1451 is designed as a medium power output device or as the driver for MS1452. Diffused emitter ballast resistors provide thermal stability and reliability under Class AB linear operation.



.230 6LFL (M142)
epoxy sealed

PIN CONNECTION



1. Collector 3. Base
2. Emitter

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

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	48	V
V_{CEO}	Collector-Emitter Voltage	30	V
V_{CES}	Collector-Emitter Voltage	45	V
V_{EBO}	Emitter-Base Voltage	3.5	V
P_{DISS}	Power Dissipation	29	W
I_C	Device Current	2.5	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	6.0	°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	---	---	V
BV _{ceo}	I _C = 20 mA I _B = 0 mA	25	---	---	V
BV _{ebo}	I _E = 5 mA I _C = 0 mA	3.5	---	---	V
I _{cbo}	V _{CB} = 24 V I _E = 0 mA	---	---	1.0	mA
H _{FE}	V _{CE} = 10 V I _C = 100mA	20	---	100	---

DYNAMIC

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
P _{OUT}	f = 960 MHz P _{IN} = 2.4W V _{CC} = 24V	15	---	---	W
G _p	f = 960 MHz P _{IN} = 2.4W V _{CC} = 24V	8	---	---	dB
η _C	f = 960 MHz P _{IN} = 2.4 W V _{CC} = 24V	45	---	---	%
C _{ob}	f = 1 MHz V _{CB} = 24V	---	---	24	pf

Conditions: V_{CC} = 24 V I_{CQ} = 75 mA

IMPEDANCE DATA

FREQ	Z _{IN} (Ω)	Z _{CL} (Ω)
900 MHz	1.3 + j1.98	4.0 + j5.5
930 MHz	1.42 + j2.3	3.18 + j5.0
960 MHz	1.45 + j2.62	2.96 + j4.07

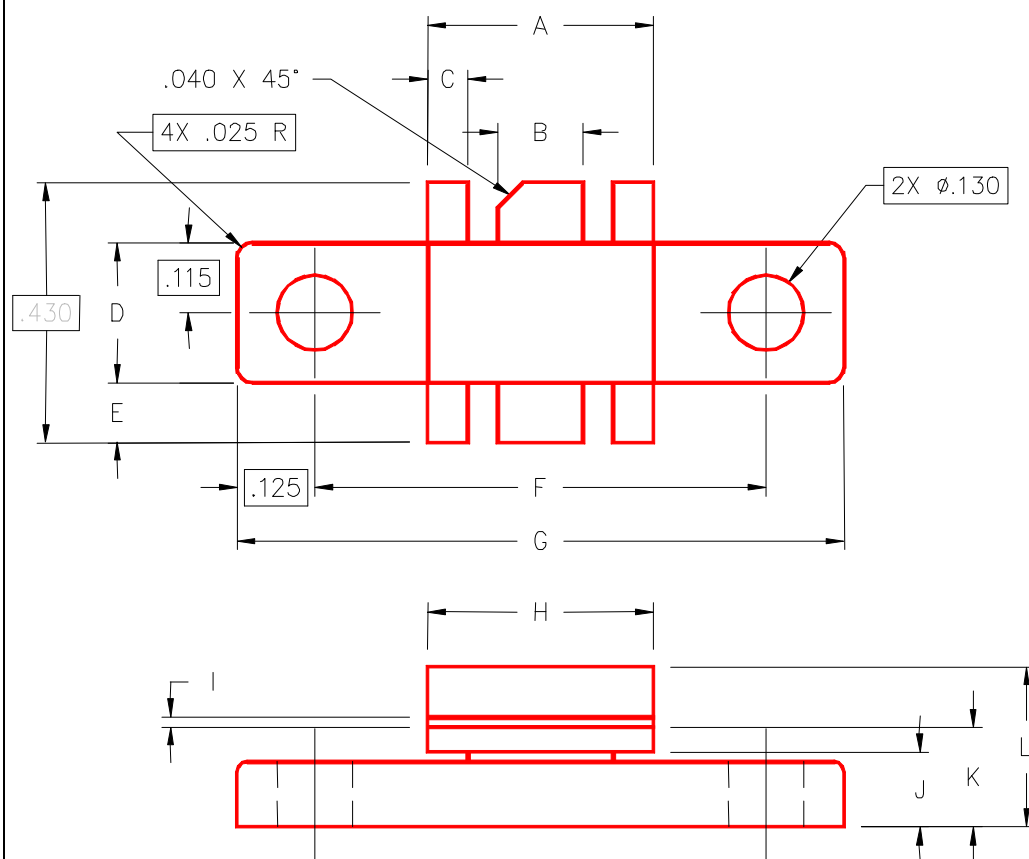
P_{OUT} = 15W

V_{CE} = 24V

I_{CQ} = 75mA

PACKAGE MECHANICAL DATA

PACKAGE STYLE M142



	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.355/9,02	.365/9,27	I	.004/0,10	.006/0,15
B	.115/2,92	.125/3,18	J	.120/3,05	.130/3,30
C	.075/1,91	.085/2,16	K	.160/4,06	.180/4,57
D	.225/5,72	.235/5,97	L	.230/5,84	.260/6,60
E	.090/2,29	.110/2,79			
F	.720/18,29	.730/18,54			
G	.970/24,64	.980/24,89			
H	.355/9,02	.365/9,27			