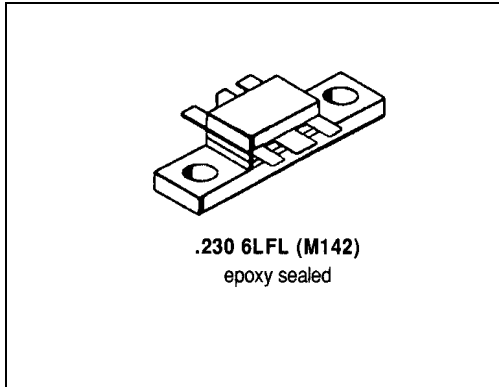


MS1453

RF & MICROWAVE TRANSISTORS 800-900 MHz BASESTATION APPLICATIONS

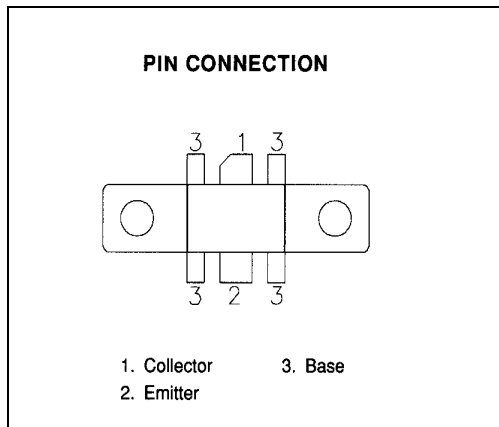
Features

- 800-900 MHz
- 24 VOLTS
- COMMON EMITTER
- GOLD METALIZATION
- INTERNAL INPUT MATCHING
- CLASS AB LINEAR OPERATION
- $P_{OUT} = 30 \text{ W MIN. WITH } 7.5 \text{ dB GAIN}$



DESCRIPTION:

The MS1453 is a gold metallized epitaxial silicon NPN planar transistor using diffused emitter ballast resistors for high linearity Class AB operation in cellular base station applications.



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

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	50	V
V_{CES}	Collector-Emitter Voltage	45	V
V_{EBO}	Emitter-Base Voltage	5.0	V
I_C	Device Current	5.0	A
P_{DISS}	Power Dissipation	43	W
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
---------------	----------------------------------	-----	------

ELECTRICAL SPECIFICATIONS (T_{case} = 25°C)
STATIC

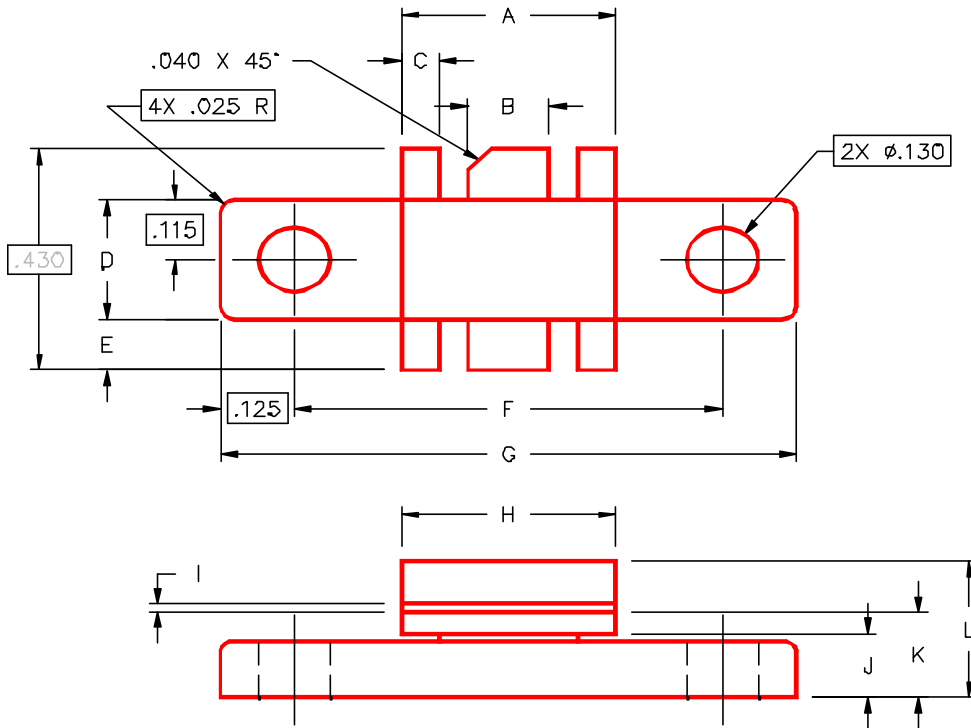
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
BV_{CBO}	I_C = 100 mA	I_E = 0 mA	48	---	---	V	
BV_{CEO}	I_C = 40 mA	I_B = 0 mA	25	---	---	V	
BV_{EBO}	I_E = 10 mA	I_C = 0 mA	3.5	---	---	V	
I_{CBO}	V_{CB} = 24 V	I_E = 0 mA	---	---	2.0	mA	
h_{FE}	V_{CE} = 10 V	I_C = 200 mA	20	---	100	---	

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	f = 960 MHz	P_{IN} = 5.3 W	V_{CC} = 24 V	30	---	---	W
G_P	f = 960 MHz	P_{IN} = 5.3 W	V_{CC} = 24 V	7.5	---	---	dB
h_C	f = 960 MHz	P_{IN} = 5.3 W	V_{CC} = 24 V	45	50	---	%
C_{OB}	f = 1 MHz	V_{CB} = 24 V		---	---	48	pf

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			