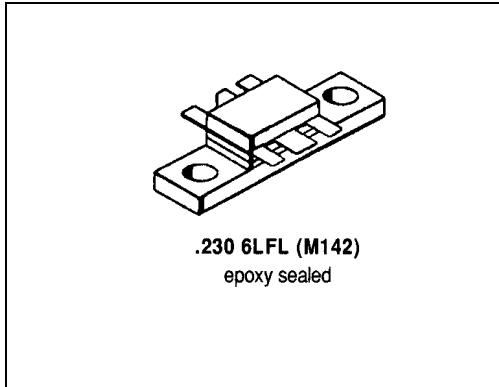


# MS1453

## RF & MICROWAVE TRANSISTORS 800-900 MHz BASESTATION APPLICATIONS

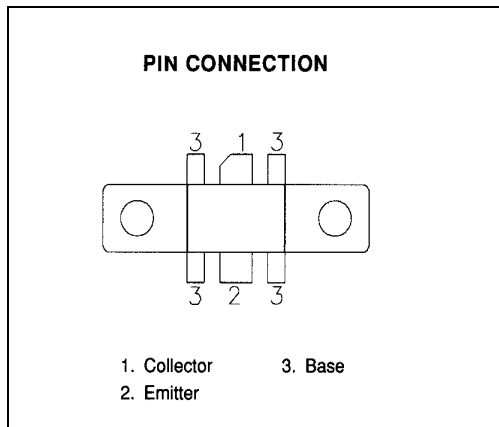
### Features

- 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<sub>case</sub> = 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
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**ELECTRICAL SPECIFICATIONS (T<sub>case</sub> = 25°C)**
**STATIC**

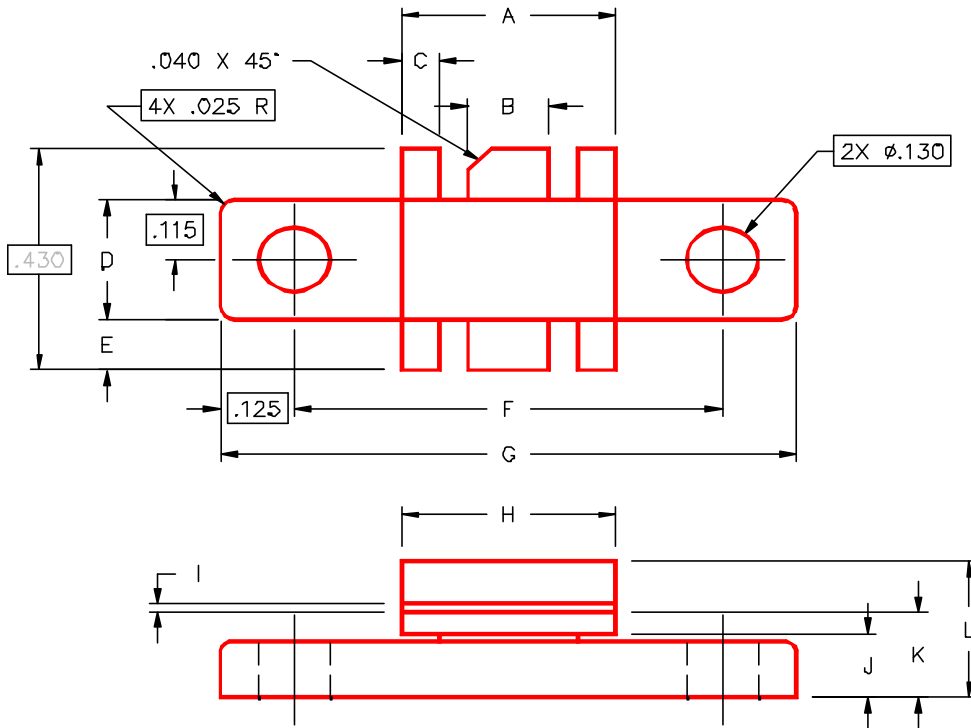
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
<b>BV<sub>CBO</sub></b>	<b>I<sub>C</sub> = 100 mA</b>	<b>I<sub>E</sub> = 0 mA</b>	<b>48</b>	---	---	<b>V</b>	
<b>BV<sub>CEO</sub></b>	<b>I<sub>C</sub> = 40 mA</b>	<b>I<sub>B</sub> = 0 mA</b>	<b>25</b>	---	---	<b>V</b>	
<b>BV<sub>EBO</sub></b>	<b>I<sub>E</sub> = 10 mA</b>	<b>I<sub>C</sub> = 0 mA</b>	<b>3.5</b>	---	---	<b>V</b>	
<b>I<sub>CBO</sub></b>	<b>V<sub>CB</sub> = 24 V</b>	<b>I<sub>E</sub> = 0 mA</b>	---	---	<b>2.0</b>	<b>mA</b>	
<b>h<sub>FE</sub></b>	<b>V<sub>CE</sub> = 10 V</b>	<b>I<sub>C</sub> = 200 mA</b>	<b>20</b>	---	<b>100</b>	---	

**DYNAMIC**

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
<b>P<sub>OUT</sub></b>	<b>f = 960 MHz</b>	<b>P<sub>IN</sub> = 5.3 W</b>	<b>V<sub>CC</sub> = 24 V</b>	<b>30</b>	---	---	<b>W</b>
<b>G<sub>P</sub></b>	<b>f = 960 MHz</b>	<b>P<sub>IN</sub> = 5.3 W</b>	<b>V<sub>CC</sub> = 24 V</b>	<b>7.5</b>	---	---	<b>dB</b>
<b>h<sub>C</sub></b>	<b>f = 960 MHz</b>	<b>P<sub>IN</sub> = 5.3 W</b>	<b>V<sub>CC</sub> = 24 V</b>	<b>45</b>	<b>50</b>	---	<b>%</b>
<b>C<sub>OB</sub></b>	<b>f = 1 MHz</b>	<b>V<sub>CB</sub> = 24 V</b>		---	---	<b>48</b>	<b>pf</b>

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			