

## MS1227

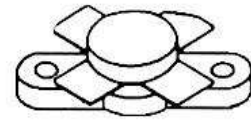
### RF & MICROWAVE TRANSISTORS HF SSB APPLICATIONS

#### Features

- 30 MHz
- 12.5 VOLTS
- GOLD METALIZATION
- $P_{OUT} = 20 \text{ W MINIMUM}$
- $G_P = 15 \text{ dB}$
- COMMON EMITTER CONFIGURATION

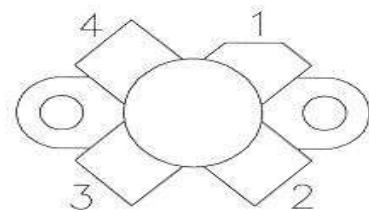
#### DESCRIPTION

The MS1227 is a 12.5V epitaxial NPN planar transistor designed primarily for SSB communications. This device utilizes emitter ballasting for improved ruggedness and reliability.



**.380 4LFL (M113)**  
epoxy sealed

#### PIN CONNECTION



1. Collector      3. Base  
2. Emitter      4. Emitter

### ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	36	V
$V_{CEO}$	Collector-Emitter Voltage	18	V
$V_{EBO}$	Emitter-Base Voltage	4.0	V
$I_C$	Device Current	4.5	A
$P_{DISS}$	Power Dissipation	80	W
$T_J$	Junction Temperature	+200	°C
$T_{STG}$	Storage Temperature	-65 to +150	°C

### Thermal Data

$R_{TH(J-C)}$	Junction-case Thermal Resistance	2.2	°C/W
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## ELECTRICAL SPECIFICATIONS (T<sub>case</sub> = 25°C)

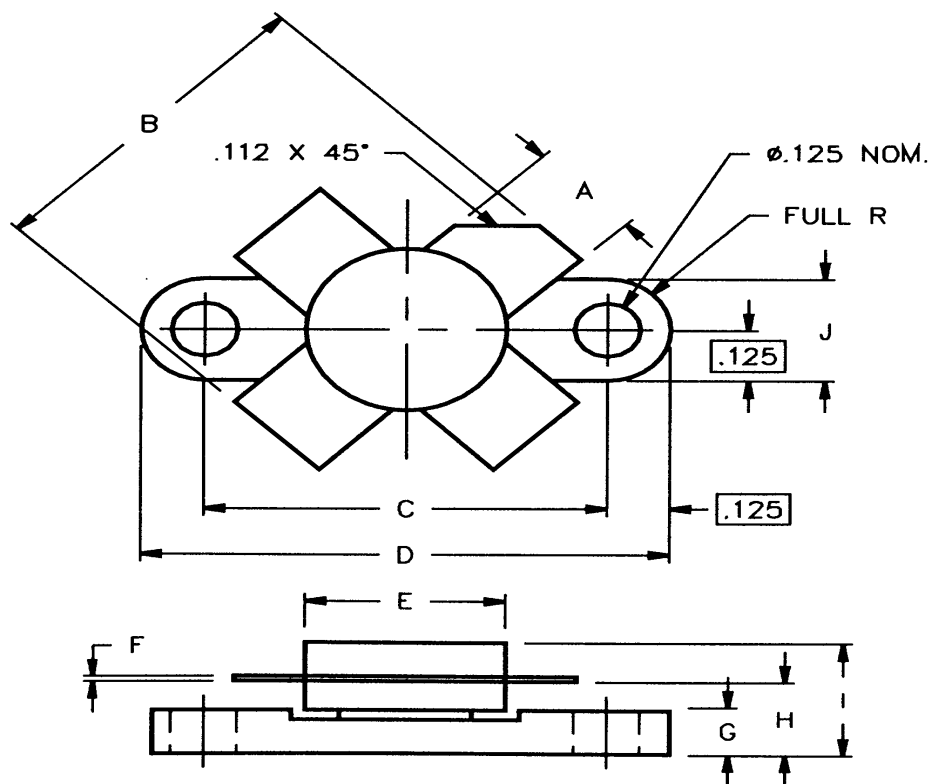
### STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV <sub>cbo</sub>	I <sub>C</sub> = 50mA	I <sub>E</sub> = 0mA	36	---	---	V
BV <sub>ces</sub>	I <sub>C</sub> = 50mA	V <sub>BE</sub> = 0V	36	---	---	V
BV <sub>ceo</sub>	I <sub>C</sub> = 50mA	I <sub>B</sub> = 0mA	18	---	---	V
BV <sub>ebo</sub>	I <sub>E</sub> = 5mA	I <sub>C</sub> = 0mA	4.0	---	---	V
I <sub>ces</sub>	V <sub>CB</sub> = 15V	I <sub>E</sub> = 0mA	---	---	5	mA
H <sub>FE</sub>	V <sub>CE</sub> = 5V	I <sub>C</sub> = 1A	10	---	200	---

### DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P <sub>OUT</sub>	f = 30MHz	V <sub>CC</sub> = 12.5V	I <sub>CQ</sub> = 25mA	20	---	---	W
G <sub>p</sub>	f = 30MHz	V <sub>CC</sub> = 12.5V	I <sub>CQ</sub> = 25mA	15	---	---	dB
IMD	f = 30MHz	V <sub>CC</sub> = 12.5V	I <sub>CQ</sub> = 25mA	---	---	-30	dB
Cob	f = 1 MHz	V <sub>CB</sub> = 30V		---	---	135	pf

**PACKAGE MECHANICAL DATA**



	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.220/5,59	.230/5,84	I		.260/7,11
B	.785/19,94		J	.240/6,10	.255/6,48
C	.720/18,29	.730/18,54			
D	.970/24,64	.980/24,89			
E		.385/9,78			
F	.004/0,10	.006/0,15			
G	.085/2,16	.105/2,67			
H	.160/4,06	.180/4,57			