

MS1253

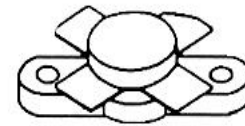
RF & MICROWAVE TRANSISTORS HF/VHF APPLICATIONS

Features

- 50 MHz
- 12.5 VOLTS
- $P_{OUT} = 70$ WATTS
- $G_p = 10$ dB MINIMUM
- COMMON EMITTER CONFIGURATION

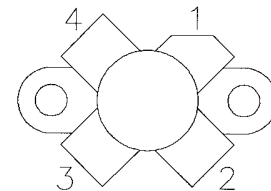
DESCRIPTION:

The MS1253 is a 12.5 V Class C epitaxial silicon NPN transistor designed primarily for land mobile transmitter applications. This device utilizes emitter ballasting, is extremely stable and capable of withstanding high VSWR under operating conditions.



.380 4LFL (M113)
epoxy sealed

PIN CONNECTION



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

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

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	45	V
V_{CEO}	Collector-Emitter Voltage	18	V
V_{EBO}	Emitter-Base Voltage	3.5	V
P_{DISS}	Power Dissipation	183	W
I_C	Device Current	12.0	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	1.05	°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	45	---	---	V
BV _{ces}	I _C = 100 mA	V _{BE} = 0 V	40	---	---	V
BV _{ebo}	I _E = 10 mA	I _E = 0 mA	3.5	---	---	V
BV _{ceo}	I _E = 50 mA	I _B = 0 mA	18	---	---	V
I _{ces}	V _{CE} = 15 V	I _E = 0 mA	---	---	10	mA
H _{FE}	V _{CE} = 5 V	I _C = 5 A	10	---	200	---

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P _{OUT}	f = 50 MHz	P _{IN} = 7W	V _{CE} = 12.5V	70	---	---	W
G _{PE}	f = 50 MHz	P _{IN} = 7W	V _{CE} = 12.5V	10	---	---	dB
η _C	f = 50 MHz	P _{IN} = 7W	V _{CE} = 12.5V	45	---	---	%
C _{OB}	f = 1 MHz	V _{CB} = 12.5 V		---	---	300	pf

IMPEDANCE DATA

FREQ	Z _{IN} (Ω)	Z _{CL} (Ω)
50 MHz	0.8 + j0.9	1.2 + j0.6

P_{OUT} = 70W
 V_{CE} = 12.5V

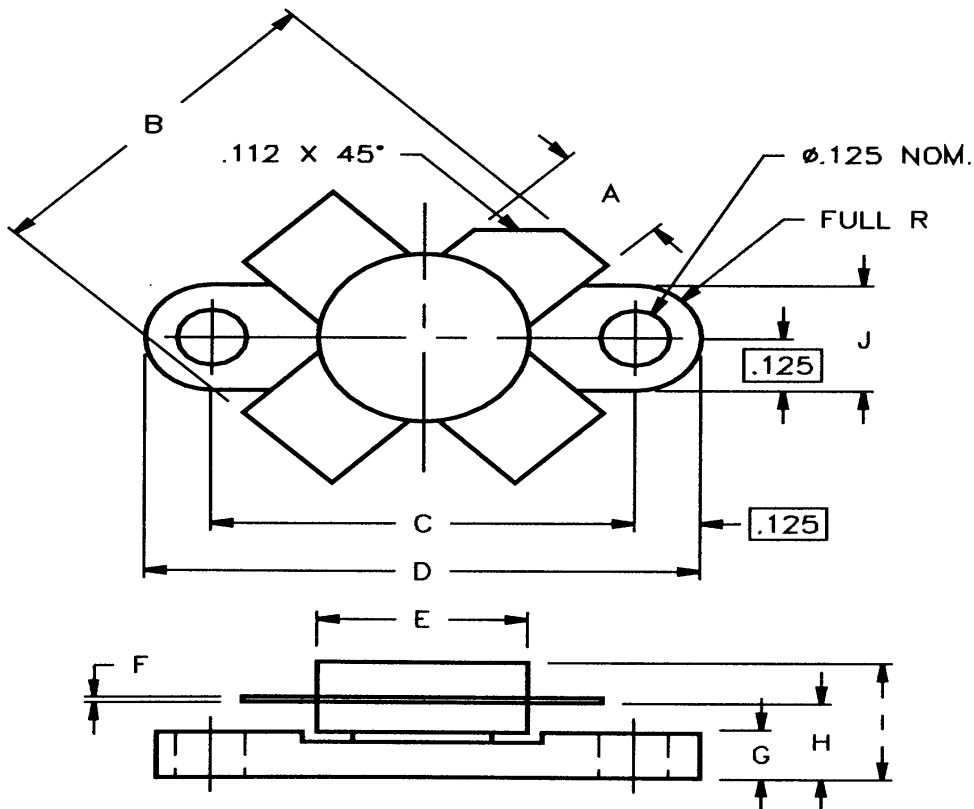


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PACKAGE MECHANICAL DATA



	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			