ADVANCED POWER TECHNOLOGY RF®
140 COMMERCE DRIVE
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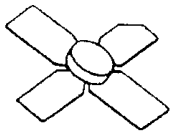
MS1642P

RF & MICROWAVE TRANSISTORS
VHF, UHF GENERAL PURPOSE

Features

- 400 MHz
- GOLD METALLIZATION
- P_{OUT} = 10 W MINIMUM
- G_P = 12 dB MINIMUM
- INFINITE VSWR CAPABILITY
- COMMON EMITTER CONFIGURATION

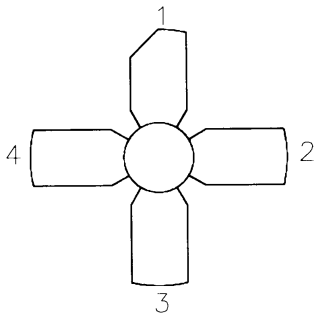


.280 4LSL (M123)
epoxy sealed

DESCRIPTION:

The MS1642 is a gold metallized silicon NPN transistor designed for general purpose amplifier applications in the VHF and UHF frequency bands. Diffused emitter ballast resistors and computer controlled wirebonding techniques ensure maximum device reliability and consistency.

PIN CONNECTION



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

ABSOLUTE MAXIMUM RATINGS (Tcase = 25°C)

Symbol	Parameter	Value	Unit
P_{DISS}	Power Dissipation*	27	W
$I_{C(max)}$	Device Current*	1.5	A
T_{STG}	Storage Temperature	-65 to +150	°C
V_{CBO}	Collector – Base Voltage	60	V
V_{CEO}	Collector - Emitter Voltage	33	V
V_{EBO}	Emitter - Base Voltage	4.0	V

Thermal Data

$R_{TH(J-C)}$	Thermal Resistance Junction-case	6.4	°C/W

***Applies only to rated RF amplifier operation**

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ELECTRICAL SPECIFICATIONS (Tcase = 25°C)

STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
Bvceo	I_C = 20 mA	I_E = 0 mA	33	---	---	V
Bvces	I_C= 20 mA	I_C = 0 mA	60	---	---	V
Bvcbo	I_C = 20 mA	I_E = 0 mA	60	---	---	V
Bvebo	I_E= 2.0 mA	I_C = 0 mA	4.0	---	---	V
Icbo	V_{CB} = 30 V		---	---	1.0	mA
HFE	V_{CE} = 5 V	I_C = 500 mA	20	---	100	---

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{IN}	f =400MHz	P_{OUT} = 10W	V_{CC} = 28V	---	---	0.65	W
G_P	f =400MHz	P_{out} = 10W	V_{CC} =28V	12	---	---	dB
η_C	f =400MHz	P_{out} = 10W	V_{CC} =28V	50	---	---	%
C_{OB}	f =1 MHz	V_{CB} =28V		---	---	12	pF

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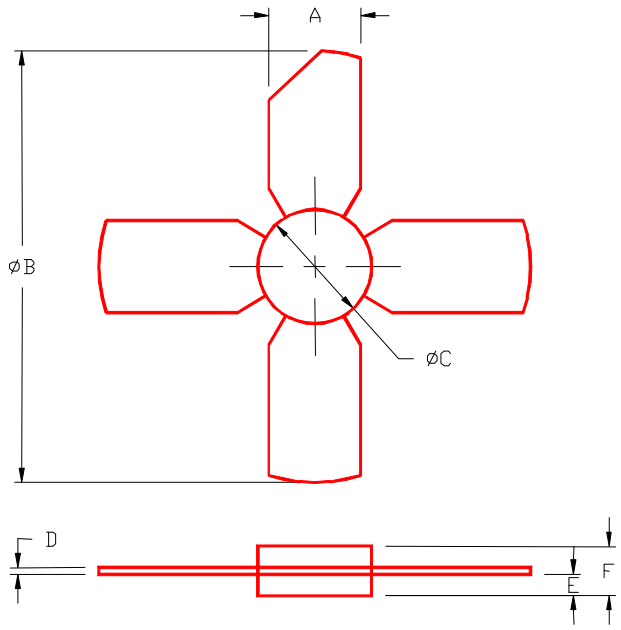
PACKAGE MECHANICAL DATA

PACKAGE STYLE M123



	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.220/5,59	.230/5,84			
B	-----	1.055/26,8			
C	.275/6,99	.285/7,24			
D	.004/0,10	.006/0,15			
E	.050/1,27	.060/1,52			
F	.118/3,00	.130/3,30			