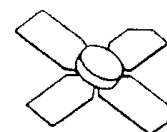


# MS1642P

## 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

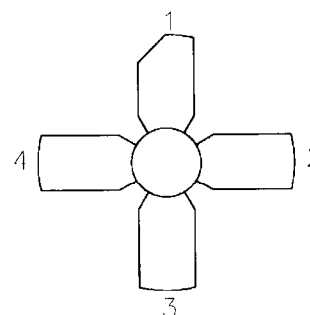


.280 4LSL (M123)  
epoxy sealed

### 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 | 3. Base    |
| 2. Emitter   | 4. Emitter |

### ABSOLUTE MAXIMUM RATINGS (T<sub>case</sub> = 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
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\*Applies only to rated RF amplifier operation

## ELECTRICAL SPECIFICATIONS (T<sub>case</sub> = 25°C)

### STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
Bvceo	I <sub>C</sub> = 20 mA	I <sub>E</sub> = 0 mA	33	---	---	V
Bvces	I <sub>C</sub> = 20 mA	I <sub>C</sub> = 0 mA	60	---	---	V
Bvcbo	I <sub>C</sub> = 20 mA	I <sub>E</sub> = 0 mA	60	---	---	V
Bvebo	I <sub>E</sub> = 2.0 mA	I <sub>C</sub> = 0 mA	4.0	---	---	V
Icbo	V <sub>CB</sub> = 30 V		---	---	1.0	mA
HFE	V <sub>CE</sub> = 5 V	I <sub>C</sub> = 500 mA	20	---	100	---

### DYNAMIC

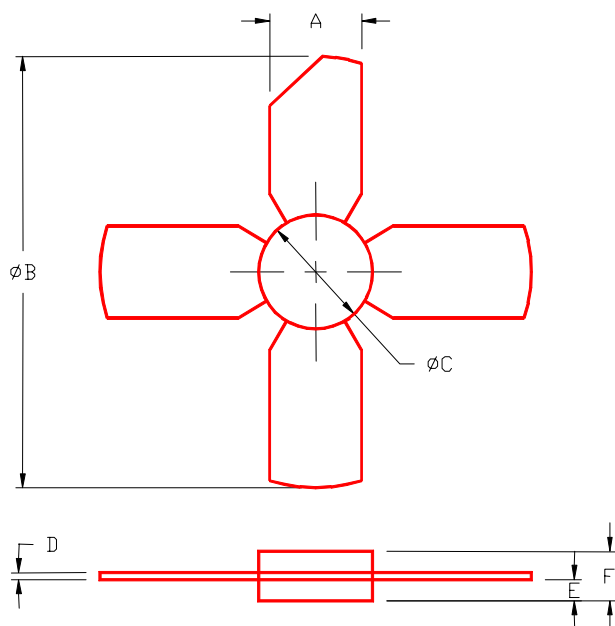
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P <sub>IN</sub>	f = 400 MHz	P <sub>OUT</sub> = 10 W	V <sub>CC</sub> = 28 V	---	---	0.65	W
G <sub>P</sub>	f = 400 MHz	P <sub>out</sub> = 10 W	V <sub>CC</sub> = 28 V	12	---	---	dB
η <sub>C</sub>	f = 400 MHz	P <sub>out</sub> = 10 W	V <sub>CC</sub> = 28 V	50	---	---	%
C <sub>OB</sub>	f = 1 MHz	V <sub>CB</sub> = 28 V		---	---	12	pF

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**MS1642P**

## 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			