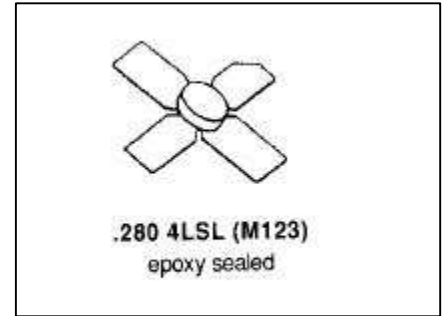


MS1401

RF AND MICROWAVE TRANSISTORS
VHF PORTABLE/MOBILE APPLICATIONS

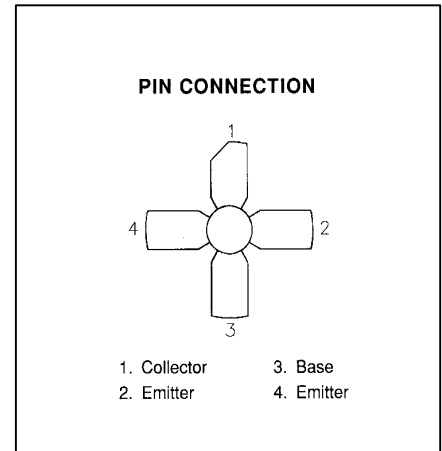
Features

- 150 MHz
- 7.5 Volts
- Common Emitter
- P_{OUT} = 2.5 W Min.
- G_P = 11.0 dB Gain



DESCRIPTION:

The MS1401 is a 7.5 V Class C epitaxial silicon NPN planar transistor designed primarily for VHF communications. It withstands severe mismatch under operating conditions.



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

Symbol	Parameter	Value	Unit
V _{CBO}	Collector-Base Voltage	36	V
V _{CER}	Collector-Emitter Voltage	16	V
V _{CES}	Collector-Emitter Voltage	36	V
V _{EBO}	Emitter-Base Voltage	4.0	V
I _C	Device Current	1.7	A
P _{DISS}	Power Dissipation	15	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	11.6	°C/W
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ELECTRICAL SPECIFICATIONS (T_{case} = 25°C)
STATIC

Symbol	Test Conditions	Value			Units
		Min.	Typ.	Max.	
BV_{CES}	I_C = 10 mA V_{BE} = 0 V	36			V
BV_{CEO}	I_C = 50 mA I_B = 0 mA	16			V
BV_{EBO}	I_E = 2 mA I_C = 0 mA	4.0			V
I_{CER}	V_{CE} = 10 V R_{BE} = 50 Ω			0.5	mA
I_{CBO}	V_{CB} = 15 V I_E = 0 mA			1.0	mA
h_{FE}	V_{CE} = 5 V I_C = 200 mA	20		100	—

DYNAMIC

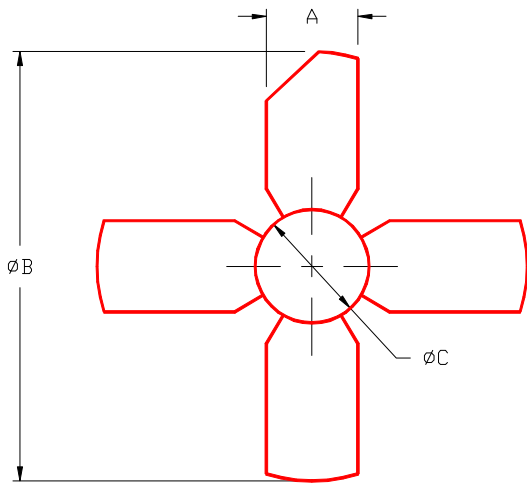
Symbol	Test Conditions	Value			Units
		Min.	Typ.	Max.	
P_{OUT}	f = 150 MHz V_{CC} = 7.5 V	2.5			W
G_P	f = 150 MHz V_{CC} = 7.5 V	11			Db
C_{OB}	f = 150 MHz V_{CB} = 7.5 V			23	PF

IMPEDANCE DATA

Freq.	Z _{IN} (Ω)	Z _L (Ω)
150 MHz	2.2 – j 0.4	7.9 + j 8.4
160 MHz	1.9 – j 0.8	7.6 + j 8.2
170 MHz	1.0 – j 1.0	6.0 + j 8.3

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			

