MS2322

RF & MICROWAVE TRANSISTORS
AVIONICS APPLICATIONS

## Features

- **1025 - 1150 MHz**
- **50 VOLT OPERATION**
- **P_{OUT} = 15 WATTS**
- **G_P = 10 dB MINIMUM**
- **20:1 VSWR CAPABILITY @ RATED CONDITIONS**
- **COMMON BASE CONFIGURATION**

**.280 4LSL (M115)
Epoxy Sealed**
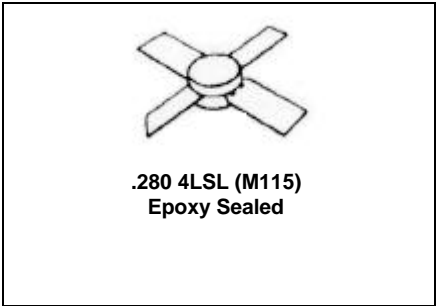
DESCRIPTION:

The MS2322 is a gold metallized, silicon NPN power transistor designed for pulsed applications with low duty cycles such as IFF, DME and TACAN. Internal impedance matching is utilized for maximum broadband performance and simplified external matching.

PIN CONNECTION

1. COLLECTOR   3. EMITTER
2. BASE   4. BASE
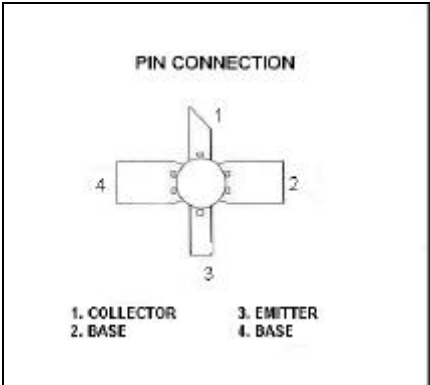
ABSOLUTE MAXIMUM RATINGS (Tcase = 25°C)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	65	V
V_{CES}	Collector-Emitter Voltage	65	V
V_{EBO}	Emitter-Base Voltage	3.5	V
I_C	Device Current	1.5	A
P_{DISS}	Power Dissipation	87.5	W
T_J	Junction Temperature	+200	°C
T_{STG}	Storage Temperature	-65 to +150	°C

Thermal Data

$R_{TH(J-C)}$	Thermal Resistance Junction-case	2.0	°C/W

ELECTRICAL SPECIFICATIONS (Tcase = 25°C)
STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	I_C = 10mA	I_E = 0mA	65	---	---	V
BV_{CES}	I_C = 25mA	V_{BE} = 0V	65	---	---	V
BV_{EBO}	I_E = 1mA	I_C = 0mA	3.5	---	---	V
I_{CES}	V_{CE} = 50V	I_E = 0mA	---	---	2	mA
HFE	V_{CE} = 5V	I_C = 100mA	10	---	200	---

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	f =1025 - 1150 MHz	P_{IN} = 1.5W	V_{CC} = 50V	15	---	---	W
G_P	f =1025 - 1150 MHz	P_{IN} = 1.5W	V_{CC} = 50V	10	---	---	dB
η_C	f =1025 - 1150 MHz	P_{IN} = 1.5W	V_{CC} = 50V	30	---	---	%
Conditions	Pulse Width = 10 µs Duty Cycle = 1%						

IMPEDANCE DATA

FREQ	Z_{IN} (Ω)	Z_{CL} (Ω)
1030 MHz	3.5 + j12.5	17.0 + j14.5
1090 MHz	3.0 + j13.5	19.5 + j12.5
1150 MHz	3.5 + j14.0	18.0 + j12.0

V_{CC} = 50V
P_{IN} = 1.5W

PACKAGE MECHANICAL DATA

PACKAGE STYLE M115
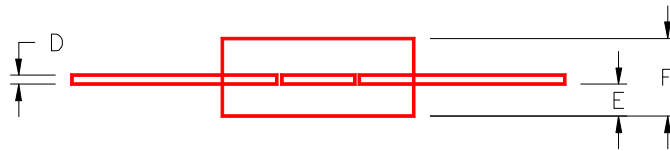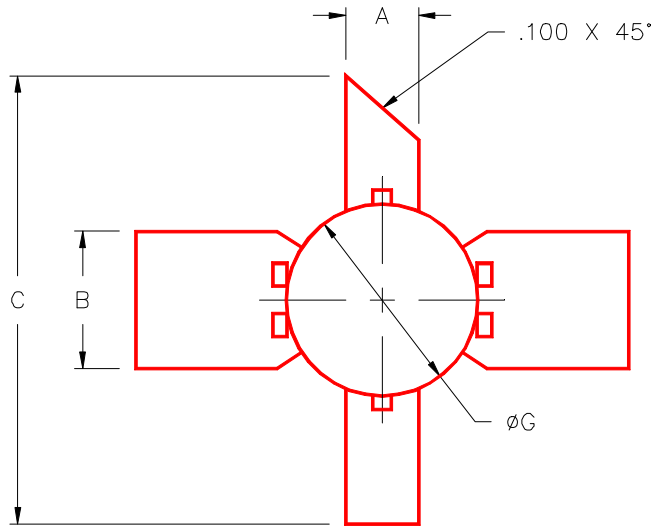
	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.095/2,41	.105/2,67			
B	.195/4,95	.205/5,21			
C	1.000/25,40				
D	.004/0,10	.007/0,18			
E	.050/1,27	.065/1,65			
F	.120/3,05	.135/3,43			
G	.275/6,99	.285/7,21			