

MS2223

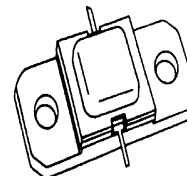
RF & MICROWAVE TRANSISTORS AVIONICS APPLICATIONS

Features

GOLD METALLIZATION
 EMITTER SITE BALLASTED
 $P_{out} = 70 \text{ W MINIMUM}$
 $G_p = 6.7 \text{ dB}$
 OVERLAY GEOMETRY
 METAL/CERAMIC HERMETIC PACKAGE
 LOW THERMAL RESISTANCE

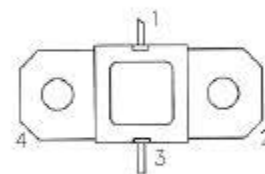
DESCRIPTION:

The MS2223 is a silicon NPN bipolar transistor designed for avionics applications with high duty cycle requirements. Gold metallization and emitter ballasting provides long term reliability under long pulse formats.



.400 x .400 2NLFL (M218)
hermetically sealed

PIN CONNECTION



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

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

Symbol	Parameter	Value	Unit
V _{CC}	Collector-Supply Voltage*	32	V
I _C	Device Current*	8.0	A
P _{DISS}	Power Dissipation*	200	W
T _J	Junction Temperature	200	°C
T _{STG}	Storage Temperature	- 65 to + 200	°C

Thermal Data

R _{TH(j-c)}	Junction-Case Thermal Resistance*	0.68	°C/W
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* Applies only to rated RF operation.

ELECTRICAL SPECIFICATIONS (T_{case} = 25°C)

STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	I_C = 25mA	I_E = 0 mA	55	----	----	V
BV_{CER}	I_C = 25 mA	R_{BE} = 10	55	----	----	V
BV_{EBO}	I_E = 10 mA	I_C = 0 mA	3.5	----	----	V
I_{CES}	V_{CE} = 35 V	V_{BE} = 0 V	----	----	20	mA
h_{FE}	V_{CE} = 5 V	I_C = 2A	20	----	200	----

DYNAMIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
P_{OUT}	f = 1090 MHz	P_{IN} = 15 W V_{CC} = 28 V	70	----	----	W
η_c	f = 1090 MHz	P_{IN} = 15 W V_{CC} = 28 V	45	----	----	%
G_p	f = 1090 MHz	P_{IN} = 15 W V_{CC} = 28 V	6.7	----	----	dB
Condition	Pulse Width: 100 S Duty Cycle: 2%					

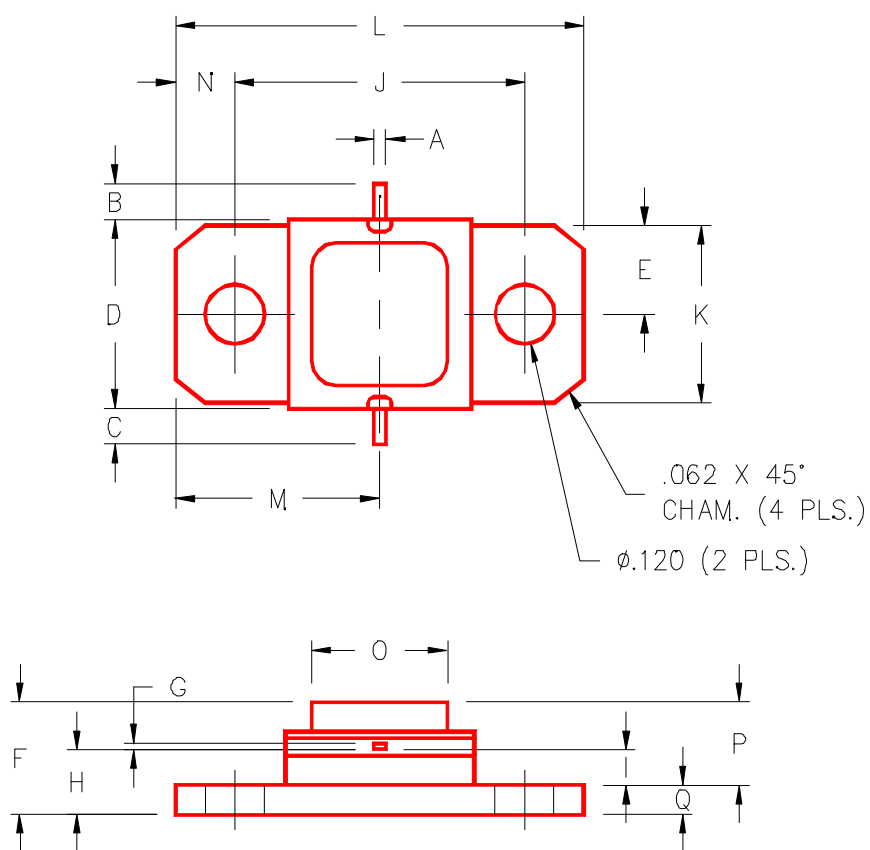
IMPEDANCE DATA:

FREQUENCY	Z _{in}	Z _{cl}
1025 MHz	4.7 + j4.7	3.6 + j4.3
1090 MHz	4.7 + j3.9	3.3 + j4.4

P_{in} = 15W V_{cc} = 28V

PACKAGE MECHANICAL DATA

PACKAGE STYLE M218



	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.025/0,64		J	.650/16,51	
B	.100/2,54		K	.386/9,80	
C	.100/2,54		L	.900/22,86	
D	.395/10,03	.407/10,34	M	.450/11,43	
E	.193/4,90		N	.125/3,18	
F		.230/5,84	O	.405/10,29	
G	.004/0,10	.007/0,18	P		.170/4,32
H	.118/3,00	.131/3,33	Q	.062/1,58	
I	.063/1,60				