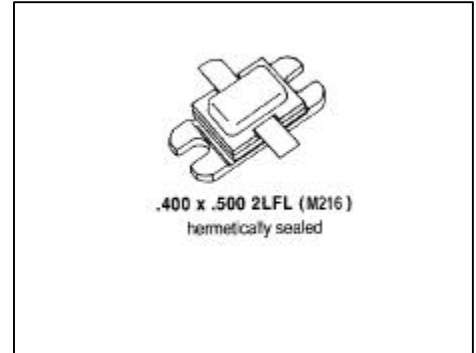


MS2215

RF & MICROWAVE TRANSISTORS AVIONICS APPLICATIONS

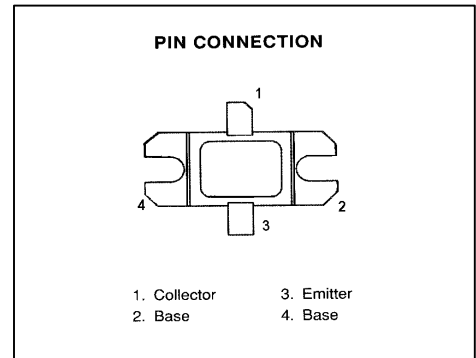
Features

- 960 – 1215 MHz
- 35 VOLTS
- INPUT/OUTPUT MATCHING
- $P_{OUT} = 150$ WATTS
- $G_P = 7.5$ dB MINIMUM
- COMMON BASE CONFIGURATION



DESCRIPTION:

The MS2215 is designed for specialized avionics applications, including Mode-S, TCAS and JTIDS where power is provided under pulse formats utilizing short pulse widths and high burst or overall duty cycles.



ABSOLUTE MAXIMUM RATINGS ($T_{case} = 25^{\circ}C$)

Symbol	Parameter	Value	Unit
P_{DISS}	Power Dissipation	300	W
I_C	Device Current	16.5	A
V_{CC}	Collector - Supply Voltage	35	V
T_J	Junction Temperature (RF Pulsed Operation)	250	$^{\circ}C$
T_{STG}	Storage Temperature	-65 to +200	$^{\circ}C$

Thermal Data

$R_{TH(j-c)}$	Junction-Case Thermal Resistance	0.57	$^{\circ}C/W$
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**ELECTRICAL SPECIFICATIONS (T_{case} = 25°C)
STATIC**

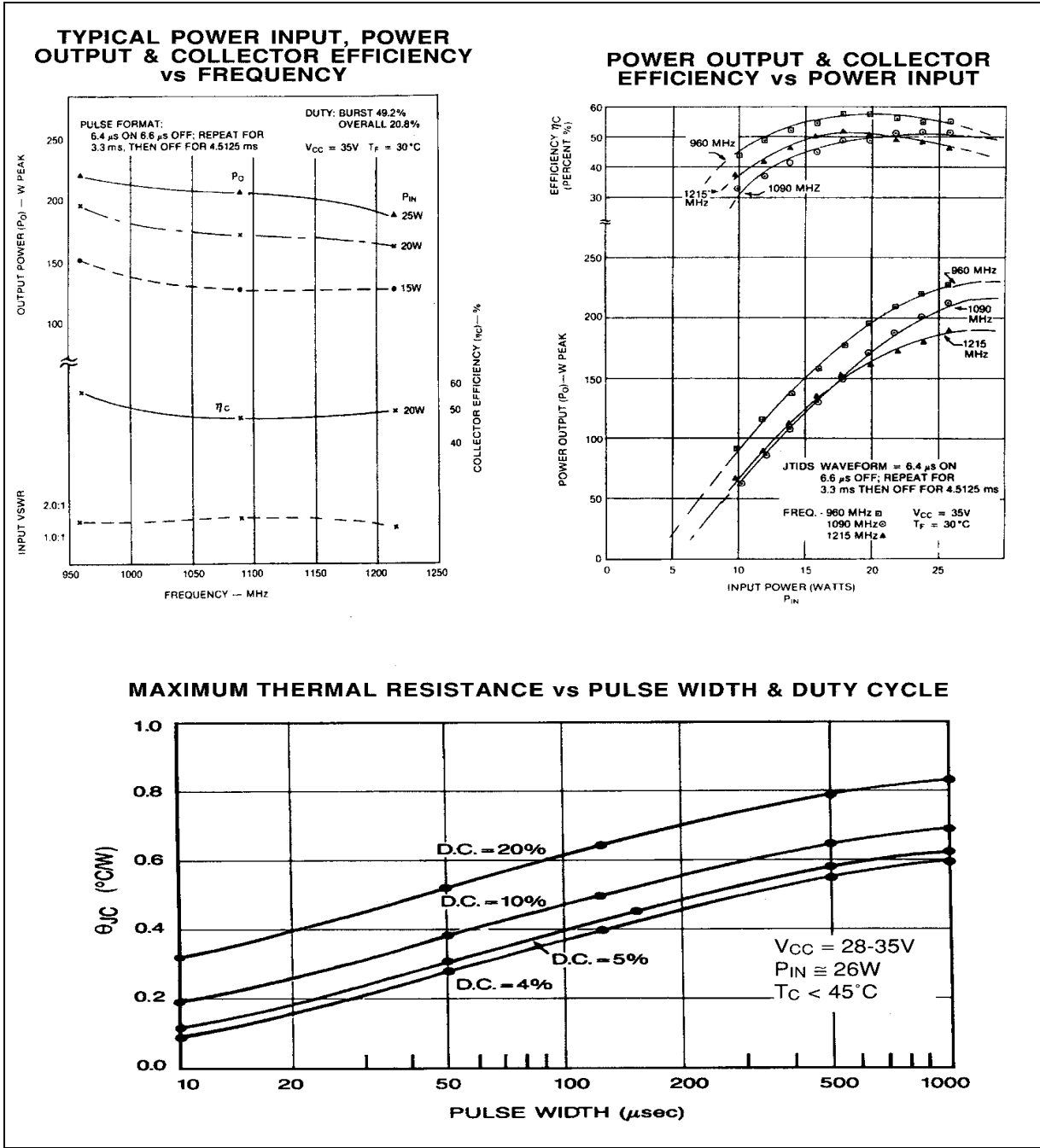
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	I_C = 60 mA	I_E = 0 mA	55	----	----	V
BV_{EBO}	I_E = 10 mA	I_C = 0 mA	3.5	----	----	V
BV_{CES}	I_C = 100 mA		55	----	----	V
I_{CES}	V_{CE} = 35 V		----	----	25	mA
h_{FE}	V_{CE} = 5V	I_C = 5 A	20	----	200	----

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	f = 960 - 1215 MHz	P_{IN} = 26.7 W	V_{CC} = 35 V	150	----	----	W
η_C	f = 960 - 1215 MHz	P_{IN} = 26.7 W	V_{CC} = 35 V	45	----	----	%
G_P	f = 960 - 1215 MHz	P_{IN} = 26.7 W	V_{CC} = 35 V	7.5	----	----	dB

Conditions: **Pulse Format:** 6.4 μs on 6.6 μs off, repeat for 3.3 μs, then off for 4.5125 μs.
 Duty Cycle: Burst 49.2%, Overall 20.8%

TYPICAL PERFORMANCE



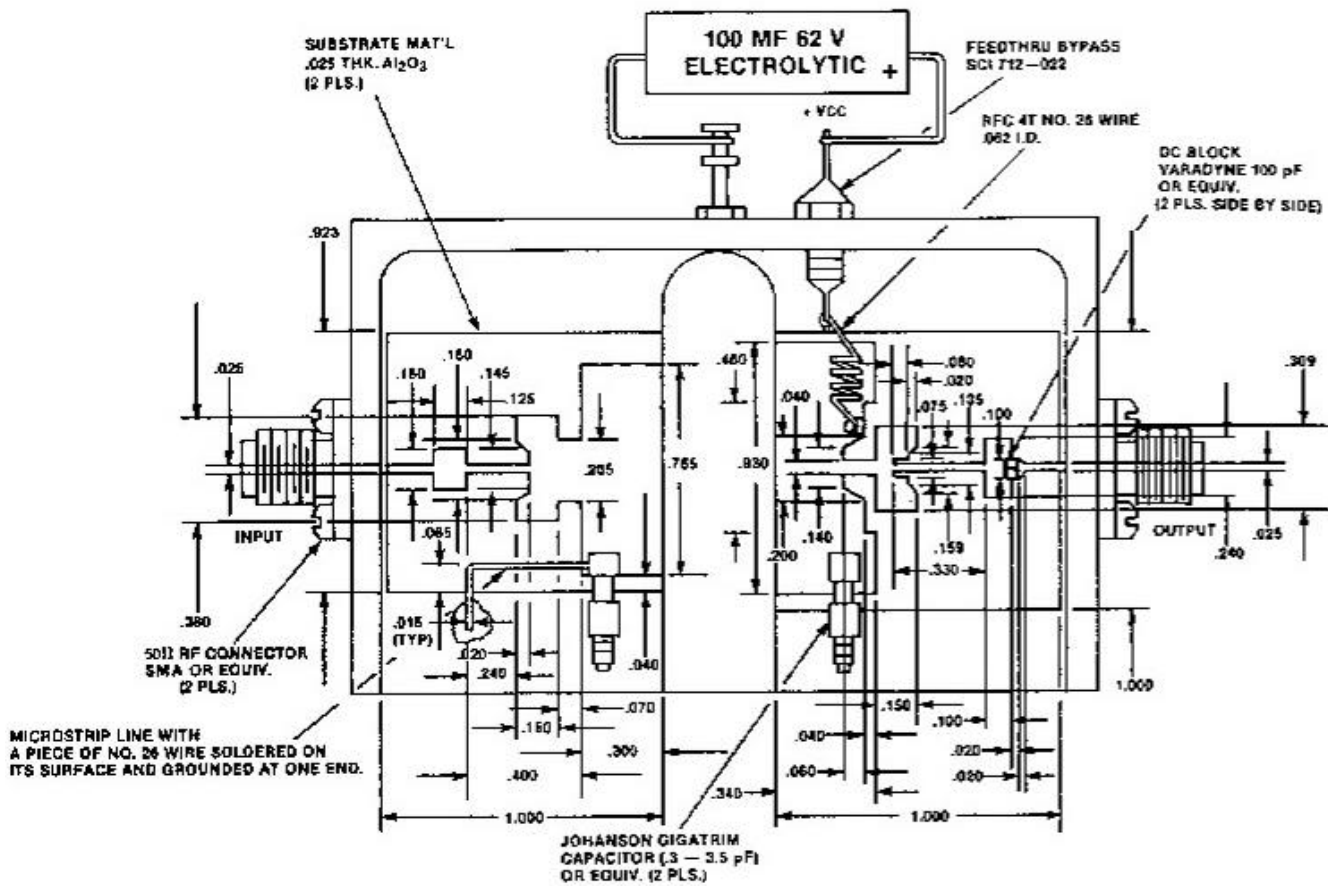
MS2215

IMPEDANCE DATA:

FREQUENCY	Z _{IN}	Z _{CL}
960 MHz	2.1 + j3.8	3.8 - j3.6
1050 MHz	1.2 + j2.5	2.5 - j2.0
1215 MHz	1.7 + j2.4	2.0 - j2.5

Pin = 26.7 W
Vcc = 35V

TEST CIRCUIT



PACKAGE MECHANICAL DATA

