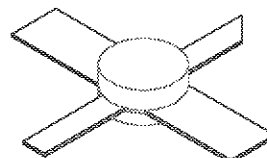




MSC81035MP

RF & MICROWAVE TRANSISTORS AVIONICS APPLICATIONS

- REFRACTORY/GOLD METALLIZATION
- EMITTER SITE BALLASTED
- $\infty:1$ VSWR CAPABILITY
- LOW THERMAL RESISTANCE
- INPUT MATCHING
- OVERLAY GEOMETRY
- METAL/CERAMIC HERMETIC PACKAGE
- $P_{OUT} = 35$ W MIN. WITH 10.7 dB GAIN



.280 4LSL (S051)
epoxy sealed

ORDER CODE
MSC81035MP

BRANDING
81035MP

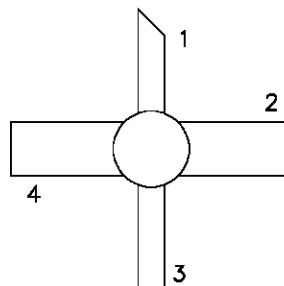
DESCRIPTION

The MSC81035MP is a medium power Class C transistor designed specifically for pulsed L-Band avionics applications. This device is a direct replacement for the MSC1035MP. MSC81035MP offers improved saturated output power and collector efficiency based on the test circuit described herein.

Low RF thermal resistance and computerized automatic wire bonding techniques ensure high reliability and product consistency.

The MSC81035MP is housed in the IMPAC™ package with internal input matching.

PIN CONNECTION



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

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

Symbol	Parameter	Value	Unit
P_{DISS}	Power Dissipation* ($T_C \leq 100^{\circ}C$)	150	W
I_C	Device Current*	3.0	A
V_{CC}	Collector-Supply Voltage*	55	V
T_J	Junction Temperature (Pulsed RF Operation)	250	$^{\circ}C$
T_{STG}	Storage Temperature	- 65 to +150	$^{\circ}C$

THERMAL DATA

$R_{TH(j-c)}$	Junction-Case Thermal Resistance*	1.0	$^{\circ}C/W$
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*Applies only to rated RF amplifier operation

Note: Thermal Resistance determined by Infra-Red Scanning of Hot-Spot Junction Temperature at rated RF operating conditions.

MSC81035MP

ELECTRICAL SPECIFICATIONS ($T_{case} = 25^{\circ}C$)

STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	$I_C = 10mA$	$I_E = 0mA$	65	—	—	V
BV_{EBO}	$I_E = 1mA$	$I_C = 0mA$	3.5	—	—	V
BV_{CER}	$I_C = 10mA$	$R_{BE} = 10\Omega$	65	—	—	V
I_{CES}	$V_{BE} = 0V$	$V_{CE} = 50V$	—	—	5	mA
h_{FE}	$V_{CE} = 5V$	$I_C = 500mA$	15	—	120	—

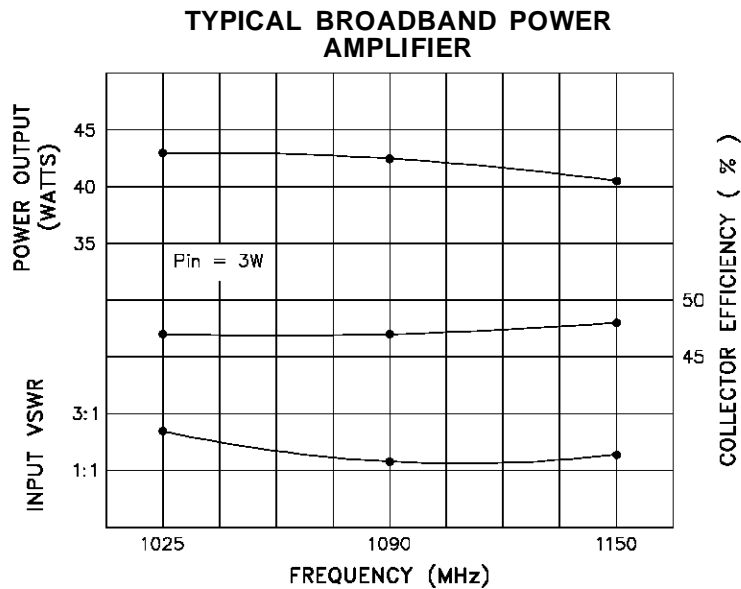
DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	$f = 1025 \text{ — } 1150 \text{ MHz}$	$P_{IN} = 3.0W$	$V_{CC} = 50V$	35	40	—	W
η_C	$f = 1025 \text{ — } 1150 \text{ MHz}$	$P_{IN} = 3.0W$	$V_{CC} = 50V$	10.7	11.2	—	%
G_P	$f = 1025 \text{ — } 1150 \text{ MHz}$	$P_{IN} = 3.0W$	$V_{CC} = 50V$	43	48	—	dB

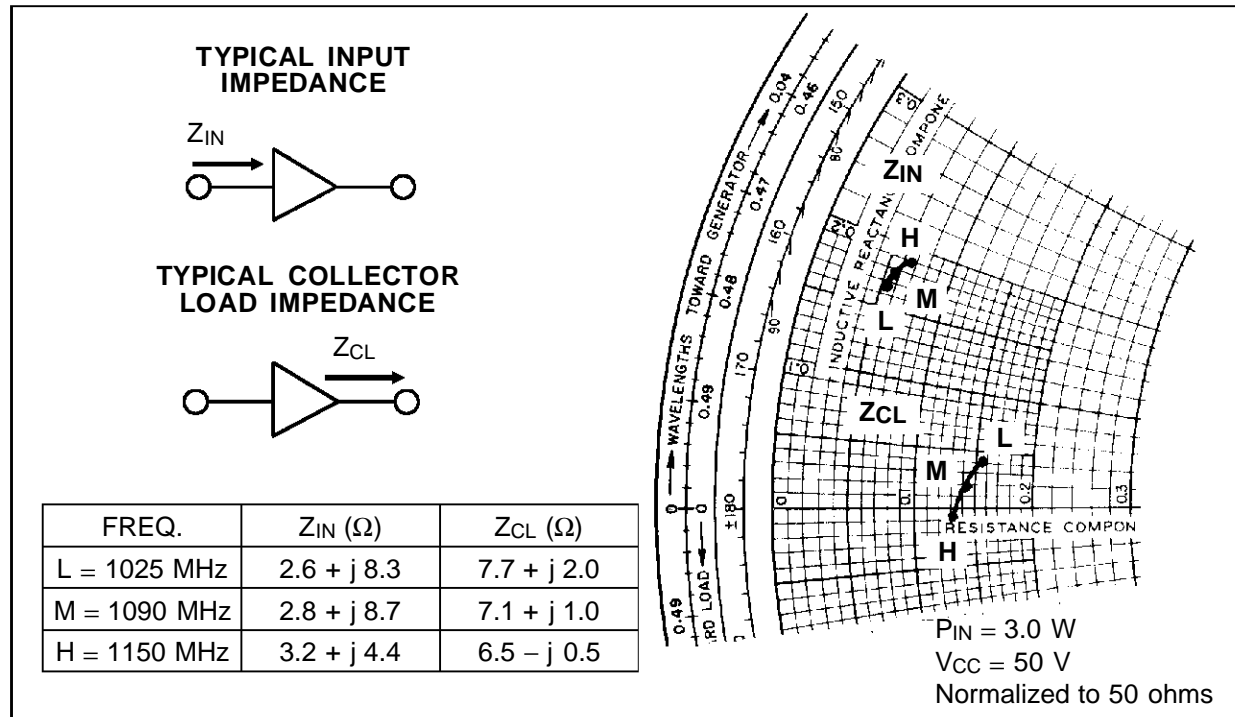
Note: Pulse Width = 10 μ Sec

Duty Cycle = 1%

TYPICAL PERFORMANCE

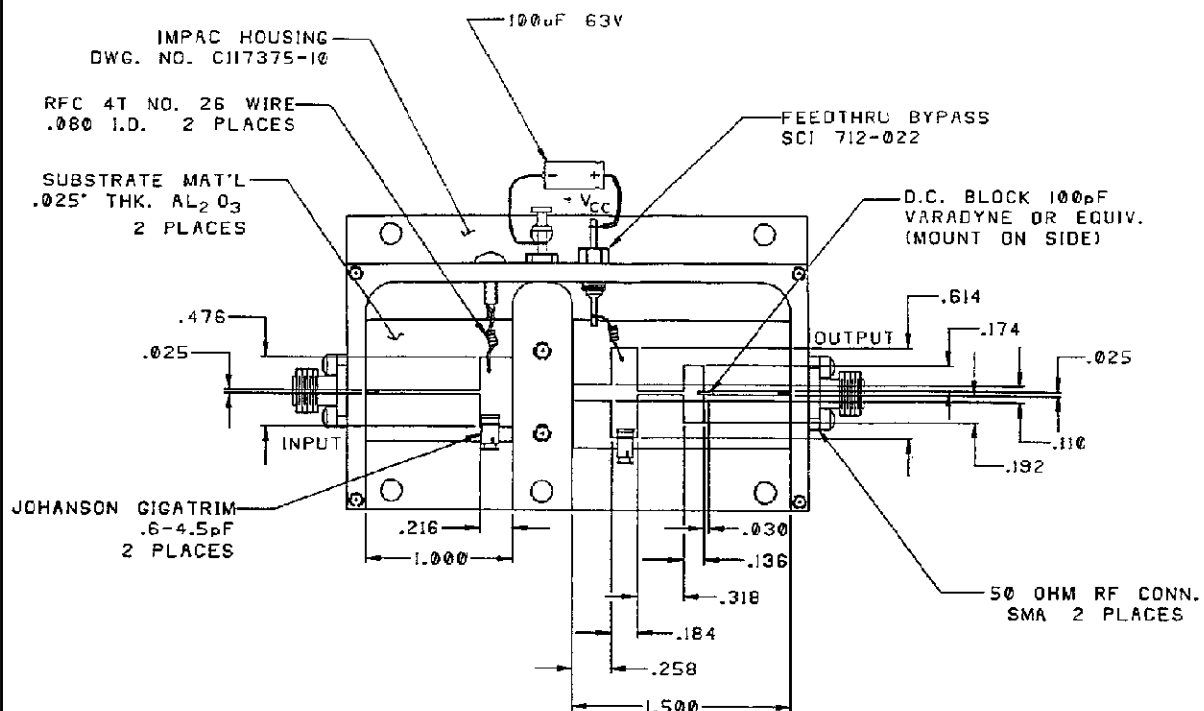


IMPEDANCE DATA



TEST CIRCUIT

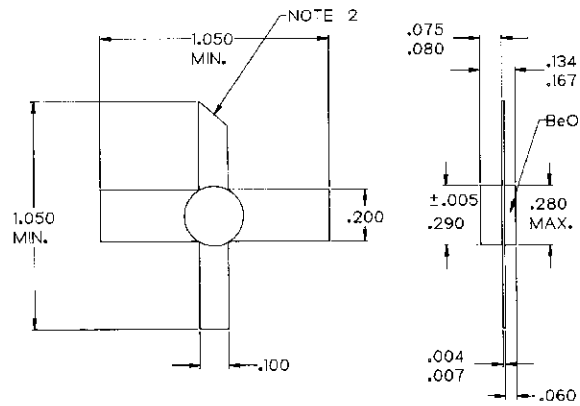
Ref.: Dwg. No. 101 002888



All dimensions are in inches.

PACKAGE MECHANICAL DATA

Ref.: Dwg. No.: J135032E

**NOTES:**

1. ALL TOLERANCE $\pm .010$ EXCEPT WHERE NOTED;
DIMENSIONS IN INCHES.
2. COLLECTOR LEAD SLANT CUT.

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