

# HMIC™ Integrated Passive Diplexer GSM/DCS or AMPS/PCS Applications 3 mm square MLP Plastic Package

MA4DP918-1277

## Features

- HMIC™ Integrated Passive Circuit
- Low Insertion Loss, High Rejection Diplexer
- Surface Mountable in Microwave Circuits, No Wirebonds Required
- Rugged HMIC™ Construction with Polyamide Encapsulation
- Reliable, Multilayer Metalization
- No External 50 Ω Matching Required
- Low Cost Miniature Plastic MLP Package

## 3mm MLP Plastic Package



## Description

The MA4DP918-1277 HMIC™ Integrated Passive Diplexer is fabricated with the patented Heterolithic Microwave Integrated Circuit (HMIC) process. HMIC circuits consist of multilayer conductors on a glass dielectric, which acts as the low dispersion, low loss microstrip transmission medium. The glass allows HMIC devices to have excellent Q characteristics in a low profile, reliable device. Conductors are printed with state-of-the-art semiconductor photolithography processes and encapsulated in rugged silicon nitride and BCB polyamide. The circuit is composed of plated inductors and metal-insulator-metal (MIM) capacitors employing a silicon nitride dielectric layer. The high performance 3 mm MLP package allows for surface mount placement with no additional circuit matching required.

## Applications

The MA4DP918-1277 HMIC™ Integrated Passive Diplexer is recommended for use in wireless dual band GSM/DCS or AMPS/PCS applications. The diplexer has low insertion loss in the pass bands and high rejection in the stop bands. All ports are matched to 50 ohms.

## PIN Configuration

PIN	Function	PIN	Function
1	GND	9	NC
2	NC	10	RF 1800
3	RF 900	11	NC
4	NC	12	GND
5	NC	13	NC
6	NC	14	ANT
7	NC	15	NC
8	NC	16	NC
Paddle		GND	

## Absolute Maximum Ratings<sup>1</sup>

@ TA = +25 °C  
(Unless otherwise specified)

Parameter	Value
Operating Temperature	-65 °C to +125 °C
Storage Temperature	-65 °C to +150 °C
RF C.W. Incident Power	3 Watts C.W.

1. Exceeding any of these values may result in permanent damage

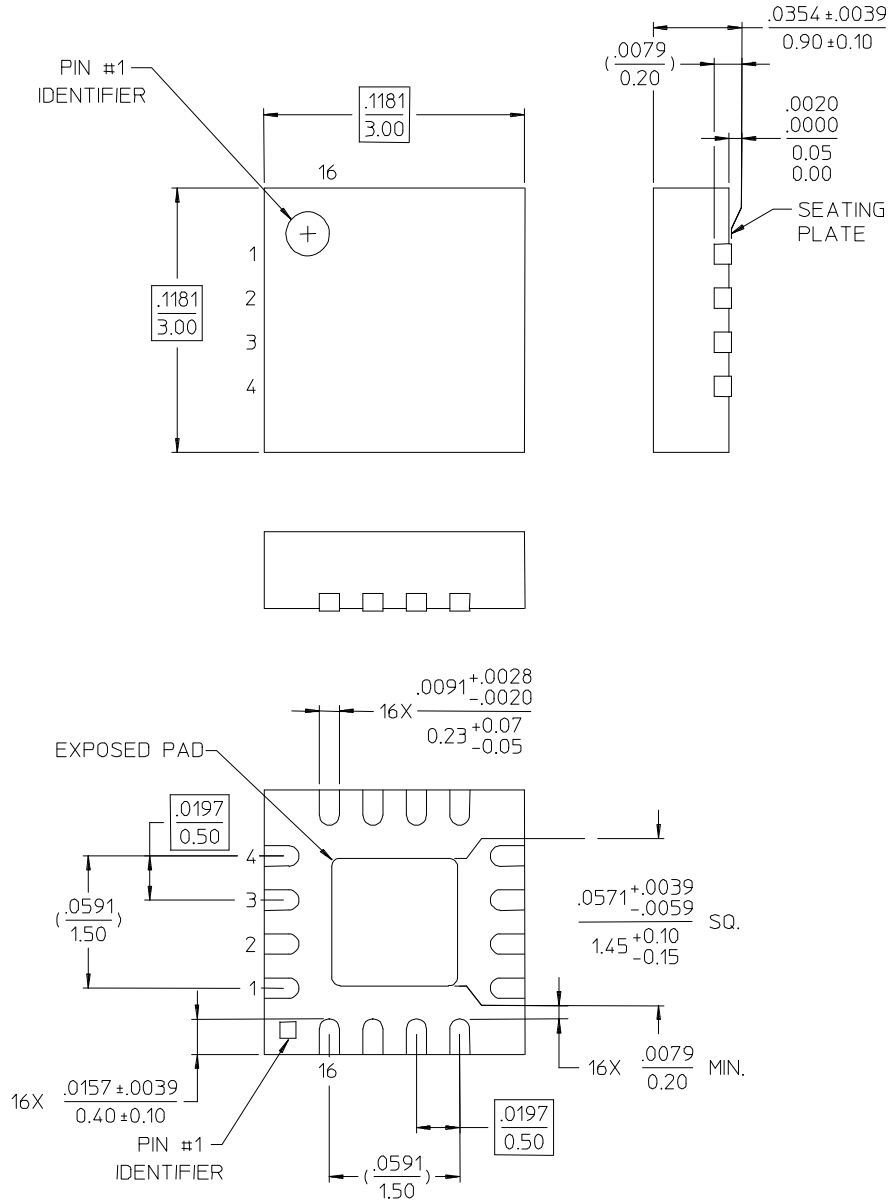
## Ordering Information

Part Number	Package
MA4DP918-1277	Bulk
MA4DP918-1277T	Tape and Reel

**Electrical Specifications @ 25 °C**

ANT - RF 900 (AMPS / GSM)				ANT - RF 1800 (PCS / DCS)			
Freq (MHz)	825	880	960	Freq (MHz)	1710	1880	1990
IL (dB) typ	0.55	0.63	0.88	IL (dB) typ	0.75	0.80	0.91
Freq (MHz)	1650	1760	1920	Freq (MHz)	825	880	960
2H Rej (dB) typ	34	28	20	Rej (dB) typ	35	44	33
Freq (MHz)	2475	2640	2880				
3H Rej (dB) typ	15	15	16				

### Package Dimensions



- NOTES: 1. RBFBRNCE JBDBC MO-220, VAR. VBBD-1 FOR ADDITIONAL DIMENSIONAL AND TOLERANCE INFORMATION.  
 2. RBFBRNCE S2083 APPLICATION NOTE FOR PCB FOOTPRINT INFORMATION.  
 3. ALL DIMENSIONS SHOWN AS INCHES/MM.