

MACP-010121-B8180X



E-Series RF 20dB Coupler
136 - 174 MHz Rev. V3

Features

- Typical 19dB Coupling
- Surface Mount
- Tape and reel packaging available
- 260°C Reflow Compatible
- Pb Free Solder to attach wires
- RoHS* compliant

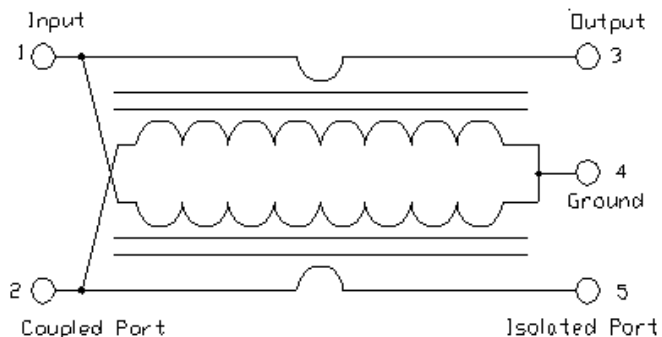
Description

M/A-COM Technology Solutions MACP-010121-B8180X is a RoHS Compliant 20dB RF coupler in a low cost, surface mount package. It offers low loss, good isolation, good input/output matching and exceptional coupling repeatability. Ideally suited for high volume cellular and wireless applications.

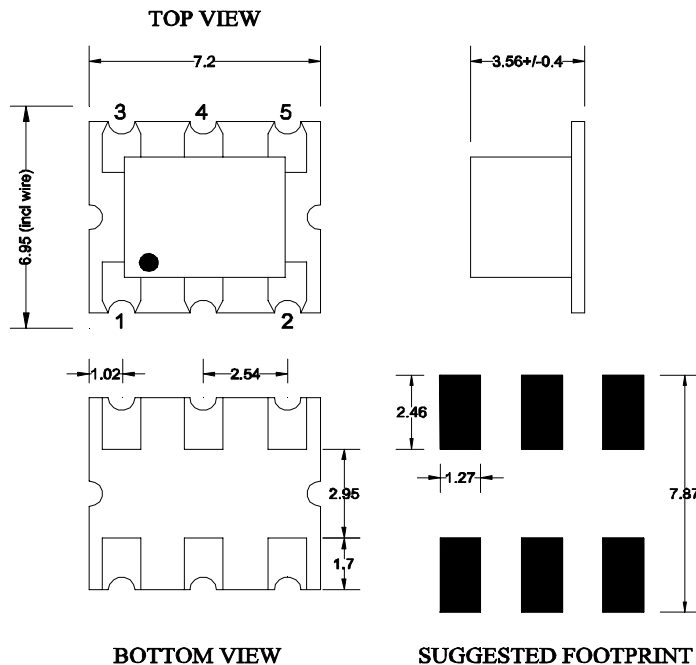
The MACP-010121-B8180X is available in a surface mount package and is designed to be utilized in a RoHS reflow profile.



Schematic



Component Dimension:



Pin Configuration

Pin No.	Function
1	Input
2	Coupled
3	Output
4	Ground
5	External 50 Ohms

Dimensions in mm, Tolerance: ± 0.2 mm, unless otherwise stated
Coplanarity spec of 0.25mm to customer PCB.
Drawing Not to Scale.

* Restrictions on Hazardous Substances, European Union Directive 2002/95/EC.

ADVANCED: Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.
PRELIMINARY: Data Sheets contain information regarding a product M/A-COM Technology Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available. Commitment to produce in volume is not guaranteed.

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Electrical Specifications: $T_A = 25^\circ\text{C}$, $Z_0 = 50\Omega$

Parameter	Test Conditions	Frequency	Units	Min.	Typ.	Max.
RF Frequency	—	136 - 174	MHz	—	—	—
Coupling	F_L — f_U	136 - 174	dB	—	19±1	—
Main Line Loss	F_L — f_U	136 - 174	dB	—	0.2	—
Directivity	F_L — f_U	136 - 174	dB	13	15	—

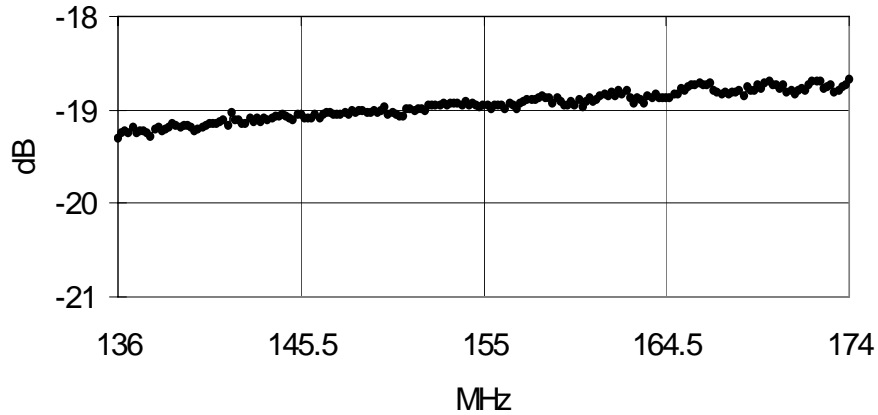
Recommended Maximum Ratings ^{1,2}

Parameter	Value
RF Power	7W
DC Current	240 mA ²
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +125°C

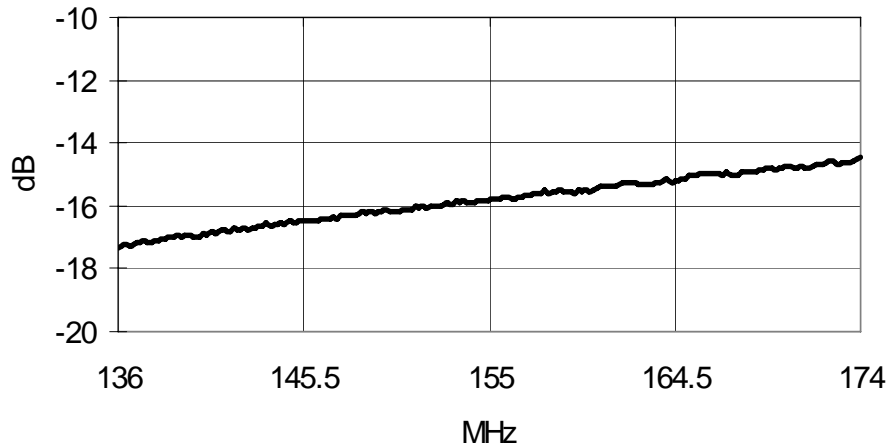
1. Exceeding any one or combination of these limits may cause permanent damage to this device.
2. M/A-COM Technology Solutions does not recommend sustained operation near these survivability limits.

Typical Performance Curves: $T_A = 25^\circ\text{C}$, $Z_0 = 50\Omega$

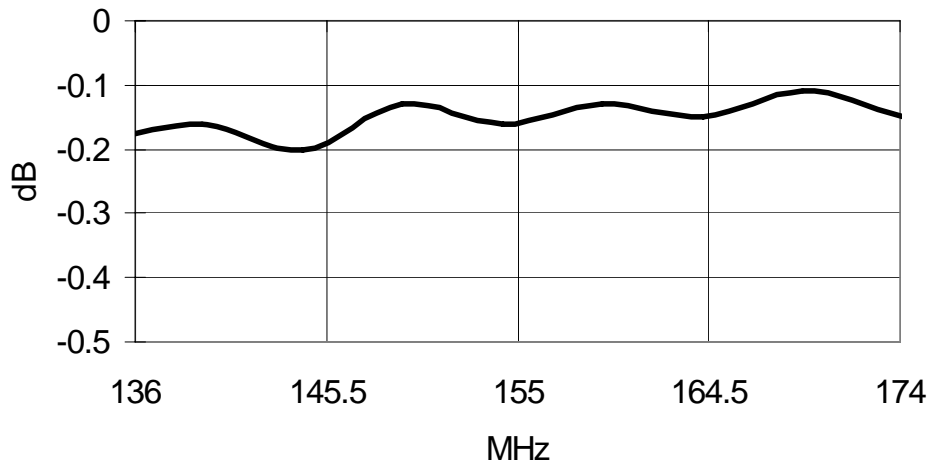
Coupling



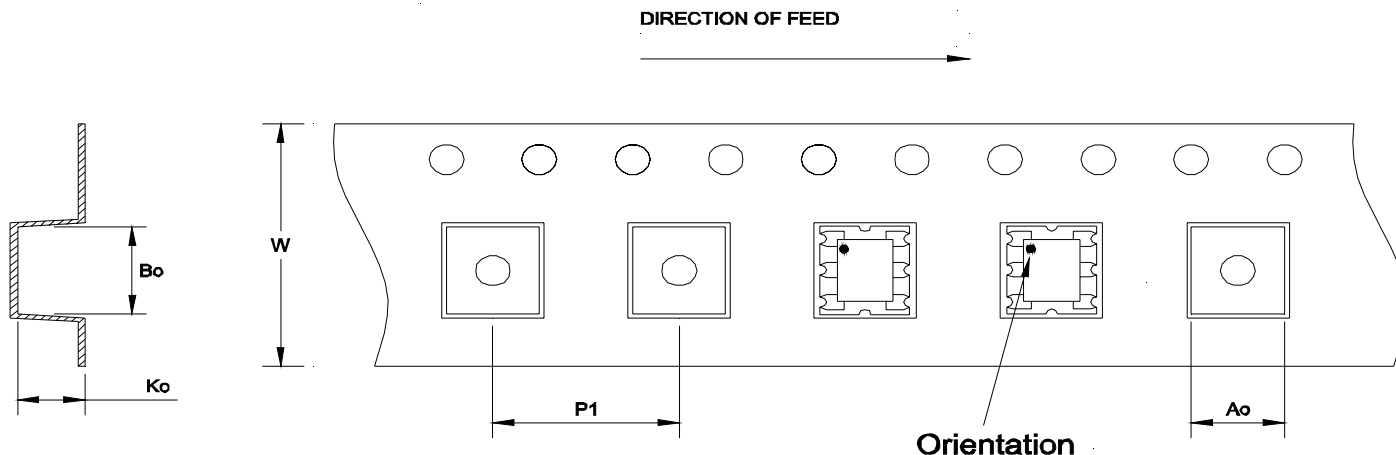
Directivity



Insertion Loss



Tape Specification:



Item	Dimension	Tolerance	Units
Ao	7.30	± 0.10	mm
Bo	7.40	± 0.10	mm
Ko	4.00	± 0.10	mm
W	16.00	± 0.30	mm
P1	12.00	± 0.10	mm

Ordering Information

Part Number	Package	Quantity
MACP-010121-B8180X	T&R	900