

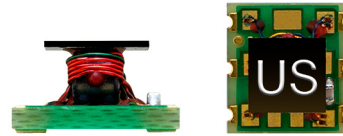
Surface Mount Directional Coupler

RDC-10-122-75X+

75Ω 10dB 5 to 1250 MHz

The Big Deal

- Low mainline loss, 1.2 dB
- High directivity, 20 dB
- Good Return Loss, 20 dB
- Excellent coupling flatness, ± 0.1 dB
- Supports DOCSIS® 3.1 Systems



CASE STYLE: TT2315

Product Overview

Mini-Circuits RDC-10-122-75X+ surface-mount directional coupler provides 10 dB coupling with excellent flatness, low mainline loss, high directivity, and good return loss for 75Ω applications from 5 to 1250 MHz, supporting a variety of broadband applications including DOCSIS 3.1 systems and equipment. This model features core and wire construction with wrap-around terminations for good solderability and easy visual inspection.

Key Features

Feature	Advantages
Broadband, 5 to 1250 MHz	Supports bandwidth requirements for DOCSIS 3.1 systems and equipment.
Low mainline loss, 1.2 dB	Provides excellent through-path signal transmission and maintains low heat dissipation, avoiding the need for special heat sinking methods.
Power handling, up to 1W	Usable in systems with a variety of signal power requirements.
Excellent return loss, 20 dB typ.	Provides excellent matching for 50Ω systems.
High directivity, 20 dB	High directivity allows accurate signal sampling through the coupled port with minimal measurement error.
Top Hat feature	Improves speed and accuracy of pick and place assembly.

Surface Mount Directional Coupler

75Ω 10dB 5 to 1250 MHz

RDC-10-122-75X+

Features

- wideband, 5-1250 MHz
- excellent return loss, 20 dB typ.
- low mainline loss, 1.2 dB typ.
- high directivity, 20 dB typ.
- excellent coupling flatness, ± 0.1 dB typ.
- aqueous washable

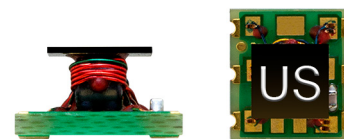
Applications

- DOCSIS 3.1
- cable tv

Electrical Specifications at 25°C

Parameter	Condition (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		5		1250	MHz
Mainline Loss ¹	5 - 1000 1000 - 1250	— —	1.1 1.3	1.6 1.8	dB
Coupling	5 - 1250	—	10	—	dB
Coupling Flatness (\pm)	5 - 1250	—	0.1	0.4	dB
Directivity	5 - 50 50 - 870 870 - 1250	19 15 12	21 20 18	— — —	dB
Return Loss (Input)	5 - 1250	15	18	—	dB
Return Loss (Output)	5 - 1250	17	21	—	dB
Return Loss (Coupling)	5 - 1250	15	19	—	dB
Input Power	5 - 1250	—	—	1.0	W

1. Mainline loss includes theoretical power loss at coupled port.



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+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Maximum Ratings

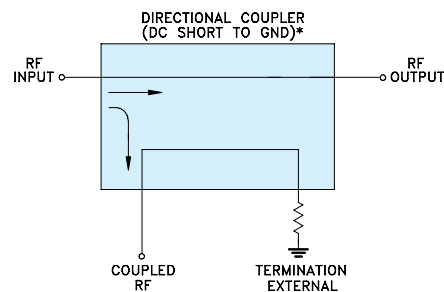
Parameter	Ratings
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C

Permanent damage may occur if any of these limits are exceeded.

Pin Connections

Function	Pin Number
INPUT	1
OUTPUT	6
COUPLED	3
GROUND	2
75Ω TERM EXTERNAL	4
ISOLATE (DO NOT USE)	5

Electrical Schematic



* ELECTRICAL SCHEMATIC IS FOR DIRECTIONAL COUPLER WITH INTERNAL TRANSFORMER(S) AND EXTERNAL TERMINATION.



