# Multilayer Organic (MLO®) SMT Crossovers MLO<sup>®</sup> SMT Crossovers **RF-DC**





## **GENERAL DESCRIPTION**

The MLO® SMT RF-DC Crossover is a very low profile crossover that intersects an RF and DC circuit trace in an SMT package. The RF-DC Crossover is a low cost solution for applications where a critical RF circuit trace intersects a DC circuit precluding the need for an expensive multilayer printed circuit board. The SMT package can support frequencies up to 6 GHz. MLO® crossovers have been subjected to JEDEC reliability standards and 100% electrically tested. The RF-DC crossovers are available in NiSn.

## **FEATURES**

- DC 6.0 GHz
- RF DC Crossover
- Low Loss
- . DC Isolation
- Surface Mountable
- Tape and Reel
- 100% Tested

#### **APPLICATIONS**

- Military and Commercial Radar
  - Medical Imaging Electronics
- · Communications Transmitter
- Optical Drivers
- **Excellent Solderability** • Low Parasitics •

**ADVANTAGES** 

· Inherent Low Profile

Better Heat Dissipation •

LAND GRID ARRAY

## TOP VIEW



## **HOW TO ORDER**



RoHS compliant

Frequency (GHz)	Port Impedance (ohms)	Ins. Loss (dB max)	Return Loss (dB min)	Power (Watts)	θJC (°C /Watts)	Operating Temperature (°C)
DC -2.5	50	0.05	20	30	140	-55 to +85
2.5 - 4.0	50	0.10	20	19	140	-55 to +85
4.0 - 6.0	50	0.15	15	9	140	-55 to +85

\* Specification based on performance of component assembled properly on printed circuit board with  $50\Omega$  nominal impedance.

## **OUALITY INSPECTION**

Finished parts are 100% tested for electrical parameters and visual characteristics.

## **TERMINATION**

NiSn compatible with automatic soldering technologies: Pb free reflow, wave soldering, vapor phase and manual.

- 55°C to +85°C

## **OPERATING TEMPERATURE**



The Important Information/Disclaimer is incorporated in the catalog where these specifications came from or available online at www.avx.com/disclaimer/ by reference and should be reviewed in full before placing any order.

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## **MECHANICAL OUTLINE**





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## **RF-DC SMT CROSSOVER PERFORMANCE: 0.3 GHZ TO 6 GHZ**







## **MOUNTING PROCEDURE**

MLO® SMT crossovers require  $50\Omega$  transmission lines leading to and from all of the RF ports. Proper grounding is required in order to ensure optimal device performance. If these conditions are not met then performance para-meters including insertion loss, return loss and any isolation may not meet published values. All of the MLO® components utilize castellated interconnects which allow for high yield assembly, expansion matched and halogen free dielectric. When mounting the user must be mindful of the following: a) ensure the RF pads of the device are in contact with the circuit trace of the printed circuit board and b) the ground plane of neither the component nor the PCB is in contact with the RF signal. Parts are specifically oriented in the tape and reel.

## **MOUNTING FOOTPRINT**

To ensure proper electrical and thermal performance there must be a ground plane with 100% solder connection underneath the part.



 $2 \times \text{TRANSMISSION LINES 50 } \Omega$ Dimensions are in mm (inches)



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