

DPX-0R5-2

Diplexer

DEVICE OVERVIEW

General Description

Available in either a connectorized or miniature surface mount package (0.240 inch x 0.150 inch), the DPX-0R5 is a low cost, high performance diplexer. The unique design offers high pass/low pass signal routing/multiplexing with excellent isolation. Passband insertion loss is less than 1.2 dB with rejection typically exceeding 25 dB. Besides being ideal for transmitter/receiver applications, the DPX-0R5 can also be used as an excellent non-reflective low pass (or high pass) filter for systems requiring broadband 50Ω impedance match (such as mixers).



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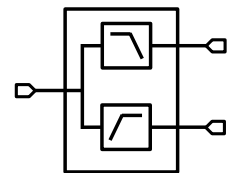
Features

- Low Insertion Loss
- Superior Repeatability
- Low Profile Miniaturized, Reflow Solderable Package Option
- User defined cross over frequencies available

Applications

- Reflectionless Filter Applications
- RF Transceivers

Functional Block Diagram



Part Ordering Options

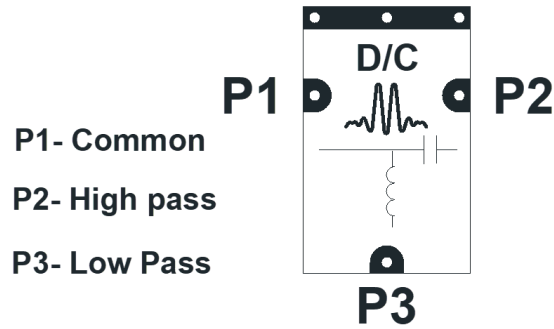
Part Number	Description	Package	Green Status	Product Lifecycle	Export Classification
DPX-0R5-1	Diplexer	DPX	RoHS REACH	Released	EAR99
DPX-0R5-2	Diplexer	DPX	RoHS REACH	Released	EAR99

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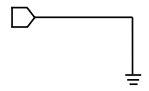
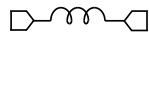
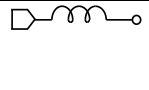
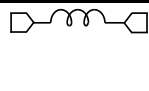
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Port Configuration and Functions

Port Diagram



Port Functions

Port	Function	Description	DC Equivalent Circuit
GND	Ground	DPX package ground is provided through the substrate and ground bond pads.	
Pin 1	Common/Input	Pin 2 is DC open to Pin 1 and short to Pin 3.	
Pin 2	High Pass Filter	Pin 1 is DC open to Pin 2 and Pin 3.	
Pin 3	Low Pass Filter	Pin 3 is DC open to Pin 1 and short to Pin 2.	

Specifications

Package Information

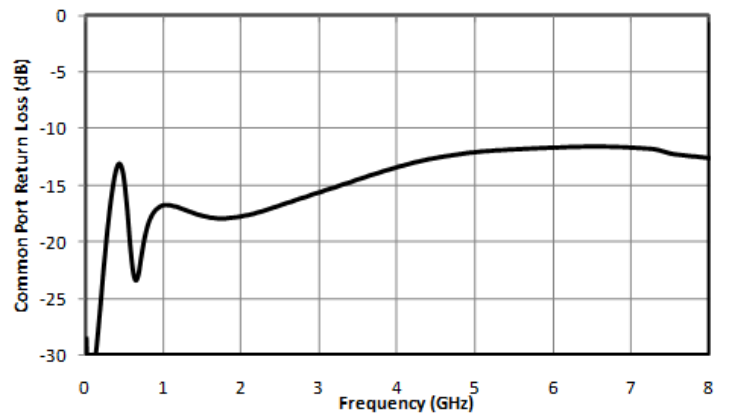
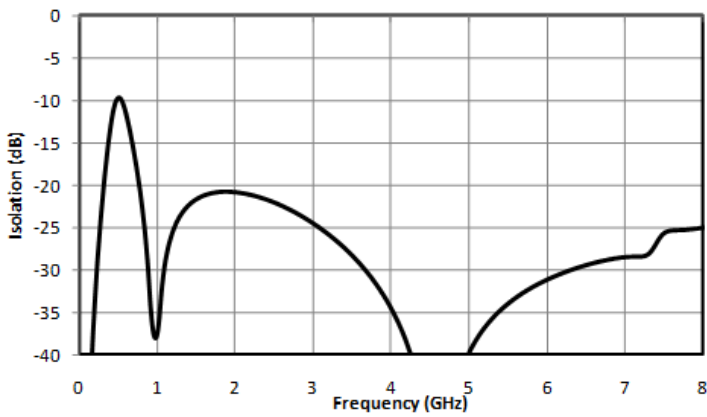
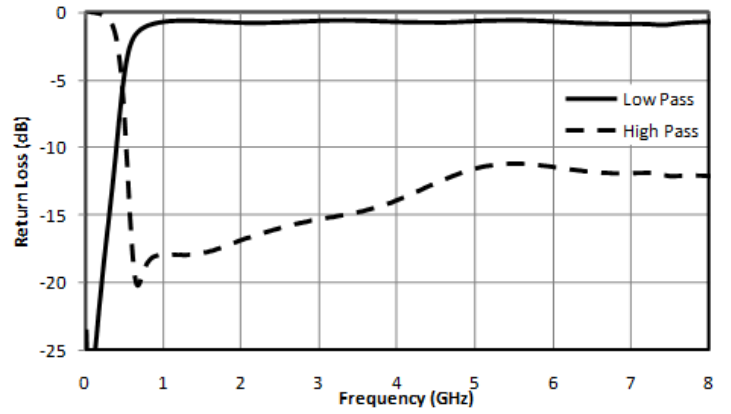
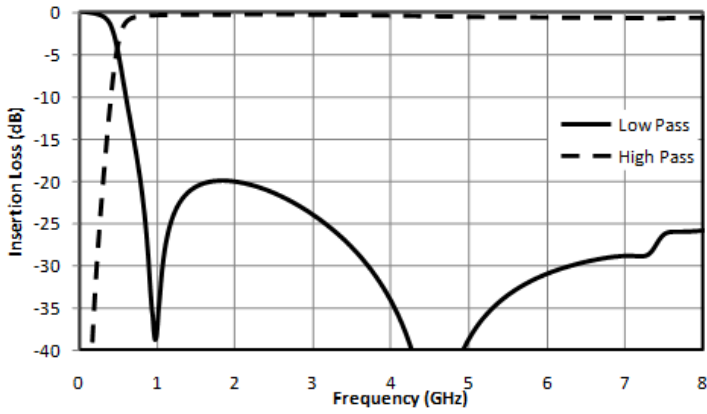
Parameter	Details	Rating
Dimensions	-	3.81 x 6.10 mm
Moisture Sensitivity Level	-	MSL 3

Electrical Specifications

Specifications guaranteed from -55 to +100°C, measured in a 50Ω system.

Parameter	Test Conditions	Minimum Frequency (GHz)	Maximum Frequency (GHz)	Min	Typ	Max	Unit
30 dBc Low Pass Rejection Point	<0.22 GHz	-	0.22	25	30	-	dB
30 dBc Low Pass Rejection Point	<0.36 GHz	-	0.36	-	18	-	dB
Common Port Return Loss	0.7 - 8 GHz	0.7	8	-	15	-	dB
Common Port Return Loss	DC - 0.36 GHz	0	0.36	-	18	-	dB
Cross Over Frequency	0.5 GHz	0.5	0.5	-	5	-	%
High Pass Filter, Pass Band Insertion Loss	0.7 - 8 GHz	0.7	8	-	0.8	1.6	dB
High Pass Filter, Pass Band Return Loss	0.7 - 8 GHz	0.7	8	-	15	-	dB
Isolation	<0.36 GHz	-	0.36	14	24	-	dB
Isolation	0.7 - 8 GHz	0.7	8	14	22	-	dB
Low Pass Filter, Pass Band Insertion Loss	DC - 0.36 GHz	-	-	-	0.8	1.6	dB
Low Pass Filter, Pass Band Return Loss	DC - 0.36 GHz	0	0.36	-	18	-	dB
Low Pass Filter, Stop Band Rejection	0.7 - 5 GHz	0.7	5	-	20	-	dB
Low Pass Filter, Stop Band Rejection	5 - 8 GHz	5	8	20	28	-	dB
RF Power	-	-	-	-	-	1	W
High Frequency Passband	-	-	-	0.7	-	8	GHz
Low Frequency Passband	-	-	-	0	-	0.36	GHz

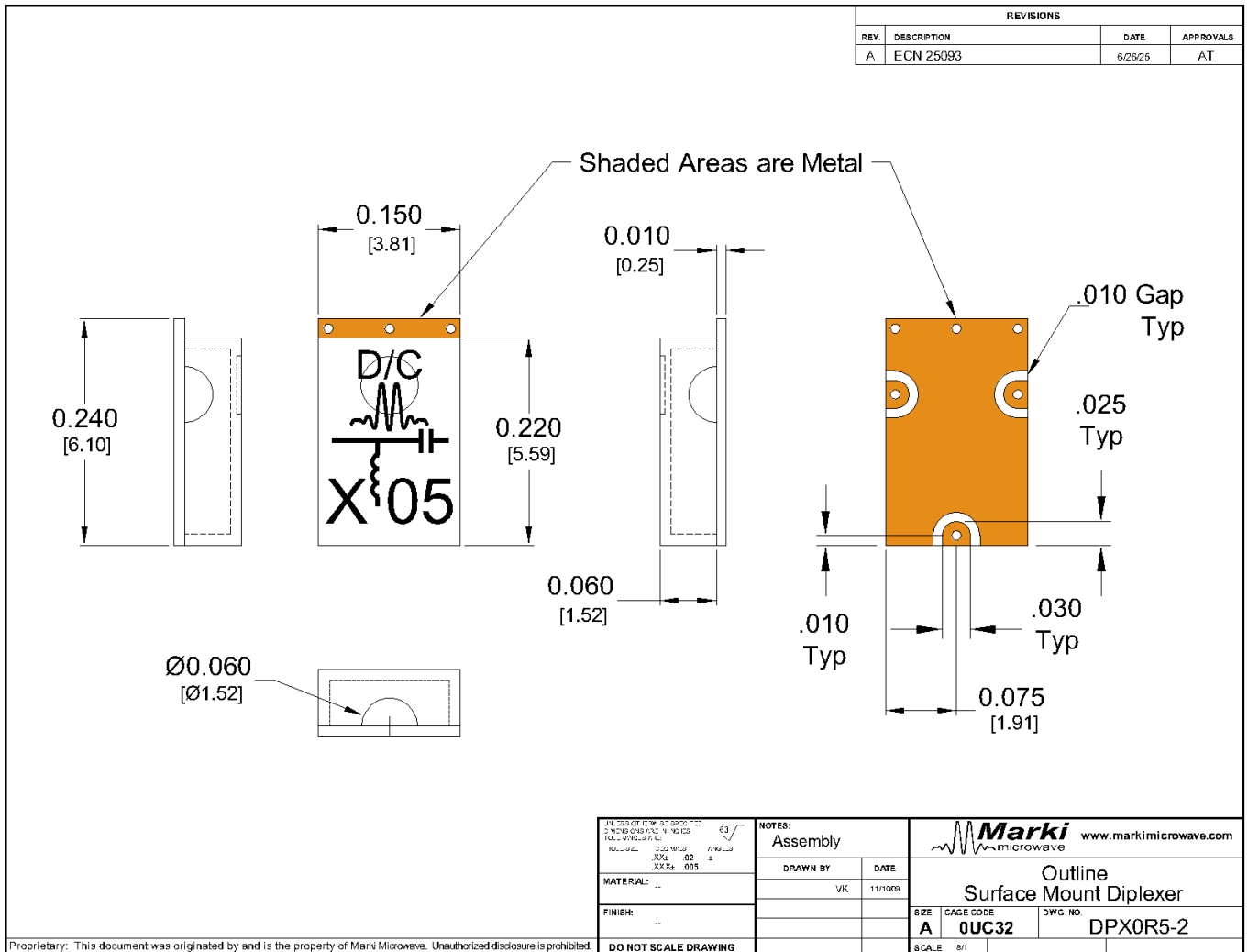
Typical Performance Plots



Mechanical Data

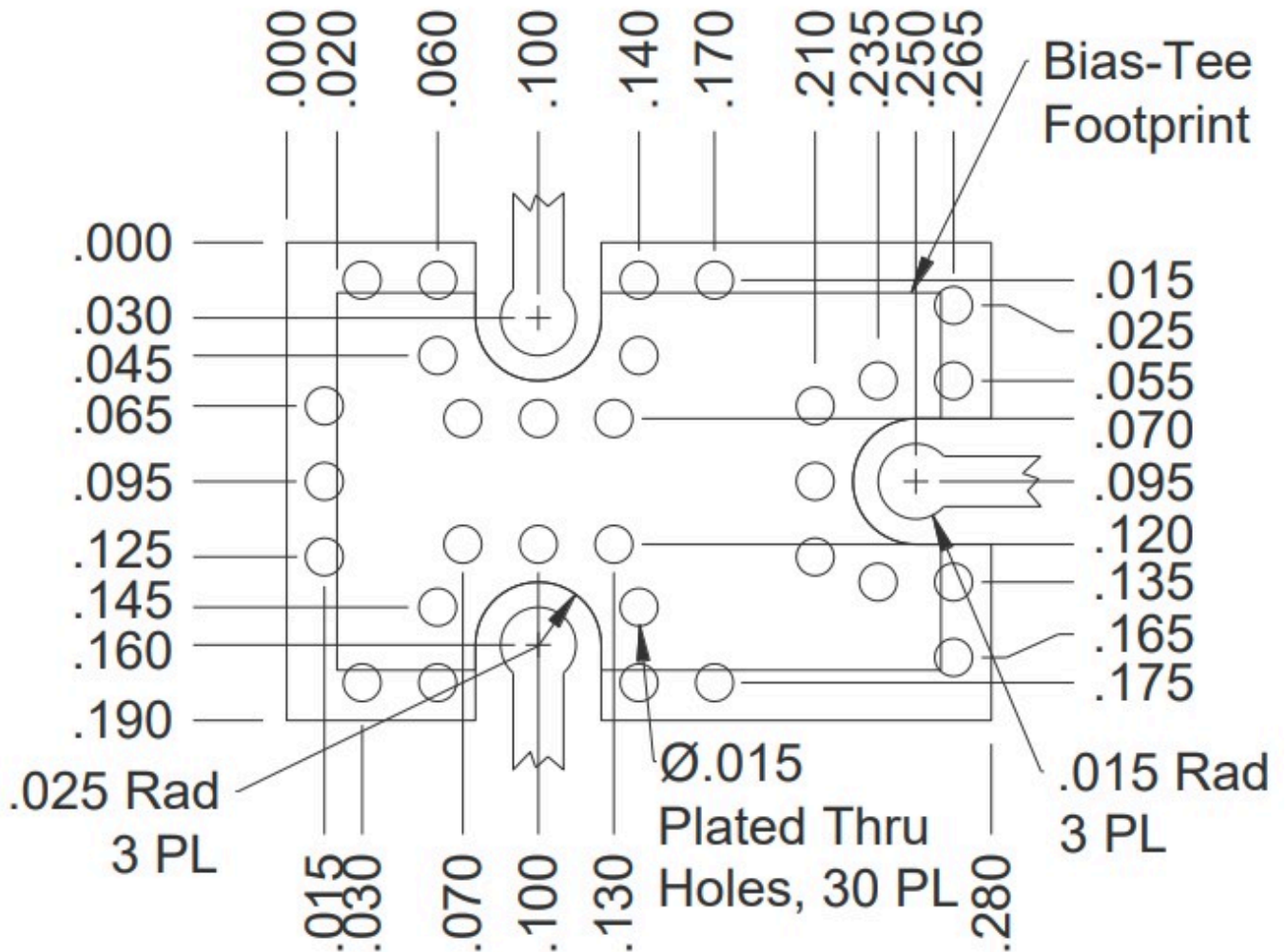
Outline Drawing

Download : [Outline 2D Drawing](#) | [Outline 3D Drawing](#) | [Outline 3D STP](#)



Footprint Image

Download: [Footprint Drawing](#)



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