

Description

YCPX2425 is a three-port filter element that separates two frequency ranges in a dual band. YCPX2425 are designed to achieve miniaturization and low insertion loss, while also supporting high functionality. They are also ideal for embedding in modules.

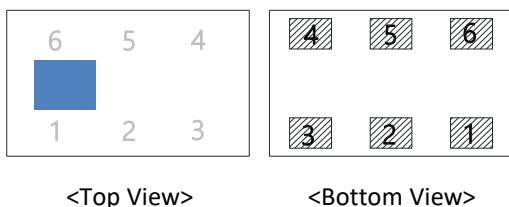
YCPX2425 using low temperature co-fired ceramics (LTCC) are available in a wide range of products with variations in frequency, shape and size, terminal structure, specification values, and more.

Applications

- ◆ Cellular Infrastructure
- ◆ Wi-Fi module
- ◆ Multi-band amplifiers
- ◆ ISM Band
- ◆ Test Instrumentation

Features

- ◆ 700 - 2370MHz, 2515 – 4200MHz
- ◆ Surface Mount Type
- ◆ RoHS Compliant



Electrical Specification

Parameter	Specification			Conditions	Unit
	Min.	Typ.	Max.		
Frequency (Low-Band)	700	-	2370	-	MHz
Frequency (High-Band)	2515	-	3600	-	MHz
Characteristic Impedance	-	50	-	-	Ω
Insertion loss	-	0.3	2.3	@ Low-Band	dB
	-	0.45	2.1	@ High-Band	dB
Common Port return loss	-	-26.6	-	@ 2515MHz	dB
Isolation (Terminal 1-3)	-	-15.8	-	@ 2515MHz	dB

Recommended Operating Condition

Parameter	Min	Typ	Max	Unit
Operating Temperature	-40	25	85	°C
Storage Temperature	-40		85	°C

Absolute Maximum Ratings

Parameter	Rating	Unit
Power Handling ¹⁾	2	W

Notes:

1) Pulsed CW, Duty 50%.

ESD Sensitivity Ratings

Parameter	SPEC	Conditions	Unit
Human Body Model	±1000	1000pF / 1500ohm	V
Machine Model	±150	200pF / 0ohm	V



Typical RF Performance (Low-Band)

Parameter	Specification			Conditions	Unit
	Min.	Typ.	Max.		
Insertion Loss	-	0.3	0.60	@ 700 - 1000MHz	dB
	-	0.8	1.2	@ 1710 - 2170MHz	dB
	-	1.8	2.3	@ 2300 - 2370MHz ¹⁾	dB
Ripple	-	0.12	0.25	@ 700 - 1000MHz	dB
	-	0.3	0.5	@ 1710 - 2170MHz	dB
	-	0.8	1.18	@ 2300 - 2370MHz	dB
Return Loss	10	14	-	@ 700 - 1000MHz	dB
	9	12	-	@ 1710 - 2170MHz	dB
	10	17	-	@ 2300 - 2370MHz	dB
Attenuation	5	15	-	@ 2515 - 2690MHz	dB
	15	18	-	@ 3300 - 3600MHz	dB

Typical RF Performance (High-Band)

Parameter	Specification			Conditions	Unit
	Min.	Typ.	Max.		
Insertion Loss	-	1.7	2.1	@ 2515 - 2690MHz ¹⁾	dB
	-	0.45	0.7	@ 3300 - 3600MHz	dB
Ripple	-	0.9	1.25	@ 2515 - 2690MHz	dB
	-	0.1	0.3	@ 3300 - 3600MHz	dB
Return Loss	12	23	-	@ 2515 - 2690MHz	dB
	10	17	-	@ 3300 - 3600MHz	dB
Attenuation	35	46	-	@ 700 - 1000MHz	dB
	15	23	-	@ 1710 - 2170MHz	dB
	9	13	-	@ 2300 - 2370MHz	dB

Notes:

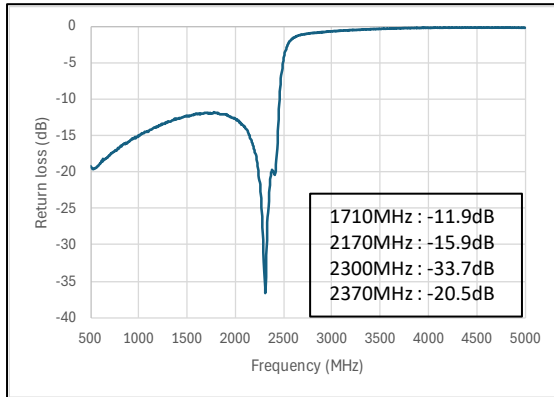
1) Refer to Insertion Loss : this graph includes the PCB's transmission line loss of 0.18dB at 2.3~2.7GHz.

Typical RF Performance

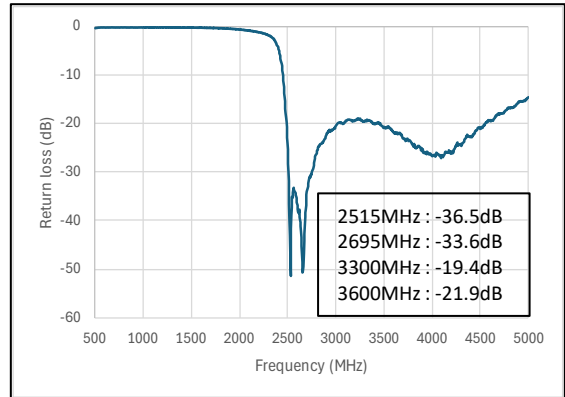
Parameter	Specification			Conditions	Unit
	Min.	Typ.	Max.		
Common Port Return Loss	10	14	-	@ 700 - 1000MHz	dB
	9	12	-	@ 1710 - 2170MHz	dB
	10	17	-	@ 2300 - 2370MHz	dB
	12	23	-	@ 2515 - 2690MHz	dB
	10	17	-	@ 3300 - 3600MHz	dB
Isolation (Terminal 1-3)	25	35	-	@ 700 - 1000MHz	dB
	10	14	-	@ 1710 - 2170MHz	dB
	8	15	-	@ 2300 - 2370MHz	dB
	8	12	-	@ 2515 - 2690MHz	dB
	14	17	-	@ 3300 - 3600MHz	dB

Performance Plots : Measured Data¹⁾

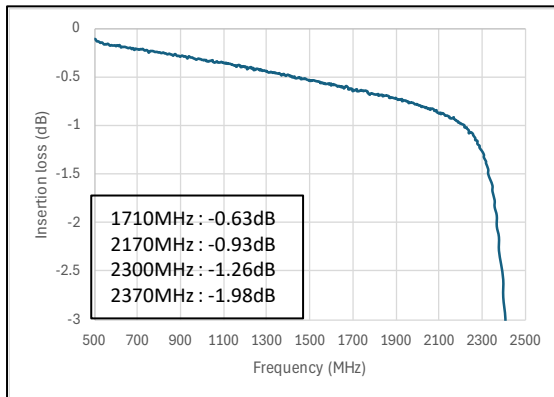
Low-Band Return loss



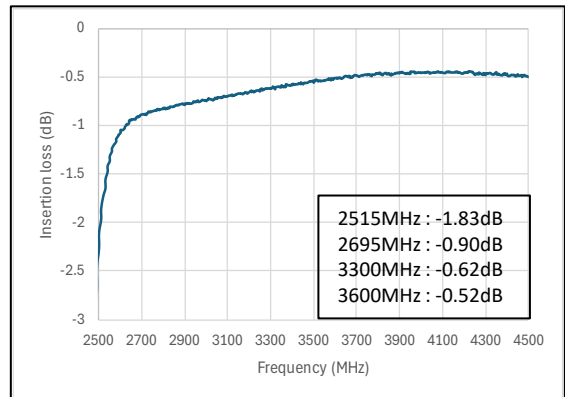
High-Band Return loss



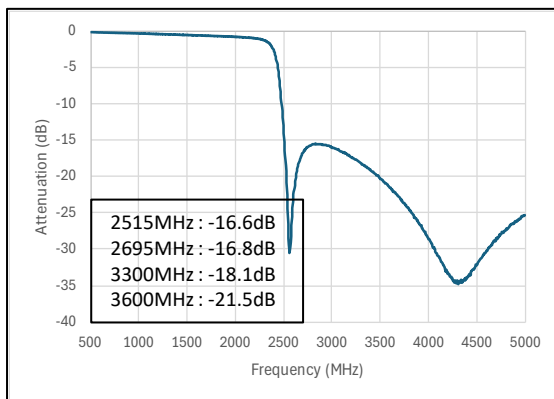
Low-Band Insertion loss



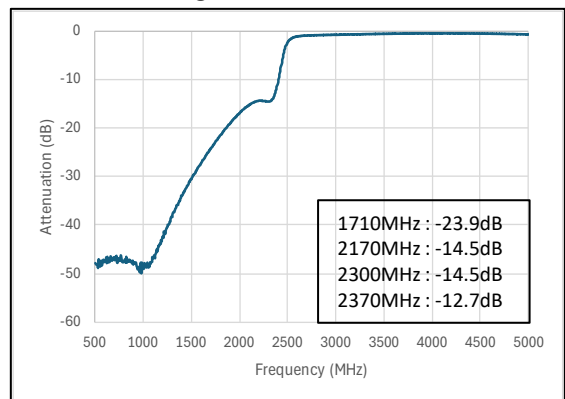
High-Band Insertion loss



Low-Band Attenuation



High-Band Attenuation

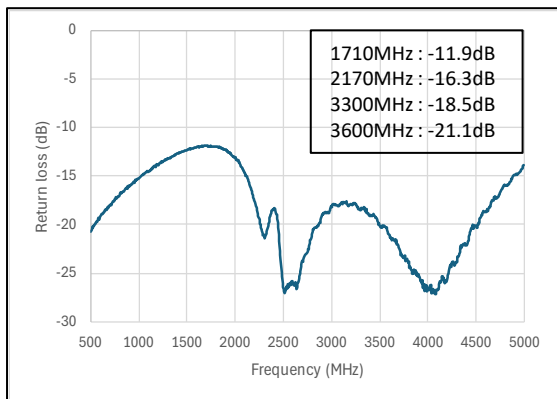


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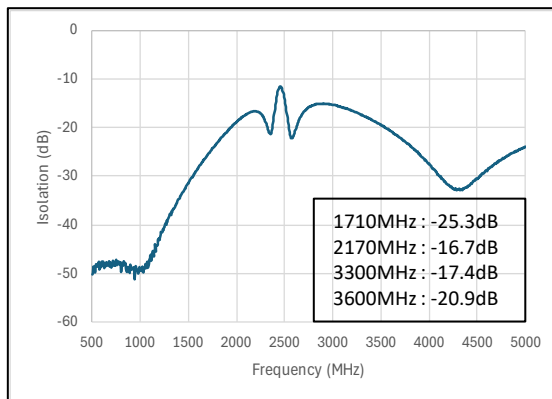
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Performance Plots : Measured Data

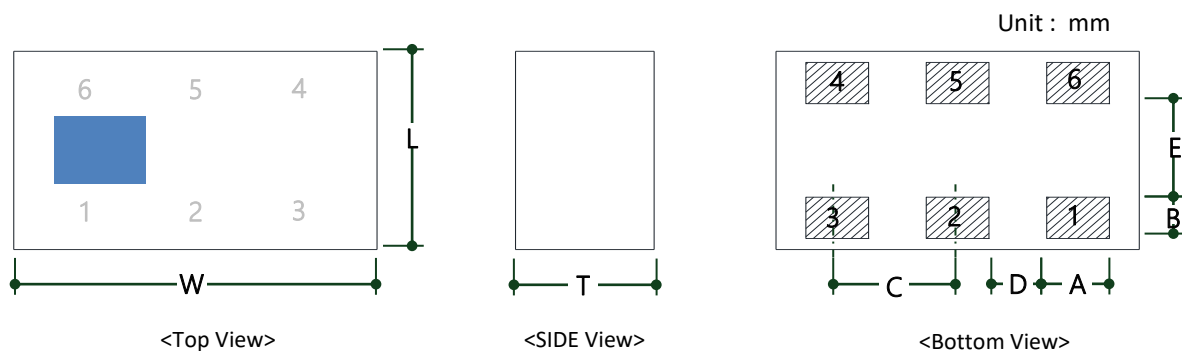
Common-Port Return loss



Isolation (Terminal 1-3)



Package Outline Drawing



Item	size	Item	size
W	3.50 ± 0.1	B	0.45 ± 0.1
L	2.15 ± 0.1	C	1.23 ± 0.1
T	Max 1.30	D	0.65 ± 0.1
A	0.59 ± 0.1	E	1.00 ± 0.1

Terminal Functions

Terminal	Function	Terminal	Function
1	Low-Band Port	4	GND
2	GND	5	Common Port
3	High Band Port	6	GND