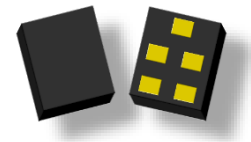


Product Features

- > Full Band 5G n41 CSP TRx Filter
- > Excellent Low Insertion Loss
 - 2.0dB (Typical @ 2496 ~ 2690MHz)
- > High Interference Rejection
 - 34dB (Typical @ Band3 Tx)
 - 24dB (Typical @ Band3 Rx)
 - 37dB (Typical @ Wi-Fi Ch 1 ~ 10)
- > Standard Size
 - 1.1 mm × 0.9 mm
- > HPUE Support
- > Operating Temperature
 - -30°C to +85°C
- > Storage Temperature
 - -40 °C to +85 °C
- > High MSL Level
 - MSL3
- > RoHS Compliance
- > ESD Voltage (V_{ESD})
 - HBM: 1250V



Application

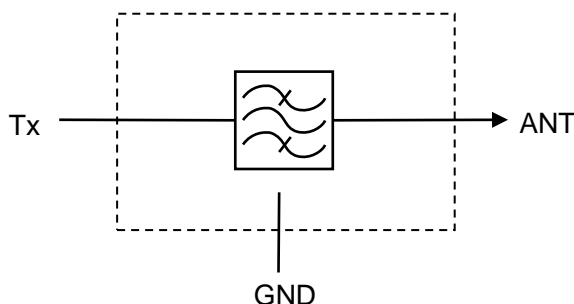
- > For 5G n41TRx
- > For TDD-LTE Band41TRx

Description

The EPICMEMS EP7241F is a high performance, high power bandpass filter Sili-BAW™ series products, designed for 5G n41 (2496 ~ 2690 MHz) application such as RF modules, smartphone and other mobile devices.

The EP7241F is designed with EPICMEMS advanced bulk acoustic wave (BAW) resonator technology, accomplishing the bandpass filter with low insertion loss and steep roll off.

Functional Block Diagram

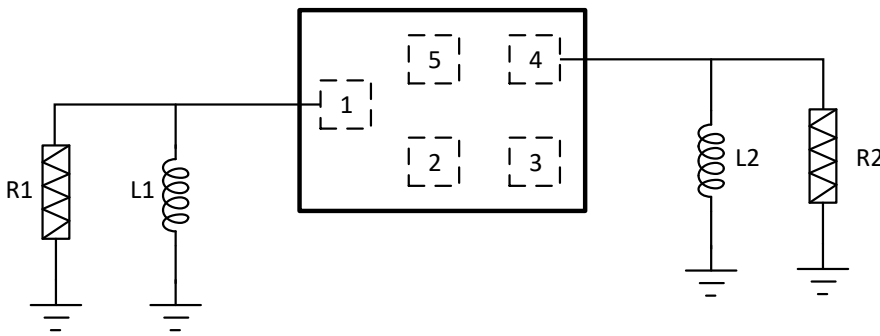


MAXIMUM RATINGS

CHARACTERISTICS	RATINGS	UNITS	NOTES
DC Permissive Voltage	5	V	
Maximum Input Power	32	dBm	55°C, CW Signal, 5000hrs
Operating Temperature Range	-30 to +85	°C	
Storage Temperature Range	-40 to +85	°C	

Reference Circuit for Measurement

Top View



Pin connection	
(1)	Input
(4)	Output
(2)(3)(5)	GND
R1	50ohm
R2	50ohm
L1	2.2nH
L2	2.4nH

* Ideal Inductor

Electrical Specifications [1]

Center Frequency (f ₀): 2593 MHz, -30 to +85°C					
Parameters Description	Unit	Min	Typ	Max	Note
Insertion Loss					
2496 ~ 2690 MHz	dB		2.0	2.7	+25°C
2496 ~ 2690 MHz	dB		2.0	3.2	-30 to +85°C
2515 ~ 2675 MHz	dB		1.6	2.5	+25°C
2620 ~ 2690 MHz	dB		1.6	2.4	+25°C
Ripple Deviation					
2496~ 2690 MHz	dB		0.8	1.5	-30 to +85°C
Attenuation					
450 ~ 960MHz	dB	33	44		
1000 ~ 1710 MHz	dB	25	32		
1710~1785MHz	dB	25	34		B3 TX
1805~1880MHz	dB	20	24		B3 RX
1920~ 1980 MHz	dB	12	16		B1TX
2401 ~ 2453 MHz	dB	30	37		(Wi-Fi Ch 1~7)
2436 ~ 2468 MHz	dB	20	37		(Wi-Fi Ch 8~10)
2451 ~ 2473 MHz	dB _{int} ^[2]	12	36		(Wi-Fi Ch 11) +25°C ,Any 18MHz BW
3300 ~ 4000 MHz	dB	14	21		
4000 ~ 4992 MHz	dB	25	33		
4992 ~ 5380 MHz	dB	28	37		2f
5380 ~ 7488 MHz	dB	15	20		
7488 ~ 8000 MHz	dB	15	19		3f
VSWR					
VSWR_ANT			1.5	2.3	
VSWR_TX			1.6	2.3	

Note :

[1] Min./Max. specifications are guaranteed at the indicated temperature, unless otherwise noted

[2] dB_{int} is the average value (arithmetic mean) of the parameter over the indicated band at 25°C, which is calculated by expression = 1/B * [S(f1)+S(f1+1MHz)+ · +S(fB-1MHz)+ S(fB)]

Typical Performance at T = 25°C

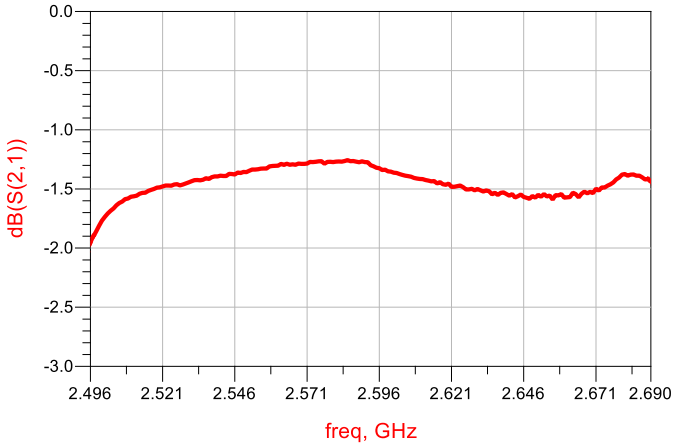


Figure 1. Passband Insertion Loss, 2496 – 2690MHz

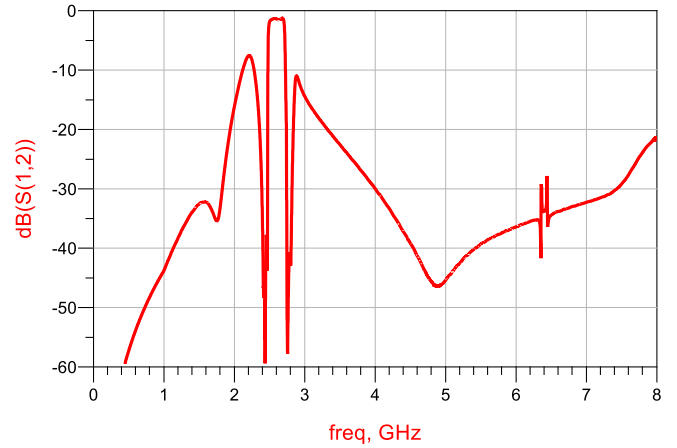


Figure 2. Wideband Attenuation, 450 – 8000 MHz

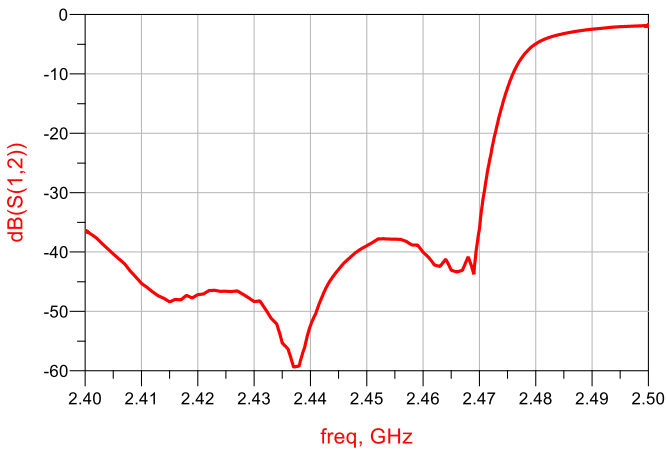


Figure 3. Attenuation, Wi-Fi Band, 2400 – 2500 MHz

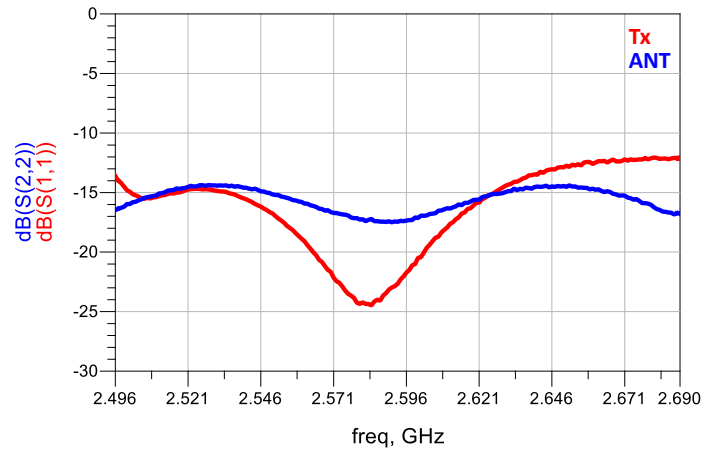


Figure 4. Tx/ANT Return Loss, Band 41, 2496 – 2690 MHz

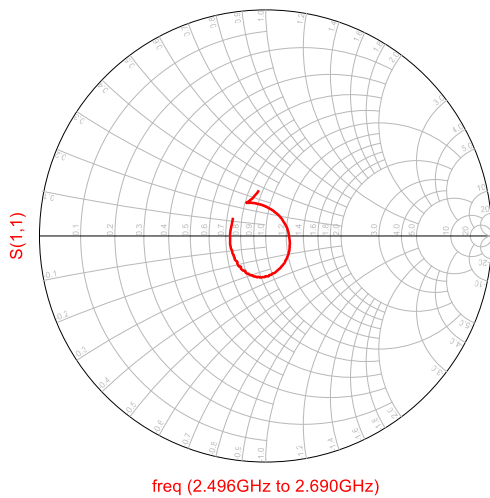


Figure 5. Tx, 3GPP Band 41, 2496 – 2690 MHz

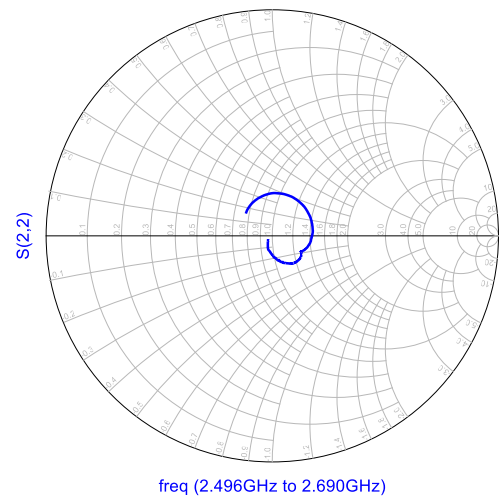
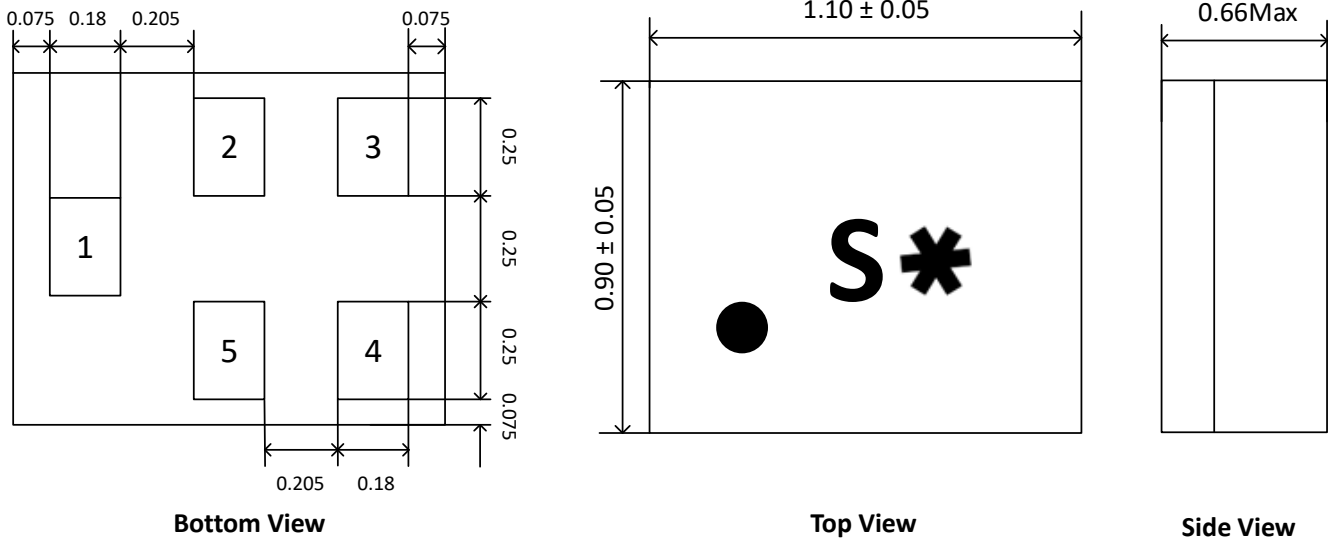


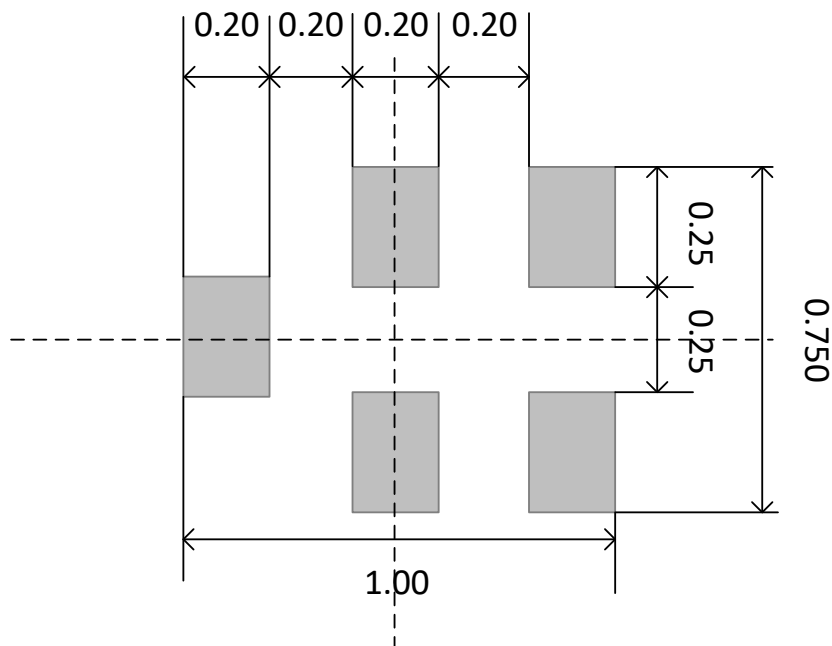
Figure 6. ANT, 3GPP Band 41, 2496 – 2690 MHz

Dimensions (Unit: mm)

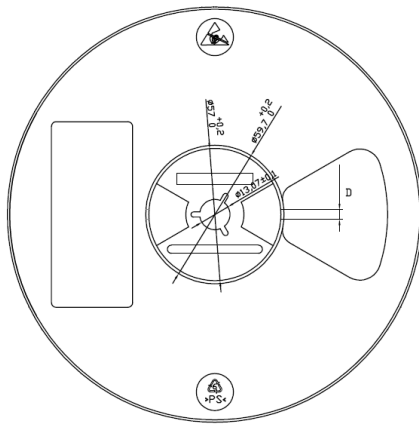
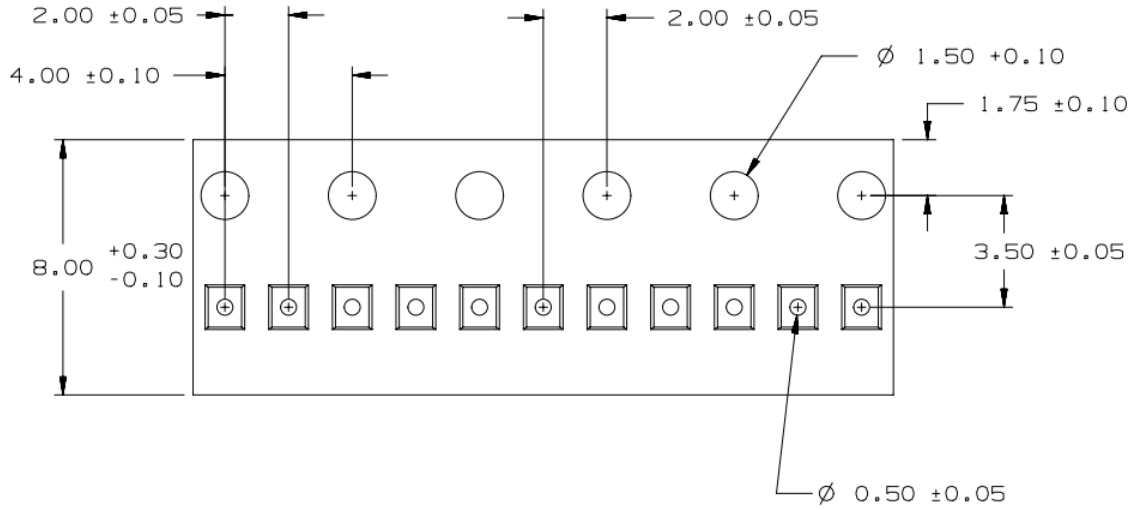


- ●
-This Symbol indicates input pin 1
- S*
-The 1st Character 'S' indicates the model name of EP7241F
-The 2nd Character '*' indicates the DC

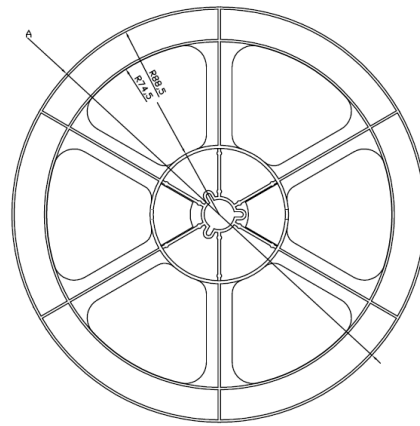
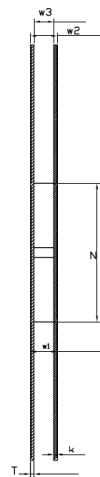
Example of Land Pattern (Unit: mm)



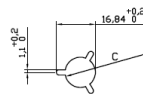
Packing & Marking Detail (Unit: mm)



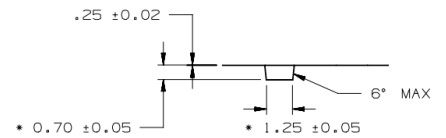
产品正面



产品反面



A₀



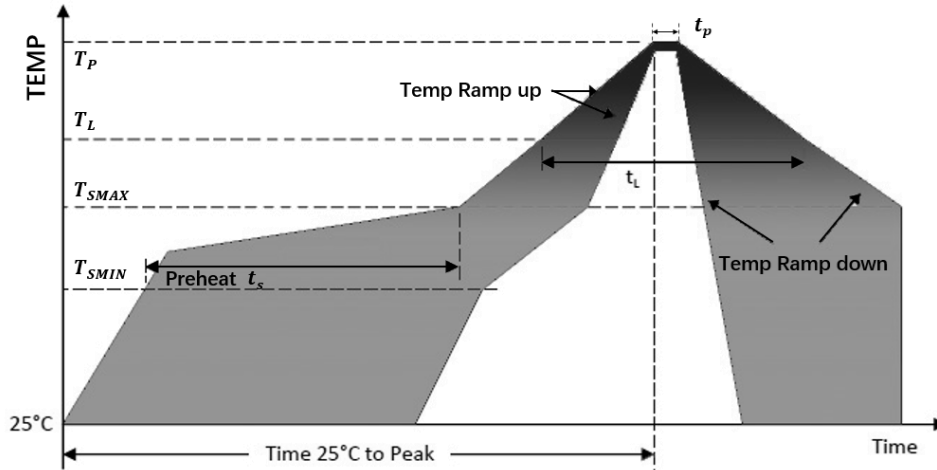
K₀

B₀

Type	A	N	C	D	w1	w2	w3	T	k
8mm	Ø180 ⁺² ₋₂	Ø60 ⁺¹ ₋₁	Ø13.1 ^{+0.2} _{-0.2}	Ø4.2 ^{+0.5} _{-0.5}	8.4 ⁺¹ ₋₀	11.6 ⁺¹ ₋₁	8.75 ⁺¹ ₋₁	1.5 ^{+0.15} _{-0.15}	1.25 ^{+0.1} _{-0.05}

Reeling Quantity: 10000pcs/reel

Recommended Reflow Profile



Profile Feature	Pb-Free
Average Ramp-up rate (T_{SMAX} to T_P)	3°C/second max.
Preheat	
- Temperature Min (T_{SMIN})	150°C
- Temperature Max (T_{SMAX})	200°C
- Time (T_{SMIN} to T_{SMAX}) (t_s)	60-180 seconds
Time maintained above:	
- Temperature (T_L)	217°C
- Time (t_l)	60-150 seconds
Peak Temperature (T_P)	260°C
Time within 5°C of actual Peak Temperature (t_p)	20-40 seconds
Ramp-down rate (T_P to T_{SMAX})	6°C/second max
Time 25°C to Peak Temperature	8 minutes max

Related Products

Part No.	Description	Package
EP7041F	Band 41 BAW 194M MHz TRx Filter	1.4mm x 1.1mm
EP7040	Band 40 BAW TRx Filter	1.1mm x 0.9mm
EP70W2	Wi-Fi 2.4G BAW TRx Filter	1.1mm x 0.9mm
EP7002	Band 2 BAW Duplexer	1.8mm x 1.4mm
EP7003	Band 3BAW Duplexer	1.8mm x 1.4mm
EP7007	Band 7 BAW Duplexer	1.8mm x 1.4mm
.....

Important Notes

- > All data or information contained herein are subject to change without prior notice. Please contact EPICMEMS for further details of product specification.
- > Customers should conduct validation and verification of our products in actual condition of mounting and operating environment before placing orders for EPICMEMS products.
- > The information contained herein or any use of such information does not grant, explicitly or implicitly, to any party any patent rights, licenses, or any other intellectual property rights, whether with regard to such information itself or anything described by such information.
- > EPICMEMS products are not warranted or authorized for use as critical components in medical, life-saving, or life sustaining applications, or other applications where a failure would reasonably be expected to cause severe personal injury or death.
- > The contents of this specification are applicable to our products which are purchased from our sales offices or authorized distributors (hereinafter "EPICMEMS's official sales channel"). Please note that the contents of this specification are not applicable to our products purchased from any seller other than EPICMEMS's official sales channel.

Revision History

Version	Specification Changes	Date (Y/M/D)
1.0	Initial RF Datarelease	2020/07/15
1.1	Update General Information	2020/08/01
2.0	Update General Information	2021/01/20
2.1	Update General Information	2021/04/13

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