Engineering Development Model

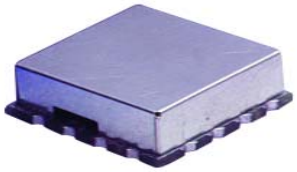
BandPass Filter BPF-EDU0980

Surface Mount

Important Note

This model has been designed, built and tested in our engineering department. Performance data represents model capability.
At present it is a non-catalog model. On request, we can supply a final specification sheet, part number and price/delivery information.

Please click "Back", and then click "Contact Us" for Applications support.

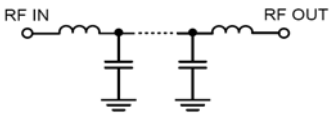


CASE STYLE : CK1113

ELECTRICAL SPECIFICATIONS 50Ω @ +25°C

Parameter	Min.	Typ.	Max.	Units
Passband (Loss < 3 dB)	610		780	MHz
Centre Frequency		695		MHz
Low Band (Loss > 40 dB)	DC		480	MHz
Low Band (Loss > 20 dB)	480		520	MHz
High Band (Loss > 20 dB)	910		1010	MHz
High Band (Loss > 40 dB)	1010		3000	MHz
Passband VSWR		1.5		(:1)
Stopband VSWR		20		(:1)

Functional Schematic



MAXIMUM RATINGS

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	0.5 W

PIN CONNECTIONS

Input	2
Output	10
Not Connected	14
Case Ground	1,3,4,5,6,7,8,9,11,12,13,15,16

Band Pass Filter BPF-EDU0980

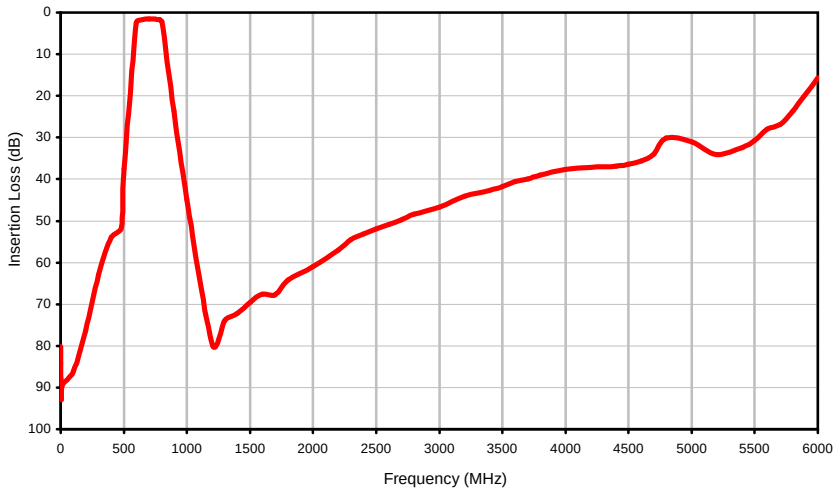
Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	RETURN LOSS (dB)
0.5	80.19	0.01
1.0	84.19	0.00
3.0	90.03	0.00
5.0	92.89	0.00
10.0	89.63	0.01
100.0	86.05	0.01
200.0	76.28	0.03
300.0	62.94	0.08
400.0	53.98	0.19
480.0	51.49	0.52
500.0	37.46	0.73
600.0	2.45	13.75
610.0	2.06	15.92
700.0	1.60	17.01
780.0	1.76	14.39
800.0	2.20	10.83
900.0	23.72	0.62
1000.0	44.82	0.33
1200.0	79.74	0.28
1300.0	74.11	0.27
1400.0	72.17	0.28
1500.0	69.58	0.30
1600.0	67.52	0.29
1700.0	67.70	0.29
1800.0	64.14	0.31
2000.0	61.04	0.27
2200.0	57.01	0.30
2300.0	54.56	0.29
2400.0	53.20	0.29
2500.0	51.97	0.27
2600.0	50.89	0.29
2700.0	49.79	0.28
2800.0	48.46	0.28
3000.0	46.70	0.33
3200.0	44.14	0.38
3400.0	42.69	0.43
3500.0	41.80	0.45
3600.0	40.62	0.50
3700.0	39.93	0.52
3800.0	38.96	0.58
4000.0	37.57	0.69
4200.0	37.22	0.77
4400.0	36.87	0.79
4500.0	36.48	0.79
4600.0	35.61	0.78
4700.0	33.93	0.77
4800.0	30.08	0.83
5000.0	31.04	0.75
5200.0	34.03	0.71
5400.0	32.48	0.73
5500.0	30.69	0.77
5600.0	28.02	0.80
5700.0	26.91	1.01
5800.0	23.66	0.86
6000.0	15.66	0.94

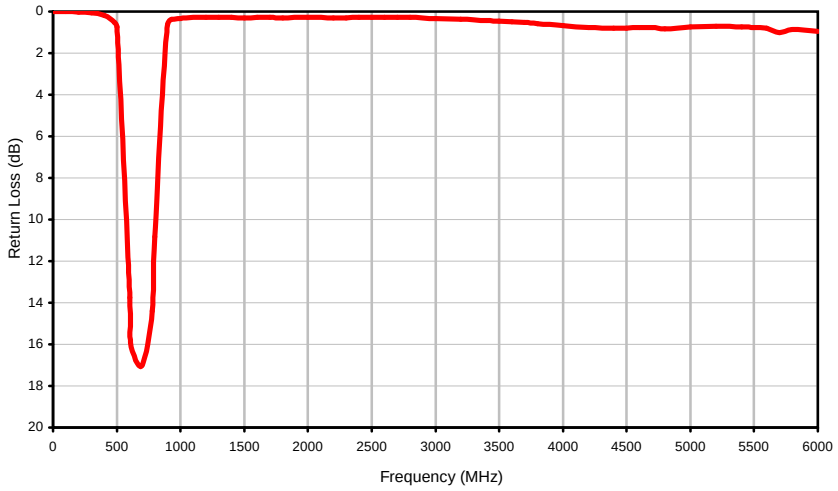
FREQUENCY (MHz)	GROUP DELAY (nsec)
610.0	6.36
615.0	6.08
620.0	5.83
625.0	5.60
630.0	5.39
635.0	5.19
640.0	5.03
645.0	4.88
650.0	4.77
655.0	4.66
660.0	4.60
665.0	4.56
670.0	4.51
675.0	4.49
680.0	4.46
685.0	4.46
690.0	4.45
695.0	4.42
700.0	4.41
705.0	4.40
710.0	4.38
715.0	4.38
720.0	4.36
725.0	4.37
730.0	4.38
735.0	4.39
740.0	4.44
745.0	4.52
750.0	4.59
755.0	4.67
760.0	4.78
765.0	4.88
770.0	4.96
775.0	5.04
780.0	5.10
785.0	5.13
790.0	5.20

Typical Performance Curves

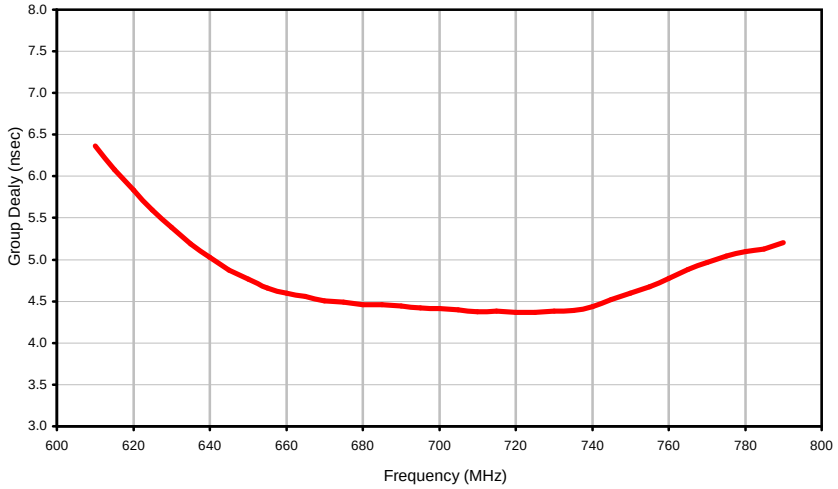
Insertion Loss



Return Loss



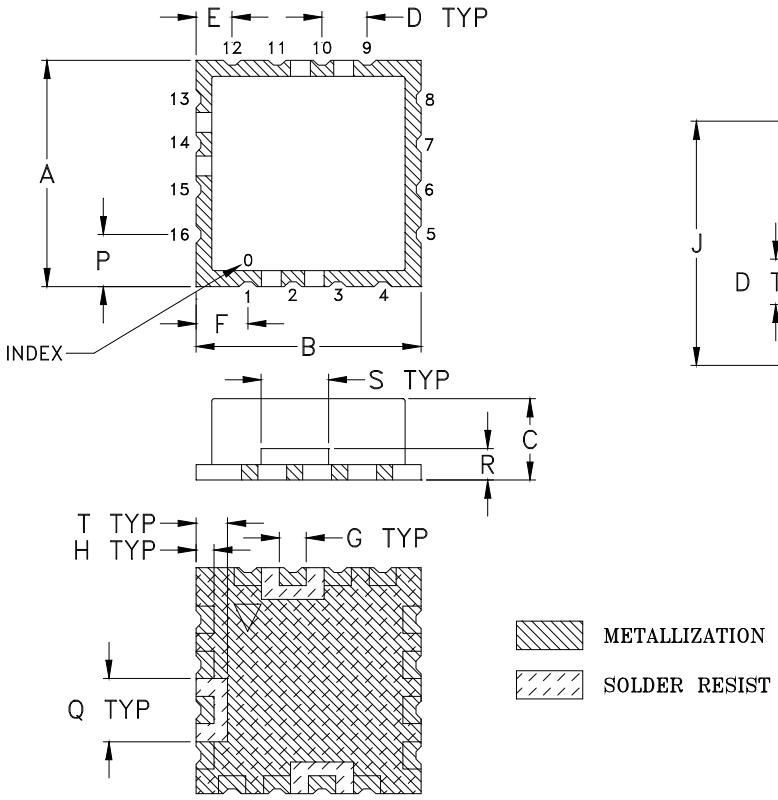
Group Delay



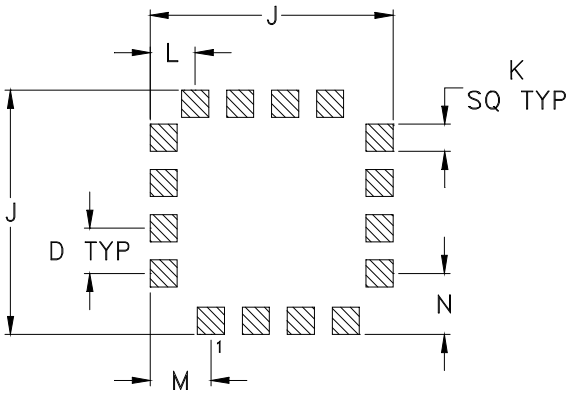
Case Style CK

CK1113

Outline Dimensions



PCB Land Pattern



Suggested Layout,
Tolerance to be within ±.002

CASE #	A	B	C	D	E	F	G	H	J	K
CK1113	.500 (12.70)	.500 (12.70)	.220 (5.59)	.100 (2.54)	.080 (2.03)	.115 (2.92)	.060 (1.52)	.040 (1.02)	.540 (13.72)	.060 (1.52)

CASE #	L	M	N	P	Q	R	S	T	WT. GRAM
CK1113	.100 (2.54)	.135 (3.43)	.135 (3.43)	.115 (2.92)	.140 (3.56)	.070 (1.78)	.150 (3.81)	.070 (1.78)	1.2

Dimensions are in inches (mm). Tolerances: 2 Pl. ± .03; 3Pl. ± .015

Notes:

1. Case material: Nickel-Silver alloy.
2. Base: Printed wiring laminate.
3. Termination finish:
   For RoHS Case Styles: 3-5 µ inch (.08-.13 microns) Gold over 120-240 µ inch (3.05-6.10 microns) Nickel plate. All models, (+) suffix.

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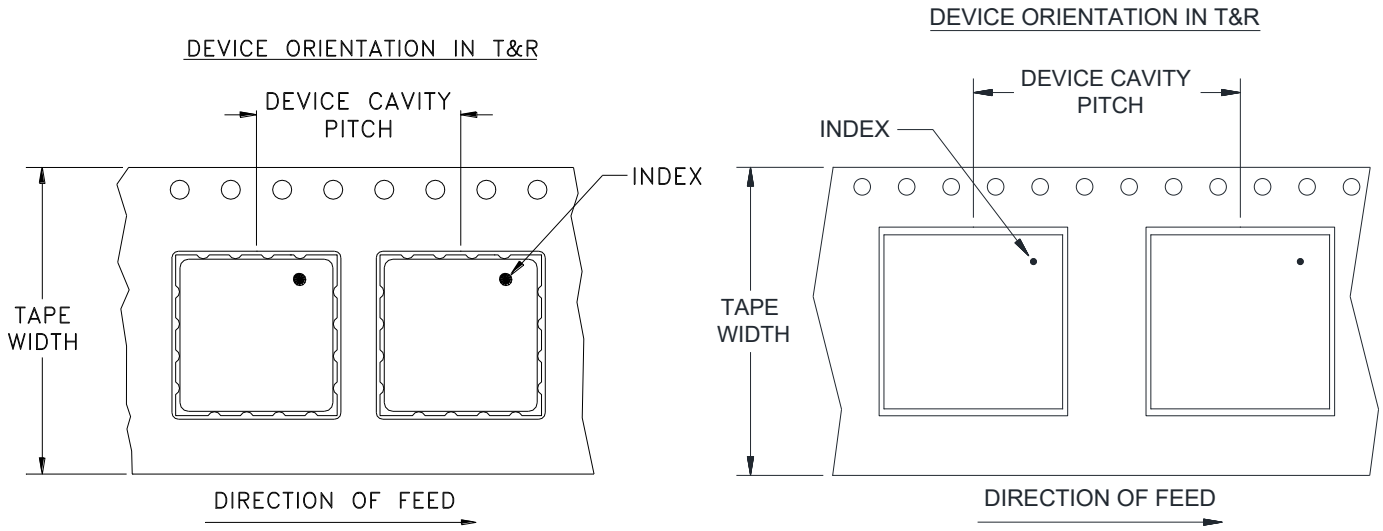
Tape & Reel Packaging TR-F37



Tape Width, mm	Device Cavity Pitch, mm	Reel Size, inches	Devices per Reel	
24	16	7	Small quantity standards (see note)	10
				20
				50
				100
		13	Standard	200
				500

Note: Please consult individual model data sheet to determine device per reel availability.

Mini-Circuits carrier tape materials provide protection from ESD (Electro-Static Discharge) during handling and transportation. Tapes are static dissipative and comply with industry standards EIA-481/EIA-541.

Go to: www.minicircuits.com/pages/pdfs/tape.pdf

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Environmental Specifications ENV12

All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-40° to 85° C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-65° to 150° C Ambient Environment	Individual Model Data Sheet
Autoclave	15 psig, 100% RH, 121°C, 96 hours	JESD22-A102-C, Condition C
Temperature Cycling	-65° to 150°C, 100 cycles	JESD22-A104
Temperature Humidity	85°C/ 85% RH, 168 hours	JESD22-113
Solder Reflow Heat	Sn-Pb Eutetic Process: 240°C peak Pb-Free Process: 260°C peak	J-STD-020, Table 4-1, 4-2 and 5-2; Figure 5-1
Moisture Sensitivity: Level 1	Bake at 125°C for 24 hours Soak at 85°C/85% RH for 168 hours, Reflow 3 cycles at 240°C peak (Non-RoHS) or 260°C (RoHS)	J-STD-020
Solderability	10X magnification, 95% coverage	JESD22-B102, Method 1: Dip and Look Test
Mechanical Shock	50g, 11 ms, 1/2-sine, 18 shocks: 3 each direction, each of 3 axes	MIL-STD-202, Method 213, Condition A
Vibration (High Frequency)	20g peak, 10-2000 Hz, 12 times in each of three perpendicular directions (total 36)	MIL-STD-202, Method 204, Condition D

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