

Coaxial Low Pass Filter

SLP-27+

50Ω DC to 27 MHz



The Big Deal

- Low insertion loss, 0.5 dB typ.
- High rejection, 43 dB typ.
- Sharp cut-off
- Good VSWR, 1.2:1 typ. in passband
- Connectorized package

Generic photo used for illustration purposes only
CASE STYLE: FF99

Product Overview

SLP-27+ is a 50Ω Low pass filter in a connectorized package covering DC to 27 MHz. This filter uses miniature high Q capacitors and wire welded inductors for high reliability. This filter offers high rejection and low insertion loss. It has consistent performance across temperature and repeatable performance across production lots.

Key Features

Feature	Advantages
Low insertion loss, 0.5 dB typ.	It enables the filter to be used in high performance applications.
High rejection, 43 dB typ.	Attenuates unwanted spurious signals and harmonics.
Sharp cut-off	This enables the filter rejects the near band interaction and provides the high selectivity.
Good VSWR, 1.2:1 typical in passband	This provides good matching when used with other devices.
Connectorized package	Easy to interface with other devices and well suited for test setups.

Notes

- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuits' applicable established test performance criteria and measurement instructions.
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Low Pass Filter

SLP-27+

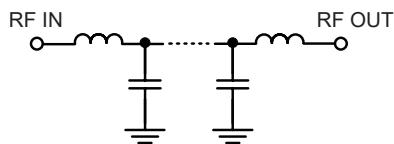
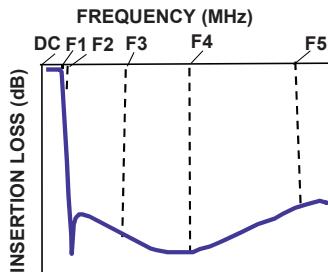
50Ω DC to 27 MHz

**Features**

- Low insertion loss, 0.5 dB typ.
- High rejection, 43 dB typ.
- Good VSWR, 1.2:1 typical in passband
- Sharp cut-off
- Rugged shielded case
- Connectorized package

Applications

- Defense communications
- Transmitters / Receivers
- Harmonic rejection

Functional Schematic**Typical Frequency Response****+RoHS Compliant**

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Generic photo used for illustration purposes only

CASE STYLE: FF99

Connectors	Model
SMA	SLP-27+

Electrical Specifications at 25°C

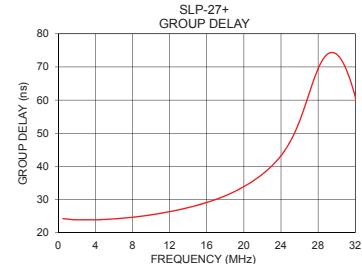
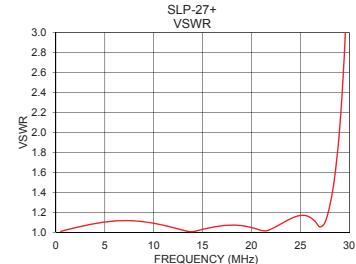
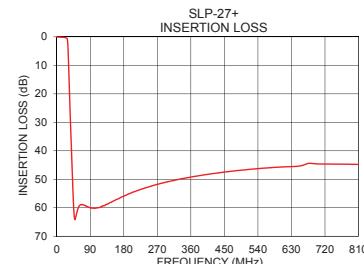
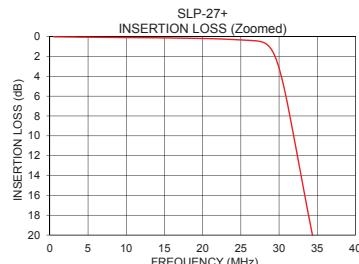
Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit	
Pass Band	Insertion Loss	DC-F1	DC - 27	—	0.5	1	dB
	Freq. Cut-Off	F2	30	—	3.0	—	dB
	VSWR	DC-F1	DC - 27	—	1.2	1.6	:1
Stop Band	Rejection Loss	F3-F4	36 - 41	20	26	—	dB
		F4-F5	41 - 810	37	43	—	dB

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

Permanent damage may occur if any of these limits are exceeded.

Typical Performance Data at 25°C

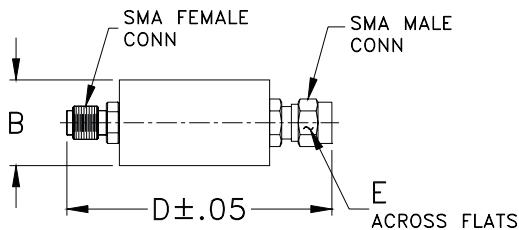
Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Group Delay (ns)
0.5	0.02	1.01	0.5	24.26
10.0	0.10	1.09	1.0	24.13
20.0	0.19	1.05	2.0	23.91
22.0	0.23	1.03	3.0	23.92
24.0	0.30	1.14	4.0	23.90
27.0	0.43	1.06	5.0	24.01
28.0	0.61	1.27	6.0	24.18
30.0	3.17	4.06	7.0	24.40
34.5	20.56	60.17	8.0	24.68
36.0	26.36	86.98	9.0	25.00
37.0	30.13	103.47	10.0	25.40
41.0	44.88	166.01	12.0	26.36
50.0	63.80	276.33	13.0	26.93
150.0	57.77	221.44	14.0	27.58
300.0	50.83	134.37	15.0	28.29
400.0	48.36	116.25	16.0	29.13
500.0	46.74	106.02	20.0	33.90
600.0	45.72	98.98	25.0	47.51
800.0	44.76	92.12	27.0	61.70
810.0	44.80	92.54	30.0	73.82

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Coaxial Connections

PORt - 1	SMA-Male
PORt - 2	SMA-Female

Outline Drawing**Outline Dimensions (^{inch} mm)**

B	D	E	Wt.
.70	1.98	.312	grams
17.78	50.29	7.92	42.0

Note: Please refer to case style drawing for details

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Typical Performance Data

FREQ. (MHz)	INSERTION LOSS (dB)			INPUT RETURN LOSS (dB)			OUTPUT RETURN LOSS (dB)		
	@-40°C	@+25°C	@+85°C	@-40°C	@+25°C	@+85°C	@-40°C	@+25°C	@+85°C
	0.5	0.01	0.02	0.03	45.78	45.42	45.03	43.73	43.03
1.0	0.02	0.02	0.03	38.55	38.57	38.58	38.07	37.97	37.86
2.0	0.03	0.04	0.04	32.52	32.66	32.77	32.45	32.57	32.65
2.5	0.03	0.04	0.05	30.69	30.87	30.99	30.67	30.82	30.92
3.0	0.04	0.05	0.05	29.26	29.44	29.57	29.28	29.45	29.57
10.0	0.09	0.10	0.11	27.01	27.16	27.25	26.98	27.14	27.24
15.0	0.12	0.13	0.15	35.79	36.43	37.01	35.33	35.84	36.25
20.0	0.17	0.19	0.21	31.39	32.43	33.26	31.61	32.74	33.67
22.0	0.21	0.23	0.26	37.37	35.67	34.61	38.43	36.44	35.27
23.0	0.24	0.26	0.29	28.42	27.83	27.48	28.56	27.95	27.59
24.0	0.27	0.30	0.33	24.09	23.85	23.74	24.17	23.91	23.80
25.0	0.31	0.34	0.38	22.17	22.12	22.17	22.24	22.18	22.22
26.0	0.35	0.38	0.42	22.91	23.09	23.35	23.08	23.26	23.54
27.0	0.39	0.43	0.48	30.73	31.34	31.71	33.76	35.82	38.82
29.0	1.20	1.30	1.43	9.65	9.41	9.20	9.74	9.50	9.30
30.0	3.01	3.17	3.35	4.46	4.37	4.31	4.50	4.42	4.36
31.0	6.21	6.40	6.61	1.95	1.94	1.95	1.98	1.97	1.98
32.0	10.18	10.37	10.57	0.91	0.93	0.96	0.94	0.95	0.99
34.5	20.41	20.56	20.72	0.27	0.29	0.32	0.28	0.30	0.33
36.0	26.22	26.36	26.52	0.18	0.20	0.22	0.19	0.21	0.24
37.0	29.99	30.13	30.28	0.15	0.17	0.19	0.16	0.18	0.20
40.0	41.06	41.20	41.36	0.11	0.12	0.13	0.11	0.12	0.14
41.0	44.73	44.88	45.01	0.09	0.10	0.12	0.10	0.11	0.13
45.0	58.41	58.70	58.81	0.07	0.08	0.09	0.07	0.08	0.10
47.0	62.94	63.04	63.17	0.06	0.07	0.08	0.06	0.07	0.09
50.0	63.95	63.80	63.90	0.06	0.06	0.07	0.05	0.06	0.07
56.0	60.69	60.69	60.74	0.05	0.05	0.06	0.04	0.05	0.06
60.0	59.45	59.40	59.55	0.05	0.05	0.06	0.03	0.05	0.06
62.0	59.16	59.16	59.21	0.04	0.05	0.06	0.03	0.04	0.06
70.0	58.85	58.99	58.99	0.05	0.05	0.05	0.03	0.04	0.05
72.0	58.93	58.97	59.12	0.05	0.05	0.06	0.03	0.04	0.05
76.0	59.10	59.20	59.47	0.05	0.05	0.05	0.03	0.04	0.05
78.0	59.27	59.32	59.48	0.05	0.05	0.05	0.02	0.04	0.05
80.0	59.38	59.58	59.64	0.05	0.05	0.05	0.03	0.04	0.05
100.0	60.00	60.18	60.38	0.06	0.06	0.06	0.03	0.04	0.05
120.0	59.49	59.53	59.90	0.06	0.06	0.06	0.03	0.05	0.06
180.0	55.87	55.92	56.13	0.09	0.09	0.09	0.06	0.07	0.08
200.0	54.73	54.81	55.05	0.09	0.10	0.10	0.06	0.08	0.08
220.0	53.76	53.78	53.99	0.10	0.11	0.11	0.07	0.08	0.09
240.0	52.94	52.95	53.03	0.10	0.11	0.11	0.07	0.09	0.09
260.0	52.10	52.13	52.29	0.11	0.12	0.12	0.08	0.10	0.10
280.0	51.40	51.44	51.53	0.11	0.12	0.13	0.08	0.10	0.11
300.0	50.81	50.83	50.90	0.11	0.13	0.14	0.09	0.11	0.11
320.0	50.26	50.26	50.27	0.12	0.13	0.14	0.09	0.11	0.12
340.0	49.72	49.73	49.71	0.12	0.14	0.15	0.09	0.11	0.13
360.0	49.27	49.23	49.22	0.12	0.14	0.16	0.10	0.12	0.13
380.0	48.84	48.79	48.75	0.12	0.15	0.16	0.10	0.12	0.14
400.0	48.41	48.36	48.35	0.12	0.15	0.16	0.10	0.13	0.14
420.0	48.03	47.99	47.92	0.13	0.15	0.17	0.10	0.13	0.15
440.0	47.65	47.64	47.59	0.13	0.16	0.17	0.11	0.13	0.15
460.0	47.33	47.32	47.23	0.13	0.16	0.17	0.11	0.14	0.15
480.0	47.04	47.00	46.95	0.13	0.16	0.18	0.11	0.14	0.16
500.0	46.71	46.74	46.65	0.13	0.16	0.18	0.11	0.14	0.16
520.0	46.46	46.49	46.40	0.14	0.17	0.18	0.11	0.14	0.16
600.0	45.70	45.72	45.65	0.14	0.18	0.20	0.12	0.15	0.17
650.0	45.45	45.41	45.24	0.14	0.18	0.21	0.12	0.15	0.18
700.0	44.59	44.62	44.55	0.14	0.18	0.21	0.12	0.16	0.18
750.0	44.64	44.67	44.61	0.14	0.18	0.22	0.12	0.16	0.19
800.0	44.70	44.76	44.69	0.14	0.19	0.22	0.12	0.16	0.19
810.0	44.69	44.80	44.74	0.14	0.19	0.22	0.12	0.16	0.19

Typical Performance Data

FREQ. (MHz)	GROUP DELAY		
	(nsec)		
	@-40°C	@+25°C	@+85°C
0.5	24.23	24.26	24.31
2.0	23.88	23.91	23.93
3.0	23.89	23.92	23.95
3.5	23.88	23.91	23.93
4.0	23.88	23.90	23.92
4.5	23.92	23.95	23.97
5.0	23.98	24.01	24.02
5.5	24.07	24.09	24.12
6.0	24.16	24.18	24.20
6.5	24.26	24.29	24.31
7.0	24.38	24.40	24.43
7.5	24.51	24.54	24.56
8.0	24.65	24.68	24.70
8.5	24.81	24.84	24.85
9.0	24.98	25.00	25.03
9.5	25.18	25.20	25.22
10.0	25.37	25.40	25.42
10.5	25.59	25.62	25.63
11.0	25.82	25.85	25.87
11.5	26.07	26.09	26.12
12.0	26.34	26.36	26.38
12.5	26.61	26.64	26.66
13.0	26.91	26.93	26.96
13.5	27.23	27.25	27.28
14.0	27.56	27.58	27.61
14.5	27.91	27.94	27.96
15.0	28.27	28.29	28.33
15.5	28.67	28.70	28.74
16.0	29.10	29.13	29.17
16.5	29.54	29.58	29.62
17.0	30.03	30.07	30.11
17.5	30.55	30.59	30.64
18.0	31.11	31.15	31.20
18.5	31.71	31.76	31.82
20.0	33.83	33.90	33.96
20.5	34.67	34.74	34.80
21.0	35.56	35.63	35.70
22.0	37.58	37.65	37.75
25.0	47.33	47.51	47.71
27.0	61.47	61.70	61.91
30.0	74.10	73.82	73.45



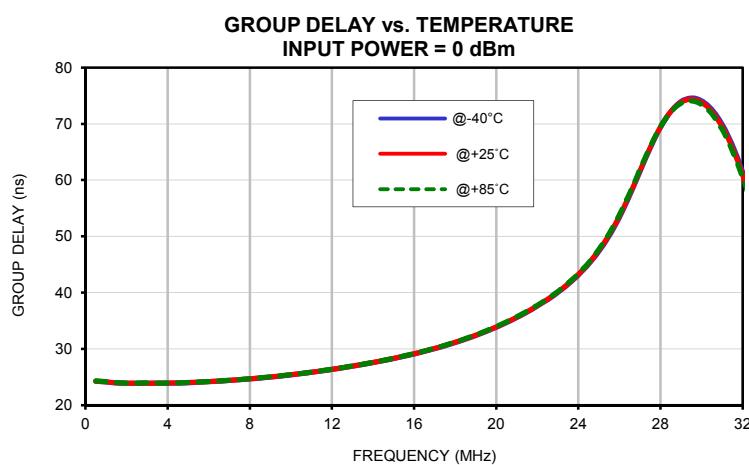
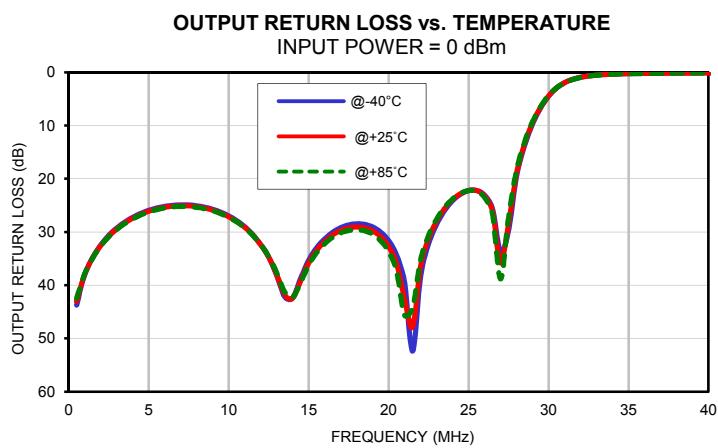
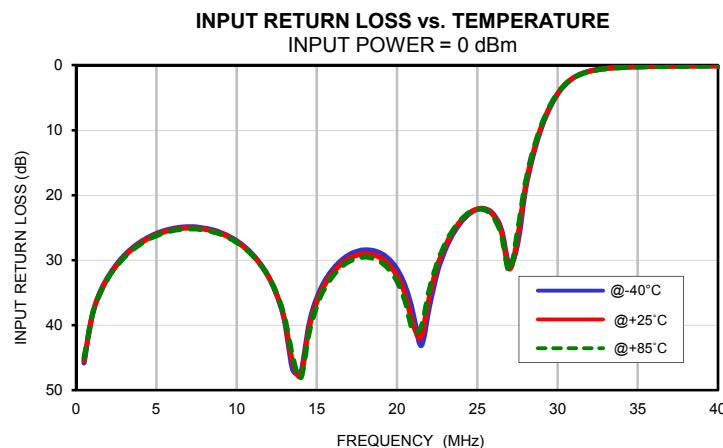
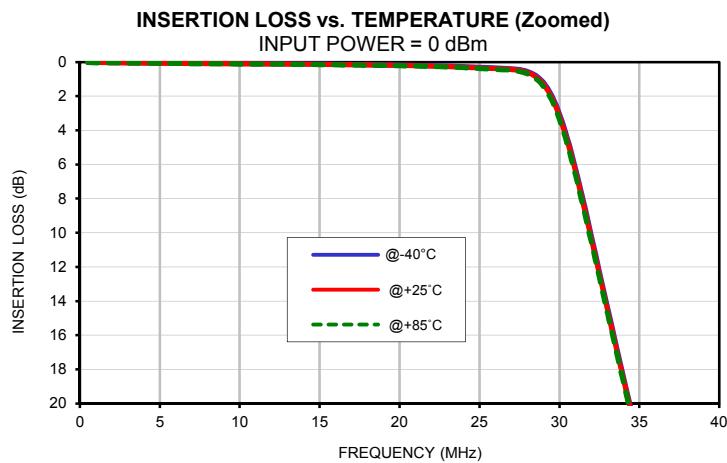
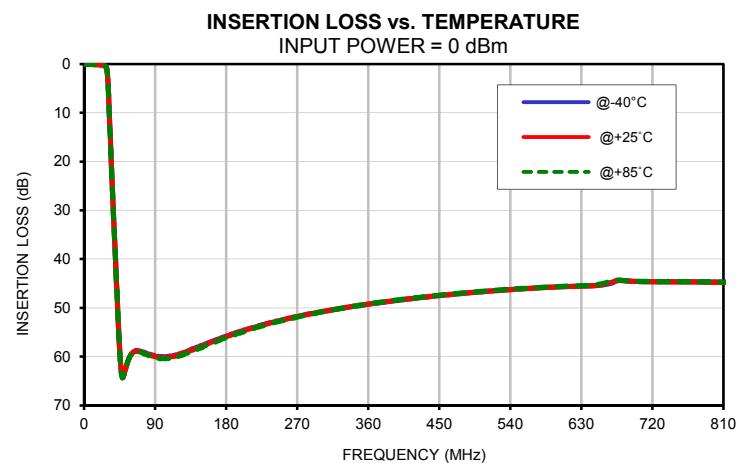
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 • Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site
 The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: www.minicircuits.com

IF/RF MICROWAVE COMPONENTS



REV. OR
SLP-27+
200204
Page 2 of 2

Typical Performance Curves

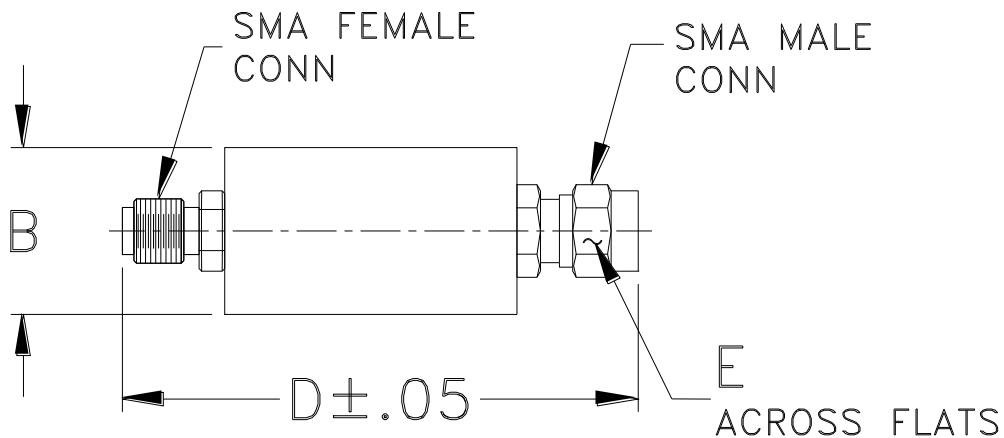


Case Style

FF

FF56
FF99

Outline Dimensions



CASE #.	A	B	C	D	E	WT GRAMS
FF56	--	.46 (11.68)	--	1.70 (43.18)	.312 (7.92)	18.0
FF99	--	.70 (17.78)	--	1.98 (50.29)		42.0

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

Notes:

1. Case material: Brass.
2. Case finish: Nickel plate.



P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site



The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: www.minicircuits.com

RF/IF MICROWAVE COMPONENTS





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	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Thermal Shock	-55° to 100°C, 100 cycles	MIL-STD-202, Method 107, Condition A-3, except +100°C