

Low Noise Amplifiers, SBL Series



FEATURES:

- ◆ Frequency coverage: 2 to 100 GHz
- ◆ Low noise figure
- ◆ Broad operating bandwidth
- ◆ Single positive DC power supply
- ◆ Standard temperature range: -10 to +60 °C

APPLICATIONS:

- ◆ Engineering prototypes
- ◆ Low noise receivers
- ◆ Communication systems
- ◆ Radiometry systems
- ◆ Radar systems

DESCRIPTION:

SBL series low noise amplifiers are designed and manufactured by utilizing the most advanced discrete PHEMT or MMIC devices and thin film technologies to cover the frequency range of 18 to 100 GHz. With improved DC power supply and advanced semiconductor and technologies, these low noise amplifiers deliver not only low noise performance, but also broad operating bandwidth and gain flatness. The low noise amplifiers are divided into two categories, namely, catalog and custom designed. While catalog models focus on general purpose operation with broad operation bandwidth for general applications, custom designed models are optimized to meet customers' specific needs.

CATALOG MODELS:

Model Number	Frequency Range (GHz)	Gain (dB)	Gain Flatness (±dB)	NF (dB)	VSWR (Typ)	Bias (V/mA)	Outlines
SBL-0230432510-SFSF-S1	2.0 to 4.0	25	1.0	1.0	2:1	+10.0/100	BG-C1, BG-N1, BG-W1
SBL-0230433510-SFSF-S1	2.0 to 4.0	35	1.5	1.0	2:1	+10.0/125	BG-C1, BG-N1, BG-W1
SBL-0430832515-SFSF-S1	4.0 to 8.0	25	1.2	1.5	2:1	+10.0/100	BG-C1, BG-N1, BG-W1
SBL-0430833515-SFSF-S1	4.0 to 8.0	35	1.5	1.5	2:1	+10.0/125	BG-C1, BG-N1, BG-W1
SBL-0631232520-SFSF-S1	6.0 to 12.0	25	1.3	2.0	2:1	+10.0/125	BG-C1, BG-N1, BG-W1
SBL-0631233520-SFSF-S1	6.0 to 12.0	35	1.5	2.0	2:1	+10.0/150	BG-C1, BG-N1, BG-W1
SBL-0831232520-SFSF-S1	8.0 to 12.4	25	1.3	2.0	2:1	+10.0/125	BG-C1, BG-N1, BG-W1
SBL-0831233520-SFSF-S1	8.0 to 12.4	35	1.5	2.0	2:1	+10.0/150	BG-C1, BG-N1, BG-W1
SBL-1231832525-SFSF-S1	12.0 to 18.0	25	1.3	2.5	2:1	+10.0/150	BG-C1, BG-N1, BG-W1
SBL-1231833525-SFSF-S1	12.0 to 18.0	35	1.5	2.5	2:1	+10.0/200	BG-C1, BG-N1, BG-W1
SBL-1832732528-KFKF-S1	18.0 to 26.5	25	1.3	2.8	2:1	+10.0/150	BG-C1, BG-N1, BG-W1
SBL-1832733528-KFKF-S1	18.0 to 26.5	35	1.5	2.8	2:1	+10.0/200	BG-C1, BG-N1, BG-W1
SBL-2733232530-KFKF-S1	27.0 to 32.0	25	1.3	3.0	2:1	+10.0/150	BG-C1, BG-N1, BG-W1
SBL-2733233530-KFKF-S1	27.0 to 32.0	35	1.5	3.0	2:1	+10.0/200	BG-C1, BG-N1, BG-W1
SBL-3333632530-KFKF-S1	33.0 to 36.0	25	1.3	3.0	2:1	+10.0/150	BG-C1, BG-N1, BG-W1
SBL-3333633530-KFKF-S1	33.0 to 36.0	35	1.5	3.0	2:1	+10.0/200	BG-C1, BG-N1, BG-W1
SBL-3333634530-KFKF-S1	33.0 to 36.0	45	2.0	3.0	2:1	+10.0/250	BG-C1, BG-N1, BG-W1

High Quality Standard and Custom Designed Microwave & Millimeterwave Products



Model Number	Frequency Range (GHz)	Gain (dB)	Gain Flatness (±dB)	NF (dB)	VSWR (Typ)	Bias (V/mA)	Outlines
SBL-3333632530-KFKF-S1	36.0 to 40.0	25	1.5	3.0	2:1	+10.0/150	BG-C1, BG-N1, BG-W1
SBL-3333633530-KFKF-S1	36.0 to 40.0	35	2.0	3.0	2:1	+10.0/200	BG-C1, BG-N1, BG-W1
SBL-4034532545-2F2F-S1	40.0 to 45.0	25	1.5	4.5	2:1	+10.0/150	BG-C1, BG-N1, BG-W1
SBL-4034533545-2F2F-S1	40.0 to 45.0	35	2.0	4.5	2:1	+10.0/250	BG-C1, BG-N1, BG-W1
SBL-5035531850-1515-S1	50.0 to 55.0	18	1.0	5.0	2:1	+10.0/100	BG-C2, BG-N2, BG-W2
SBL-5035533550-1515-S1	50.0 to 55.0	35	1.5	5.0	2:1	+10.0/200	BG-C2, BG-N2, BG-W2
SBL-5536031850-1515-S1	55.0 to 60.0	18	1.0	5.0	2:1	+10.0/100	BG-C2, BG-N2, BG-W2
SBL-5536033550-1515-S1	55.0 to 60.0	35	1.5	5.0	2:1	+10.0/200	BG-C2, BG-N2, BG-W2
SBL-6036531850-1515-S1	60.0 to 65.0	18	1.0	5.0	2:1	+10.0/100	BG-C2, BG-N2, BG-W2
SBL-6036533550-1515-S1	60.0 to 65.0	35	1.5	5.0	2:1	+10.0/200	BG-C2, BG-N2, BG-W2
SBL-6537031850-1515-S1	65.0 to 70.0	18	1.0	5.0	2:1	+10.0/100	BG-C2, BG-N2, BG-W2
SBL-6537033550-1515-S1	65.0 to 70.0	35	1.5	5.0	2:1	+10.0/200	BG-C2, BG-N2, BG-W2
SBL-7137632055-1212-S1	71.0 to 76.0	25	2.0	5.5	2:1	+10.0/100	BG-C2, BG-N2, BG-W2
SBL-7137633555-1212-S1	71.0 to 76.0	35	2.0	5.5	2:1	+10.0/150	BG-C2, BG-N2, BG-W2
SBL-7537832555-1212-S1	75.0 to 78.0	25	2.0	5.5	2:1	+10.0/100	BG-C2, BG-N2, BG-W2
SBL-7537833555-1212-S1	75.0 to 78.0	35	2.0	5.5	2:1	+10.0/150	BG-C2, BG-N2, BG-W2
SBL-8138632555-1212-S1	81.0 to 86.0	25	2.0	5.5	2:1	+10.0/100	BG-C2, BG-N2, BG-W2
SBL-8138633555-1212-S1	81.0 to 86.0	35	2.0	5.5	2:1	+10.0/150	BG-C2, BG-N2, BG-W2
SBL-8539032555-1010-S1	85.0 to 90.0	25	2.0	5.5	3:1	+10.0/100	BG-C2, BG-N2, BG-W2
SBL-8539033555-1010-S1	85.0 to 90.0	35	2.0	5.5	3:1	+10.0/150	BG-C2, BG-N2, BG-W2
SBL-9039532555-1010-S1	90.0 to 95.0	25	1.5	6.0	2:1	+10.0/100	BG-C2, BG-N2, BG-W2
SBL-9039533555-1010-S1	90.0 to 95.0	35	2.0	6.0	2:1	+10.0/150	BG-C2, BG-N2, BG-W2
SBL-9531042555-1010-S1	95.0 to 100.0	25	1.5	6.0	2:1	+10.0/100	BG-C2, BG-N2, BG-W2
SBL-9531043555-1010-S1	95.0 to 100.0	35	2.0	6.0	2:1	+10.0/150	BG-C2, BG-N2, BG-W2
SBL-8031042560-1010-S1	80.0 to 100.0	25	2.0	6.0	2:1	+10.0/100	BG-C2, BG-N2, BG-W2
SBL-8031043560-1010-S1	80.0 to 100.0	35	3.0	6.0	2:1	+10.0/150	BG-C2, BG-N2, BG-W2

CUSTOM DESIGNED MODELS:

Sage Millimeter's low noise amplifiers' model numbers are configured per following format. Customers may refer to the format and specify their own model numbers accordingly when placing the order. There are various housing styles for amplifiers. Contact factory for details.

SBL - F1N F2N GG NF- CI CO - XY

F1N is the start frequency in MHz x 10N. For example: 90 GHz = 903

F2N is the stop frequency in MHz x 10N. For example: 100 GHz = 104

GG is the linear gain in dB. For example: 25 dB = 25

NF is the noise figure. For example: 6.0 dB = 60

CI is the input connector type. For example: WR-10 = 10

CO is the output connector type. For example: WR-10 = 10

X is for antenna type. "S" is for standard and "C" is for custom designed.

Y is for factory reserve.

Example: SBL-8531042560-1010-XY is a custom designed low noise amplifier with frequency range of 85 to 100 GHz, linear gain 25 dB and noise figure 6.0 dB. The input and output RF connectors are WR-10 waveguides. "1" is a factory assigned sequential number.