

Preamplifiers

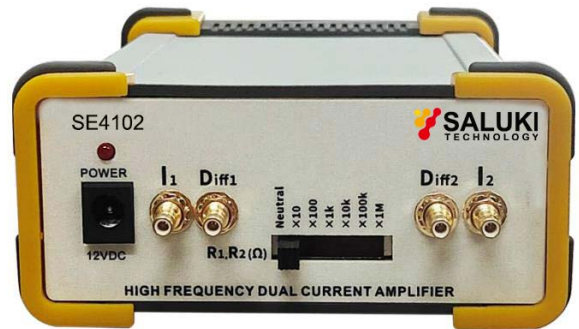
SE4102 High Frequency Dual Current Amplifier

DC to 50 MHz

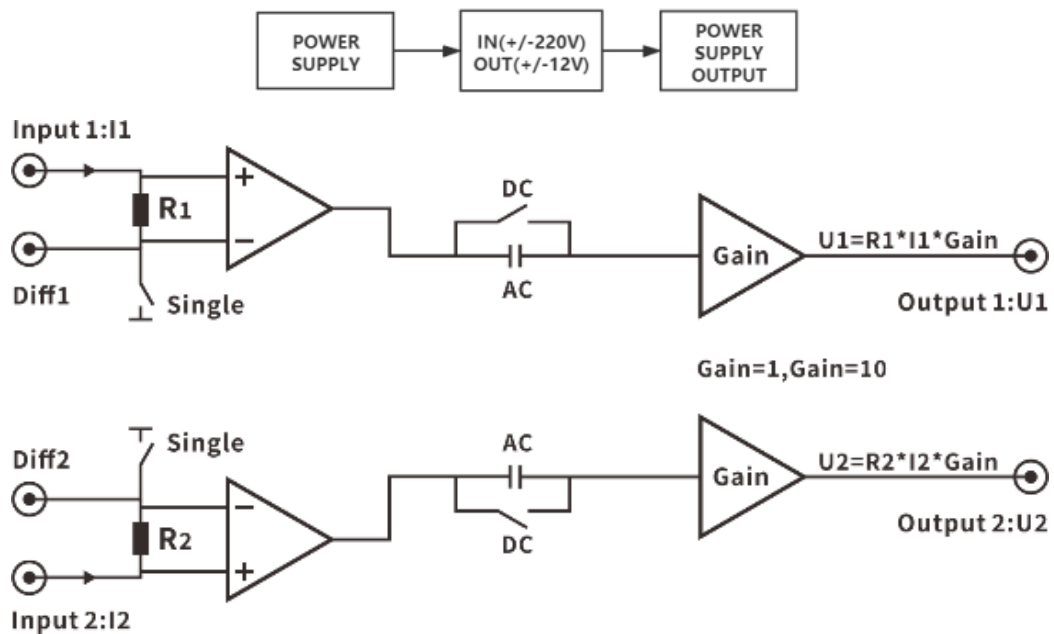
2 channels

Key Features

- 50 MHz wideband for high capacitance sources
- Precision Input Impedance for Accurate Source Matching
- Variable Input Impedance for Accurate Source Matching
- Differential inputs provide better signal integrity
- Extremely low noise and low input leakage



Circuit diagram



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Technical Specifications

Current Input Mode	Single ended or differential input	
Input Current	3 μ A - 300mA	
Impedance Input(R1,R2)	-3dB Cutoff Bandwidth	Input Current(Max.)
10 V/A	50 MHz	300 mA
100 V/A	20 MHz	30 mA
1 kV/A	2MHz	3mA
10 kV/A	100kHz	300 μ A
100 kV/A	10kHz	30 μ A
1 MV/A	1KHz	3 μ A
Coupling method	DC coupling: DC-50MHz	
	AC coupling: 290kHz-50MHz	
Output Voltage Gain	G=1 , G=10	
Gain Accuracy	0.1%	
Input Bias Voltage	0.1mV(G=1),40mV(G=10)	
output voltage without distortion	5Vrms(Max.)	
Input Leakage Current	2pA	
Input Voltage Noise	5 nV/VHz	
Common Mode Voltage Range	-9 V to 7 V	
Power Supply	\pm 12V—1A	
Specifications	Size:13 x 10.2 x 4.9 cm, weight:0.3 kg; Operating temperature:5 ° C ~ 40 ° C , Specificationtemperature:25°C	

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Instructions

Use Guidances

1. According to the signal type, select single-ended or differential input mode through the toggle switch;
2. According to the signal amplitude and frequency, select the matching input resistance through the gear switch (the Neutral gear has no input resistance, and does not participate in the detection and amplification of the current signal); if you are not sure about the signal size, choose the gear with a small resistance value first; (Note : It should be ensured that the nominal maximum input current is not exceeded, otherwise the amplifier may be damaged due to overload.)
3. Each current amplifier has two independent current detection amplification channels, and the fluctuation switch and the input resistance switching switch control the parameter configuration of the two channels at the same time;
4. After confirming the input mode and matching resistance, you can connect to the SMB port of the input input of the corresponding channel;
5. The amplifier is equipped with Gain=1 or Gain=10 signal amplification output, the formula is: $U_{out} = I_{in} * R * Gain$.

Model details

1. The SE4102 current amplifier features a JEFT input stage with very low noise over a wide frequency range. It also has extremely low input bias current, allowing accurate current measurement amplitudes at small signals.
2. The SE4102 current amplifier features variable, precision input impedance for accurate source matching, and accurately converts input current to output voltage over a frequency range up to 50MHz.

Attention

- Please operate after fully reading the user manual of the preamplifier SE4102.
- Before the product is shipped, we will carefully inspect the device to ensure that there are no mechanical or electronic defects. After delivery, the courier should assume the safety responsibility during the express delivery process. After unpacking, please check whether the device is damaged, and sign for receipt if the device is in good condition.
- This device uses a 12V-1A power adapter to power on, and the user can directly connect the adapter to the mains to use it.
- When the SE4102 is not used for a long time, the power plug must be unplugged.
- When connecting external devices, please power off.
- Do not unplug or plug in the cables when the device is in operation.
- If the device fails, do not dismantle the main chassis to repair it yourself, please contact us.