PICOTEST

J2110A Solid State Injector

Product specifications are subject to change without notice.

The Solid State Voltage Injector or "Bode box" is employed in a similar way as the injection transformer. It is used for stability and low current injection as well as signal combining without mixing, as in IMD distortion measurements.

While it is possible to obtain high quality injection transformers with bandwidths down to 1Hz and up to 45MHz, in some cases, this is still insufficient. For example a typical heater control loop might have a bandwidth of less than 1Hz while some linear regulators and opamp circuits can have bandwidths of exceeding 100MHz. For these applications, a solid state injector can provide the necessary bandwidth. The Picotest solid state injector has a wider bandwidth than most passive injection transformers with a performance range of DC-45MHz.

The resulting plots are often much cleaner when using a solid state injector as compared with an injection transformer.

The selection of a valid injection point in the circuit is more critical when using a solid state injector than with the transformer injector. The solid state injector presents an infinite impedance between the points of injection. In order to provide correct results one side of the measurement must present a much higher impedance than the other side. In a typical power supply control loop, the voltage sense divider is generally a good injection point, since the output impedance of the power supply is very low compared with the impedance of the voltage sense divider.

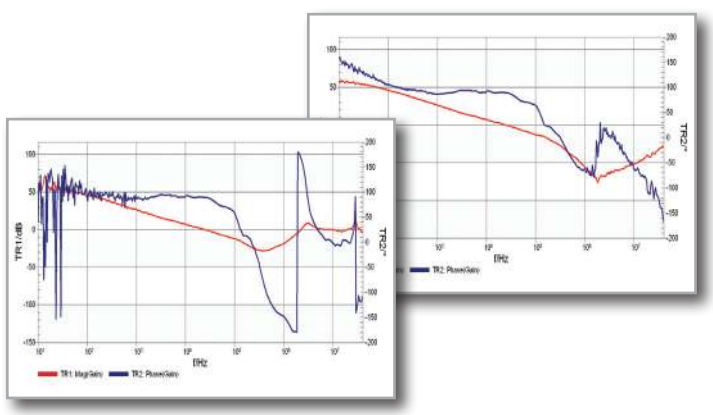
The solid state injector has a limitation in the operating voltage due to the common mode limits of the operational amplifiers.

The Picotest J2110A accepts -10.5V to +10.5V inputs. This is the peak value (positive or negative AC+DC) of the operating voltage at the injector input and output.

KEY FEATURES:
J2110A Solid State Injector

- DC-45MHz; supports thermal and mechanical controls and highest performance regulators and amplifiers
- Low distortion for superior precision
- 25 Ohm insertion resistance
- 50 Ohm oscillator input
- < 3uA typical bias current
- >2 MΩ typical Input Resistance
- High PSRR low noise regulator with universal input

Picotest J2110A Solid State Injector



Picotest J2100A Injection Transformer

Accessories to Sharpen Your Analyzer's Focus

J2110A Solid State

Specifications		
Characteristic	**Typical**	**Units**
max Vcc	+/-12	V
max Icc	20	mA
Max input voltage DC+AC	+/-10.5	Vcc
Output voltage	+/-10.5	Vcc
Offset voltage	3	mV
Bias Current	8	uA
-3dB Bandwidth (-10dBm)	DC-40M	Hz
Temperature Range	0 - 50	C
Maximum Altitude	6000	Ft

Mechanical characteristics	
Dimensions (box only) (box + connectors)	109.22 mm x 89.66 mm x 50.80 mm 4.30" x3.53" x 2.00" 122.68 mm x 89.66 mm x 50.80 mm 4.83" x3.53" x 2.00"
Weight	0.210 kg / 0.463 lbs

Connectors	
Input	BNC, MOD - BNC
Output	Banana

J2140A Attenuator

There are two common uses for attenuators when used in conjunction with a network analyzer. One is to attenuate the oscillator source signal. While this may seem odd, one of the most common errors in frequency domain measurements is using a source signal that is too large. Even though analyzers allow setting of the signal output amplitude, the lowest setting is often too high to allow an accurate small-signal measurement to be made. The correct amplitude is the smallest amplitude that exceeds the noise floor. Picotest's attenuators are also useful for improving the dynamic range of the measurement. In some cases, as in the measurement of the open loop gain of an opamp, the low frequency loop gain will be extremely large (100dB or more is not uncommon). Attenuating the output signal increases the effective range of the measurement.

KEY FEATURES:
J2140A Attenuator

- Integrated unit includes 40dB, 20dB and 10dB ports
- Cascadable for greater attenuation
- Improve noise floor and assures small signal measurement

Specifications		
Characteristic	**Typical**	**Units**
Maximum input level	+20	dBm
3dB Frequency Range	DC-50M	Hz
Maximum VSWR	1.3	
Attenuation accuracy	0.2	dB

Mechanical characteristics	
Dimensions (box only) (box + connectors)	109.22 mm x 89.66 mm x 50.80 mm 4.30" x3.53" x 2.00" 135.38 mm x 89.66 mm x 50.80 mm 5.33" x3.53" x 2.00"
Weight	0.238 kg / 0.525 lbs

Connectors	
Input	BNC
Output	BNC

Need more information:
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