Passive Integrators

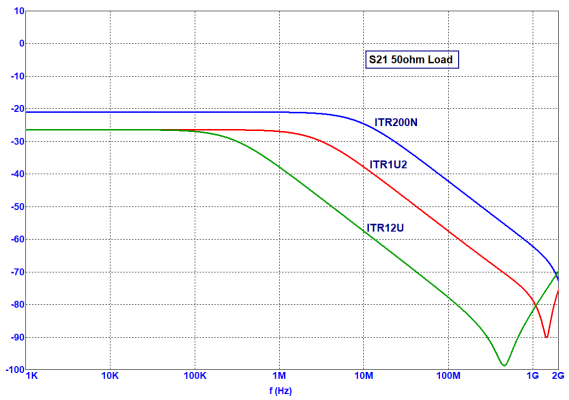
Passive integrators are designed to be used with derivative sensors, such as field or current probes, for the measurement of fast pulsed signals. Connected to this type of sensors, the passive integrator produces an overall flat response without the drawbacks of the numerical integration. Best performance is achieved when the output of the passive integrator is connected to the high impedance input of a fast rise-time measurement device.

SPECIFICATIONS			
Type	**ITR200N**	**ITR1U2**	**ITR12U**
Time constant	200 ns	1.2 µs	12 µs
Cut-off frequency	1.4 GHz	1 GHz	200 MHz
Input impedance	50 Ω		
Peak maximum input	1 kV (100 ns pulse)		
Output loading	>10 kΩ (recommended connection to the oscilloscope's 1 MΩ input)		
Input / output connectors	-A model : N(f) / BNC(m) -S model: SMA(f) / SMA(m)		
Dimensions	-A model : 63 x 18 x 18 mm -S model : 47 x 18 x 18 mm		
Weight	65 g		

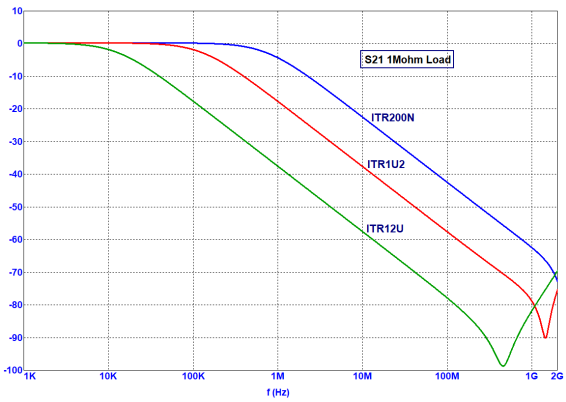
Other time constants available on request.

Typical performances

S21 on a 50 Ω load



S21 on a 1 MΩ load



Ordering information

TYPE	DESCRIPTION
ITR200N-A	Passive integrator, T = 200 ns, up to 1.4 GHz, connectors: N(f) - BNC
ITR200N-S	Passive integrator, T = 200 ns, up to 1.4 GHz, SMA(f) – SMA(m)
ITR1U2-A	Passive integrator, T = 1.2 us, up to 1 GHz, connectors: N(f) - BNC
ITR1U2-S	Passive integrator, T = 1.2 us, up to 1 GHz, SMA(f) – SMA(m)
ITR12U-A	Passive integrator, T = 12 us, up to 200 MHz, connectors: N(f) - BNC
ITR12U-S	Passive integrator, T = 12 us, up to 200 MHz, SMA(f) – SMA(m)

Related products / accessories

TYPE	DESCRIPTION
SGE1G	Ground plane D-dot field sensor (E-field), Aeq 1 x 10^{-2} m^2, up to 1 GHz, SMA connector
SGE3-5G	Ground plane D-dot field sensor (E-field), Aeq 1 x 10^{-3} m^2, up to 3.5 GHz, SMA connector
SGM2G	Ground plane B-dot field sensor (B-field), Aeq 1.1 x 10^{-4} m^2, up to 2 GHz, SMA connector
SFE1G	Free space D-dot field sensor (E-field), Aeq 2 x 10^{-2} m^2, up to 1 GHz, 2 x SMA(m) connectors
SFE3-5G	Free space D-dot field sensor (E-field), Aeq 2 x 10^{-3} m^2, up to 3.5 GHz, 2 x SMA(m) connectors
SFM2G	Free space B-dot field sensor (B-field), Aeq 2.2 x 10^{-4} m^2, up to 2 GHz, 2 x SMA(m) connectors
BL3-5G	Balun for free space field sensors, 500 Hz - 3.5 GHz, 3 x SMA(f) conn.
BL10G	Balun for free space field sensors, 100 kHz - 10 GHz, 3 x SMA(f) conn.
Cx-yz	Highly shielded semirigid coaxial cables, for field / current or voltage sensors. Where: x = cable length : 0.1, 1, 3, 5, 10 or 15 m y = connector 1 : code S for SMA(m), N for Type-N(m) z = connector 2 : code S for SMA(m), N for Type-N(m) or B for BNC(m)
PULSELab	Pulse measurement and processing software application, Life-time license for installation on one PC