



BROADBAND PULSE INVERTER (1 MHz to 65 GHz)

INV-0065

Features

- 1 MHz to 65 GHz Pulse Inverter
- Fastest Rise and Fall Time
- Low Insertion Loss
- Matched 50 Ohm Impedance on Input and Output Ports
- [INV-0065.S2P](#)

Electrical Specifications - Specifications guaranteed from -55 to +100°C, measured in a 50Ω system.

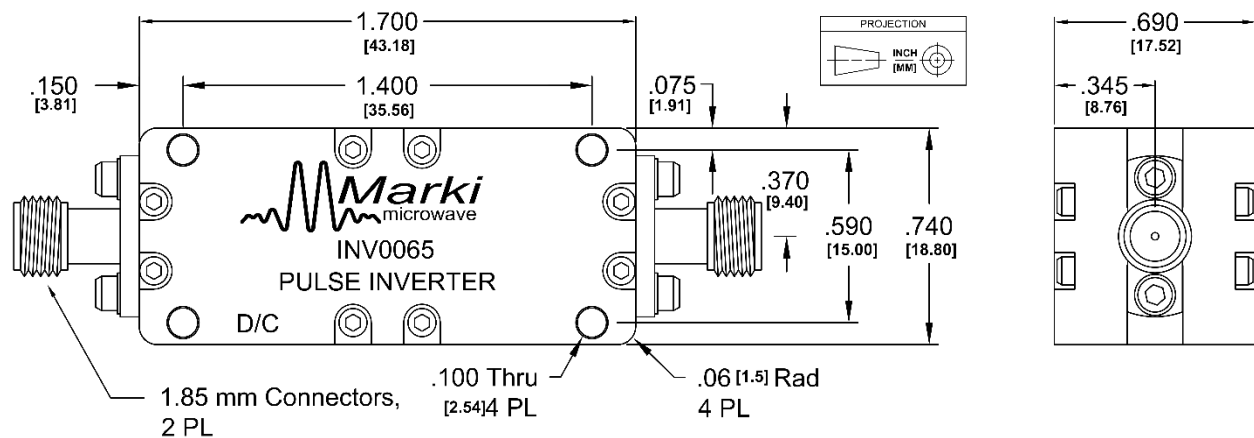
Parameter	Frequency Range	Min	Typ	Max
Nominal Phase Shift (Degrees) ¹			180	
Insertion Loss (dB)	1 MHz to 7 GHz		2	3
	7 to 26 GHz		1.2	2
	26 to 38 GHz		2.5	5
	38 to 65 GHz		5	8
VSWR	1 MHz to 24 GHz		1.35	
	24 to 65 GHz		2	
Risetime/Falltime (ps) ²			12	
Delay (ps)			280	
Weight (g)			43	

¹Relative to the phase of a transmission line with same group delay

²Specified as 90%/10%. Calculated from $\tau_{inv}^2 = (\tau_{out}^2 - \tau_{in}^2)$

Model Number	Description
INV-0065	1 MHz to 65 GHz Pulse Inverter with 1.85 mm connectors ¹

¹Default is 1.85 mm female connectors. Consult factory for other connector options.

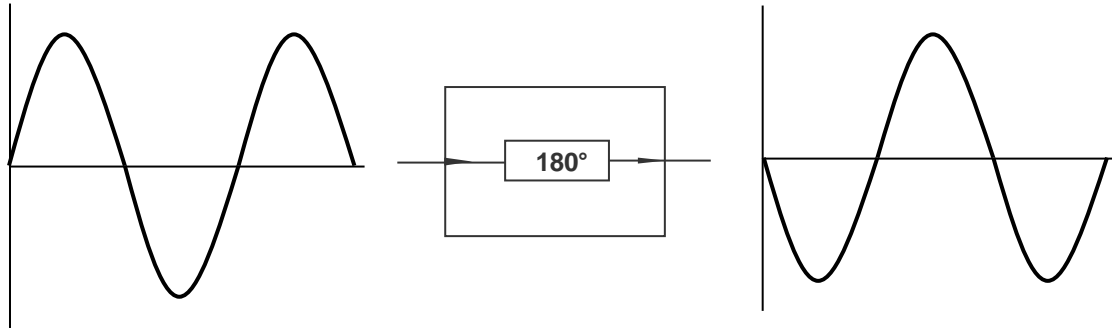


BROADBAND PULSE INVERTER (1 MHz to 65 GHz)

INV-0065

Page 2

Block Diagram



Typical Performance

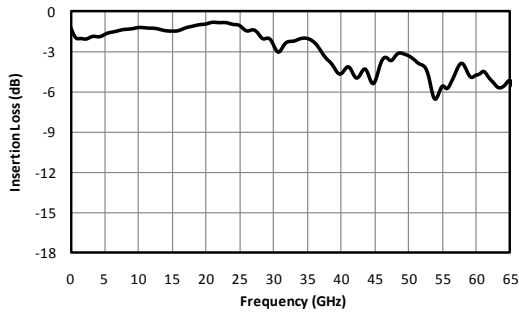


Fig. 1. Insertion loss.

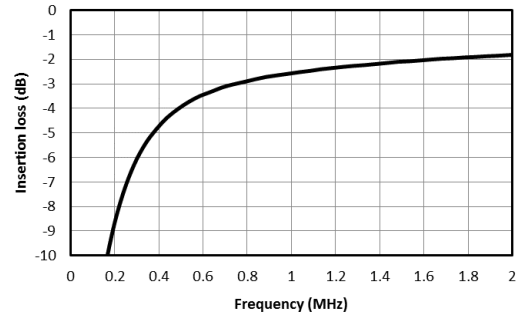


Fig 2. Low frequency Insertion Loss

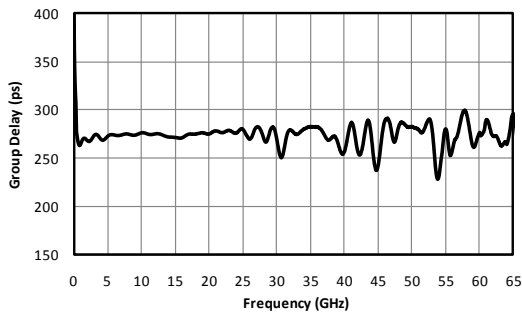


Fig. 3. Group Delay

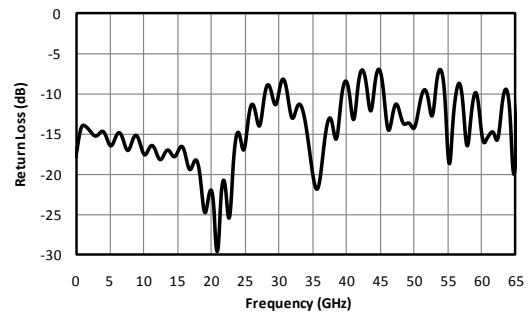


Fig. 4. Return loss

BROADBAND PULSE INVERTER (1 MHz to 65 GHz)

INV-0065

Page 3

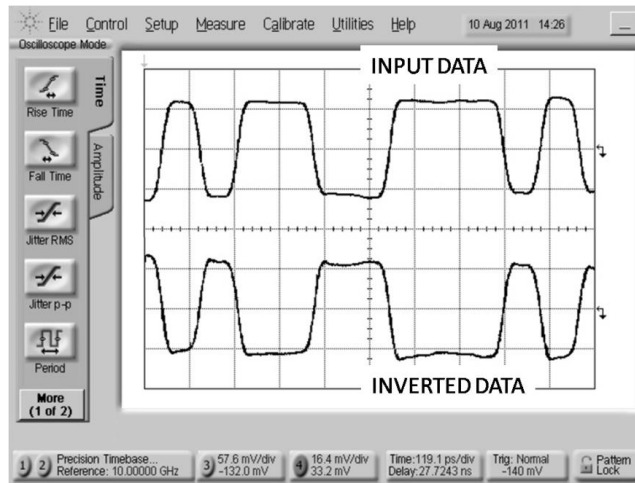


Fig. 4. Oscilloscope measurements of the INV-0065 with a 10 Gb/s PRBS pattern. Bit pattern is measured with a 2^7-1 PRBS input demonstrating extremely good pulse fidelity for the inverted output.

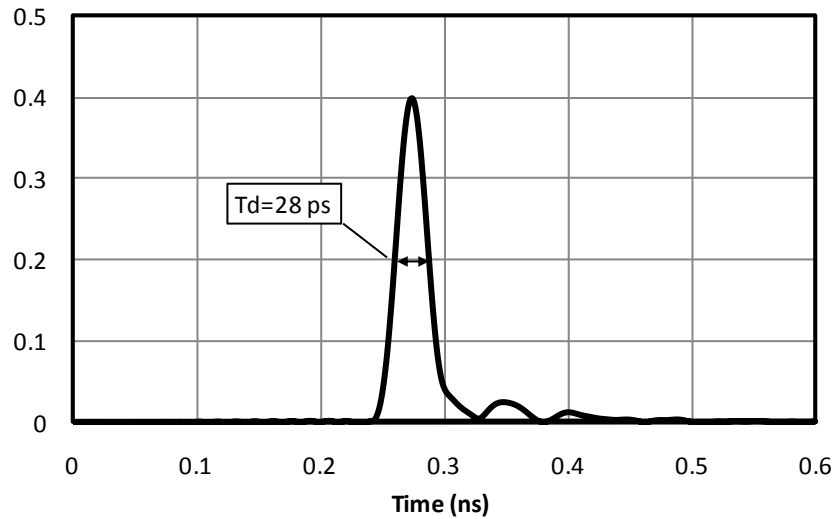


Fig. 5. Impulse response generated through TDR measurement in AWR Microwave Office® 2010, calculated using measured S-parameter data.

Revision History

Revision code	Revision Date	Comment
-	August 2011	Datasheet initial Release
A	April 2019	Added Low Frequency insertion loss plot

Marki Microwave reserves the right to make changes to the product(s) or information contained herein without notice. Marki Microwave makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Marki Microwave assume any liability whatsoever arising out of the use of or application of any product.