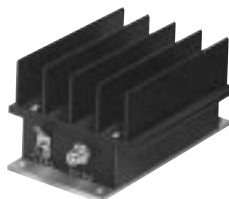


INVERTING & NON-INVERTING up to 200 mW, 2.5 KHz to 700 MHz



ZPUL

Up to 200 mW

MODEL NO.	FREQ. (MHz) f_L - f_U	GAIN (dB)		RISE/FALL TIME ns Max.	PULSE WIDTH* μ s Max.	POLARITY	MAXIMUM POWER (dBm)		DYNAMIC RANGE		VSWR Typ.		DC POWER		CASE STYLE *	CONNECTION	PRICE \$ Qty. (1-9)
		Min.	Flatness Max.				Output (1 dB Comp.)	Input (no damage)	NF** dB Typ.	Intercept 3rd order Typ.	In	Out	Volt V.	Current (mA)			
ZPUL-21	0.0025-700	21	± 1	1.5	6	Inverting	22	+10	7.3	34	2:1	2:1	24	350	S32	—	249.00
ZPUL-30P	0.0025-700	29	± 1	1.5	6	Non-inverting	22	+10	7.2	34	2:1	2:1	24	400	S32	—	295.00

L_w = low range [f_L to $f_U/2$]

m = mid range [$2f_L$ to $f_U/2$]

U = upper range [$f_U/2$ to f_U]

* pulse width for less than 10% droop

** NF tested above 10 MHz

features

- wide bandwidth 2.5 KHz to 700 MHz, useable to 1 GHz
- excellent flatness ± 0.6 dB typical
- can handle wide pulse width & (15 μ s typ.) with excellent rise/fall time (1.1 ns typ.)
- inverting (ZPUL-21) & non-inverting (ZPUL-30P) configurations
- delay time, 1.5 ns typical

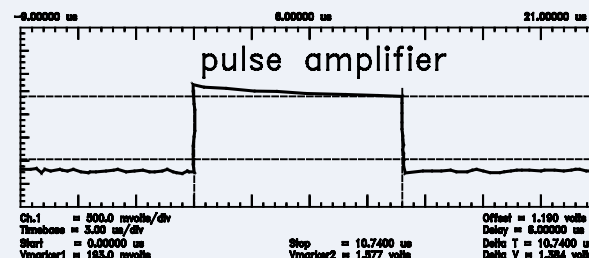
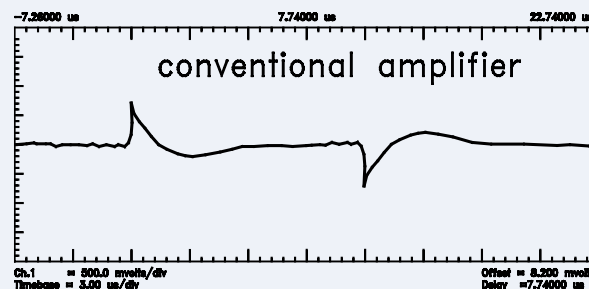
applications

- computers
- digital communication
- medical test set-ups

NOTES:

- * Available only with BNC connectors
 - B. Connector types and case mounted options, case finishes are given in section 0, see "Case styles & Outline Drawings".
 - C. Prices and specifications subject to change without notice.
 - D. For Quality Control Procedures see Table of Contents, Section 0, see "Mini-Circuits Guarantees Quality" article.
- Operating temperature: -20°C to 65°C
Storage temperature: -55°C to 100°C

typical amplifier response to a pulse input



VOLTAGE VARIABLE ATTENUATOR ^{50Ω} Surface Mount

Low DISTORTION 10 MHz to 2500 MHz

NEW!



RVA

MODEL NO.	FREQ. RANGE (MHz) Min. Max.	INSERTION LOSS (dB) at 15V control voltage		ATTENUATION (dB) at 0V control voltage		IP3 (dBm) Typ.	RETURN LOSS† (dB) Typ.	POWER SUPPLY		CONTROL		CASE STYLE Note B	PRICE \$ Qty. (10-49)
		Typ.	Max.	Typ.	Min.			Voltage (V)	Current (mA) Max.	Voltage (V)	Current (mA) Max.		
RVA-2500	10-500	3.0	4.6	55	41	+43	20	+3 to +5	5	0-17	30	DV874	9.95
	500-1500	3.3	5.0	40	30	+43	20	+3 to +5	5	0-17	30		
	1500-2500	4.0	6.2	37	25	+44	20	+3 to +5	5	0-17	30		

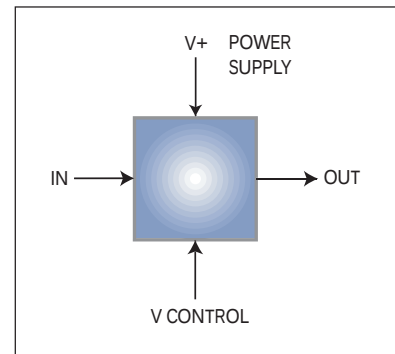
† Improved R. Loss in/out performance can be achieved at certain frequencies by choosing a V+ between +3V to +5V

features

- broadband, 10-2500 MHz
- IP3, +43 dBm typ.
- 40 dB attenuation @ 1500 MHz
- good VSWR at IN/OUT ports over attenuation range
- minimal phase deviation over attenuation range
- no external bias and RF matching network required
- shielded case

applications

- power level control
- feed-forward amplifiers



NOTES:

- Environmental specifications and re-flow soldering information available in General Information Section.
 - Units are non-hermetic unless otherwise noted. For details on case dimensions & finishes see "Case Styles & Outline Drawings".
 - Prices and Specifications subject to change without notice.
- Absolute Maximum power, voltage and current rating:
 - max. supply voltage (V+): 12V
 - max. control voltage (Vctrl): 20V
 - Operating Temperature, -55°C to 85°C

pin connections

See case style outline drawing for pin locations

PORT	np
IN	2
CONTROL	6
OUT	10
V+	14
GROUND	1,3,4,5,7,8,9,11,12,13
DEMO BOARD	TB-163



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