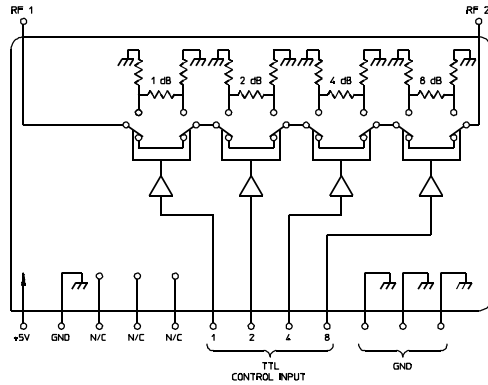


# ADS-41V-1000

# 15 dB DIGITAL ATTENUATOR

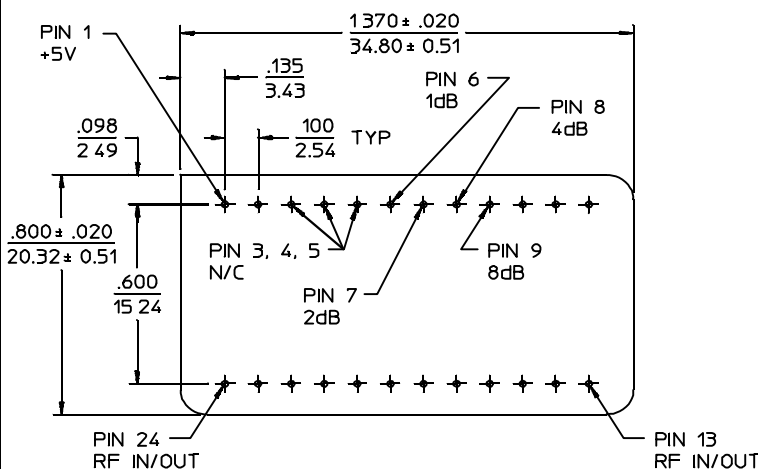
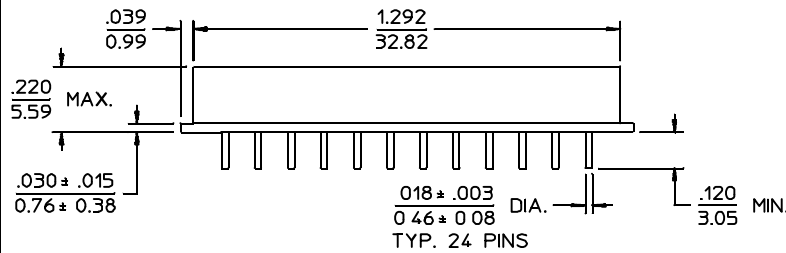
50 to 1500 MHz / 0 to 15 dB in 1 dB Steps / 4-Bit Direct TTL Control / Monotonic / +5V Supply



## V Package Outline - 24 pin Dual In Line

TRUTH TABLE				
Attenuation Setting, dB	Control Inputs			
	"6"	"7"	"8"	"9"
Reference	0	0	0	0
1	1	0	0	0
2	0	1	0	0
4	0	0	1	0
8	0	0	0	1

"1" = Logic High TTL  
"0" = Logic Low TTL

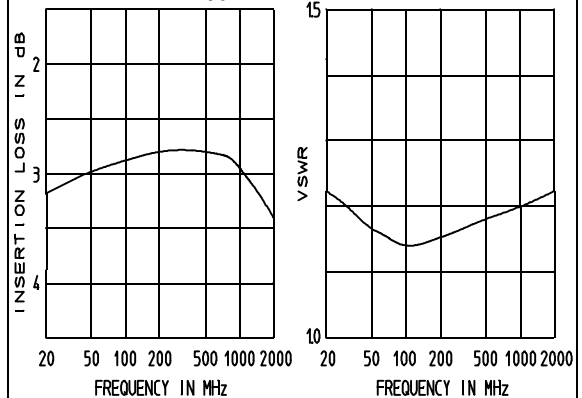


- NOTES:
1. Tolerance on 3 place decimals  $\pm .010(.25)$  except as noted.
  2. Dimensions in inches over millimeters.
  3. Lead dimensions apply only at body.
  4. All unmarked terminals are ground.

## GENERAL SPECIFICATIONS

- Frequency Range: 50 - 1500 MHz
- Attenuation Range: 0 - 15 dB
- Minimum Step Size: 1 dB
- Attenuation Flatness:  $\pm 0.5$  dB/bit max.  
 $\pm 1.0$  dB max
- Attenuation Accuracy:  $\pm 0.5$  dB at  $f_0$
- Insertion Loss: 4 dB max.
- Phase Variation:  $\pm 10^\circ$  typ.
- VSWR: 1.7:1 max.
- Impedance: 50  $\Omega$  nom.
- Switching Delay Time: 2  $\mu$ s typ.  
(50% control transition to 10/90% RF)
- Switching Transients: 20 mV typ.  
(50% control transition to 10/90% RF)
- Bias Requirement: +5 VDC  
@ 80 mA nom.
- Input Intercept Point: +32 dBm typ.
- Input Power: 0.25 W max.
- Weight, nominal: 0.4 oz (11 g)
- Operating Temperature:  $-55^\circ$  to  $+85^\circ$ C

## Typical Performance



### General Notes:

1. The ADS-41V-1000 is constant impedance, 4-bit digital attenuator covering 50 to 1500 MHz and driven directly by TTL logic. PIN diode switched attenuator pads are activated by Advanced Fact™ C-MOS, TTL compatible logic drivers, allowing high speed operation without need of a negative supply.
2. Careful design of thick film resistive pads and detailed selection of suitable PIN diodes provide a wide bandwidth with minimal phase shift.

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