CDATQ-DC13G-64-10 is a 4 channel programmable attenuator designed for adjusting the amplitude of radio and microwave signals of bandwidths from DC to 13 GHz.

Features:

- Very wide band operation DC-13.0 GHz
- 10 Bit (1024 step) range
- 0.0625 dB step
- Precise repeatability

Specifications:

Frequency Range:	DC-13.0 GHz
Attenuation Range:	64 dB
Least Significant Bit (LSB):	0.0625 dB
Insertion Loss:	5.5dB Typ, 7.0 dB Max
VSWR:	1.35:1 max
Phase deviation consecutive step:	+/-1 picoseconds max.
Repeatability error (dB):	+/- 0.02 dB max.
Impedance:	50 Ohms nominal
Insertion delay:	0.3 to 0.6 ns
Control data latch setup time:	3.5 ns
Control data latch hold time:	1.5 ns
Control propagation delay max.:	<12 ns (can be pipelined)
Attenuation switch time(10/90%):	<35 ns
Input power:	18 dBm Max
Supply voltage requirement:	+5 (<10 mV noise)
Supply current:	< 0.8 Amps

Environmental Ratings:

Temperature:	-25°C to +85 °C Operating
	-55 °C to +125 °C Non-Operating
Vibration:	MIL-STD-202F, Method 204D Cond. B
Altitude:	MIL-STD-202F, Method 105C Cond. B
Temperature Cycle:	MIL-STD-202F, Method 107D Cond. A

Mechanical Specifications:

Parameter	Specification
Dimensions WxHxD	3.80X2.75X0.60 inches
RF Connectors In/Out	SMA-Female
DC Connector	D-SUB 25Pin
Material	Aluminum

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Digital Control PIN Attenuators
CDATQ-DC13G-64-10

DRAWN:	DWG NO.:	REV CODE: Rev.1.0	CONNPHY Microwave Inc. www.connphy.com sales@qiidao.com
CHECKRD:	DATE: 08/07/15	SHEET : 1 OF 3	
ISSUED:	SIZE: A	SCALE : N / A	Notes: SPEC ARE SUBJECT TO CHANGE WITHOUT NOTICE.

Programming:

The attenuation is equal to the 0.0625 dB step size times the 10 bit control word. Each of the 10 bits corresponds to a separate attenuator element. Each channel is addressed (selected) by a separate address line AO, Al, A2 and A3. This allows any combination of channels to be identically programmed simultaneously. The WE (write enable) line is activated (low) while data is valid. The DS (device select) line, active low, is useful for selecting a particular unit when more than one unit is used in conjunction. Data, address and DS should be valid for at least 4 ns, after WE goes low and should remain valid 3 ns. after WE goes high. Programming can be done without using the WE or DS line by tying them low, applying the desired control word, then selecting the channel. When the channel is de-selected the control word will be latched in that channel. The control word need not be latched if the user wishes to operate the latches transparently. Simply keep the address line high, DS and WE low and the attenuation state of the selected channel(s) will follow the applied data.

Absolute Maximum Ratings:

Power into RF I/O Port A (upper):	18 dBm
Power into RF I/O Port B (lower):	25 dBm
DC voltage at RF I/O Port A (upper):	+/- 1.8
DC voltage at RF I/O Port B (lower):	+/-4.0 (+/-3.1V during power-down)
Voltage at TTL inputs:	-0.5 to 7.0
Supply voltage:	-0.5 to 7.0

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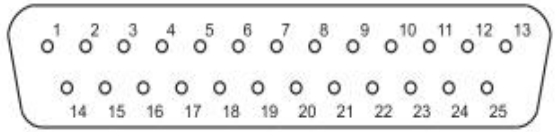
DC Connector PIN Assignment:

Pin	Function	Description
14-17	+5V	
1-10	DO - D9	respectively, active high
22	DS	Device Select, active low
23	WE	Write Enable, active low
18-21	GND	
25	A0	"1" Channel select, active high
12	A1	"2" Channel select, active high
24	A2	"3" Channel select, active high
11	A3	"4" Channel select, active high
13	NC	



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DRAWN:	DWG NO.:	REV CODE: Rev.1.0	CONNPHY Microwave Inc. www.connphy.com sales@qiidao.com
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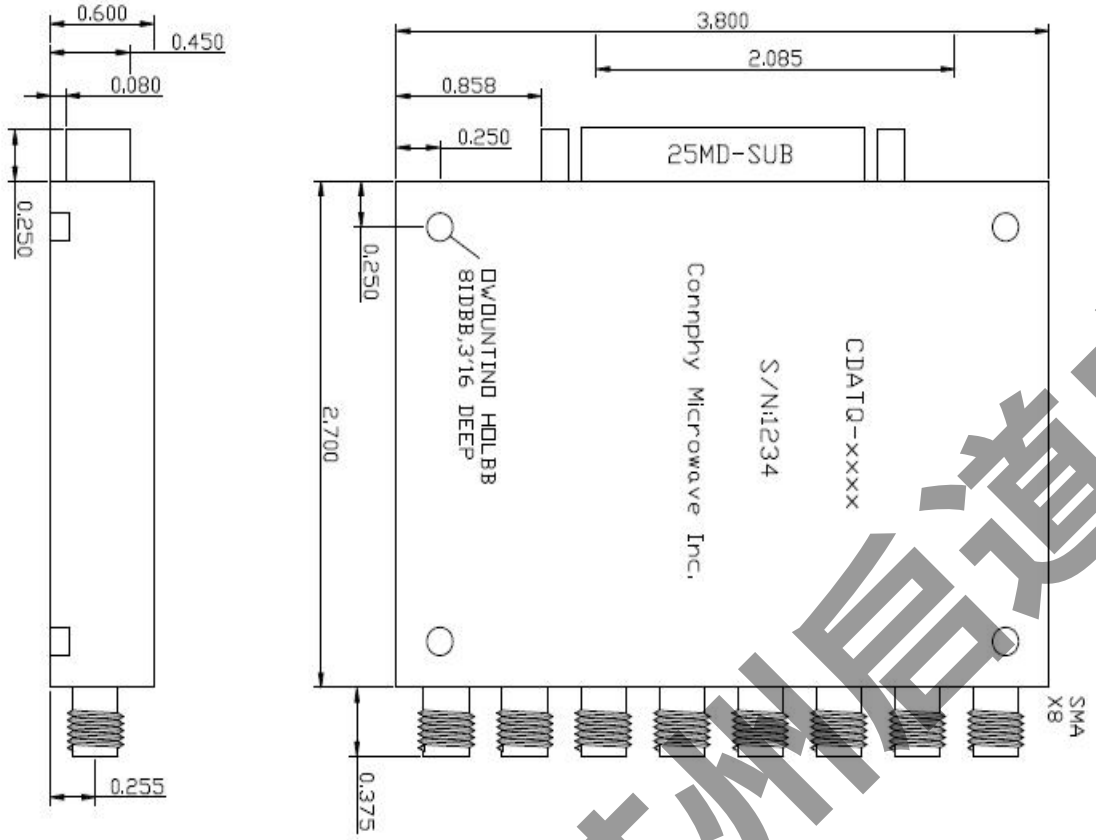
ISSUED:	SIZE: A	SCALE : N / A	Notes: SPEC ARE SUBJECT TO CHANGE WITHOUT NOTICE.

Mechanical Outline (Inches) :



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CHECKRD:	DATE: 08/07/15	SHEET : 3 OF 3	
ISSUED:	SIZE: A	SCALE : N / A	Notes: SPEC ARE SUBJECT TO CHANGE WITHOUT NOTICE.