Qualwave

Digital Controlled Attenuator

QDA-0-50000-31.75-0.25

DC~50GHz, 31.75dB, 0.25dB

Features:
* Broadband
* High Dynamic Range

Applications:
* Wireless
* Transmitter
* Laboratory Test
* Radar

Electrical

Frequency:	DC~50GHz
Insertion Loss:	8dB typ.
Step:	0.25dB
Attenuation Range:	0~31.75dB
Attenuation Accuracy:	±1.5dB typ. @0~16dB
	±4dB typ. @16.25~31.75dB
VSWR:	2 typ.
Voltage/Current:	-5V @6mA typ.

Absolute Maximum Ratings*1

Input Power:	+24dBm max.

[1] Permanent damage may occur if any of these limits are exceeded.

Mechanical

Size*2:	36*26*12mm
	1.417*1.024*0.472in
RF Connectors:	2.4mm Female
Switching Time:	20ns typ.
Power Supply & Control	30J-9ZKP
Interface Connectors:	
Mounting:	4-Φ2.8mm through-hole
Logic Input:	On: 1(+2.3~+5V)
	Off: 0(0~+0.8V)

[2] Exclude connectors.

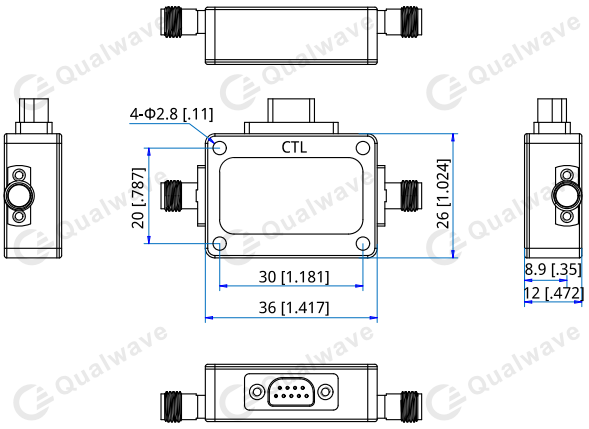
Pin Numbering

Pin	Function	Pin	Function
1	C1:-0.25dB	6	C6:-8dB
2	C2:-0.5dB	7	C7:-16dB
3	C3:-1dB	8	VEE
4	C4:-2dB	9	GND
5	C5:-4dB		

Environmental

Operating Temperature:	-45~+85℃
Non-operating Temperature:	-55~+125℃

Outline Drawings



Unit: mm [in]
Tolerance: ±0.2mm [±0.008in]

Logic Table

State	C1	C2	C3	C4	C5	C6	C7	VEE	Attenuation State
-	0	0	0	0	0	0	0	-5V	Reference IL
1	1	0	0	0	0	0	0	-5V	0.25dB
2	0	1	0	0	0	0	0	-5V	0.5dB
3	0	0	1	0	0	0	0	-5V	1dB
4	0	0	0	1	0	0	0	-5V	2dB
5	0	0	0	0	1	0	0	-5V	4dB
6	0	0	0	0	0	1	0	-5V	8dB
7	0	0	0	0	0	0	1	-5V	16dB
8	1	1	1	1	1	1	1	-5V	31.75dB

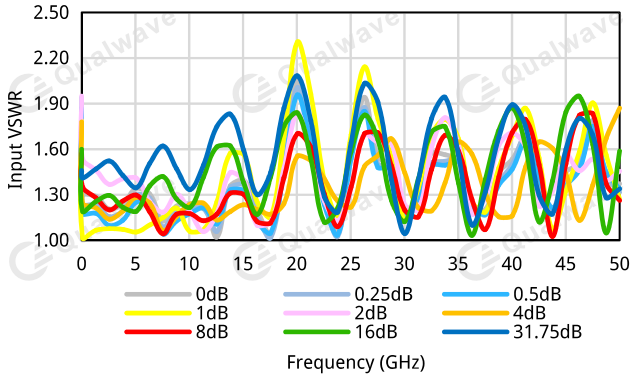
How To Order

QDA-0-50000-31.75-0.25

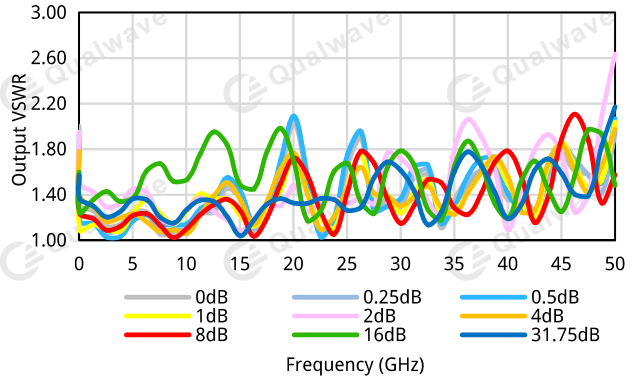
Customization is available upon request.

Typical Performance Curves

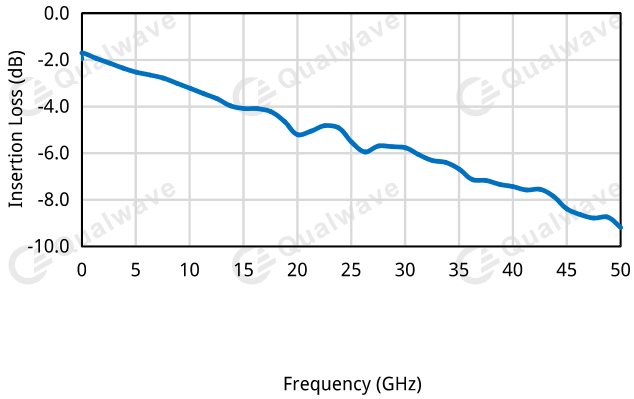
Input VSWR vs. Frequency



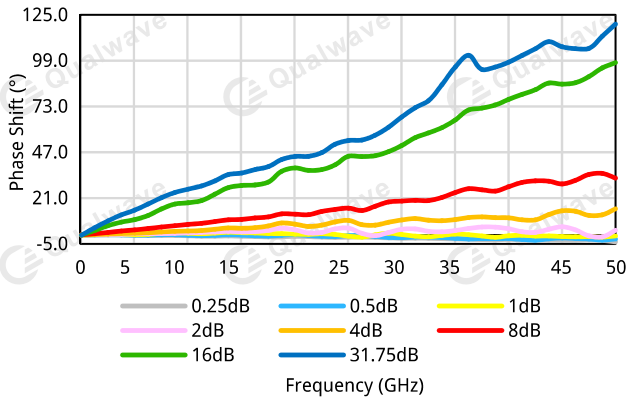
Output VSWR vs. Frequency



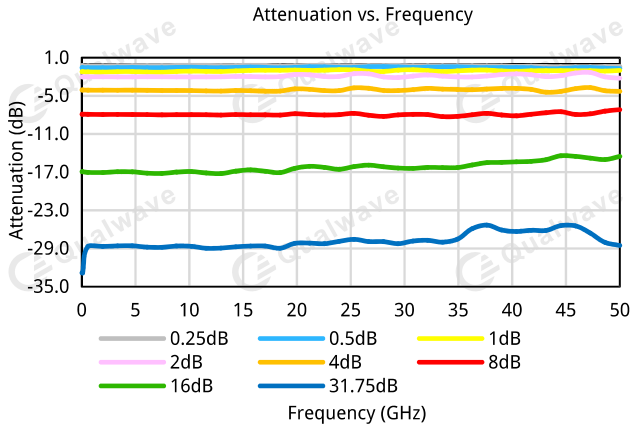
Insertion Loss vs. Frequency



Phase Shift vs. Frequency



Attenuation vs. Frequency



Attenuation Accuracy vs. Frequency