

QQ-73

Digitally Controlled Analog Phase Shifters

Features

- 8 bit Digital logic standard
- Octave bands up to 18 GHz
- RF power operation 10mW peak/CW, RF power survival 100mW peak/CW
- Custom configurations available



Specifications:

Parameter	Specification	Units
Frequency Range (min)	8.0 – 10.0	GHz
Phase Shift	180	Degrees
Insertion Loss (Max)	6	dB
Amplitude Ripple (Max)	1.0	±dB
VSWR (Max)	2.0:1	Ratio

Outline	A'	B'	C'	D'	E'	F'	G'
4	3.00	2.00	1.50	1.80	2.50	0.30	3PLCS

Screening:

Internal Visual per MIL-STD-883, Method 2017
Temperature Cycle: -65 °C to +100 °C, 10 cycles

Hermetically-sealed switches are fine and gross leak checked per MIL-STD-883, Method 1014.

Optional High-Rel screening available upon request. Contact the factory to discuss your screening requirements.

Environmental Specifications:

Designed to meet:

MIL-E-5400, MIL-STD-202, MIL-E-16400

Operating Temp: -55°C to +125°C

Storage Temp: -65°C to +150°C

Humidity: MIL-STD-202F, M103, Cond B

Shock: MIL-STD-202F, M213, Cond B

Altitude: MIL-STD-202F, M105, Cond B

Vibration: MIL-STD-202F, M204, Cond B

Thermal Shock: MIL-STD-202F, M107, Cond A

Temperature Cycle: MIL-STD-202F, M105C, Cond D

Additional Electrical Specifications:

DC Supply: +5V ±0.5V @ +275mA
-5V ±0.5V @ -50mA

Control: 8 Bits command
1 Strobe line
Positive edge latched
TTL/HMOS

Logic Levels: TTL/HMOS

Attenuation Accuracy: +/-0.15 dB or +/-1.5% whichever is greater

Attenuation Stability over Temperature: +/-0.025 dB/°C

Mechanical Specifications:

Case Style: QQ Outline

Connectors: SMA Female per MIL-C-39012

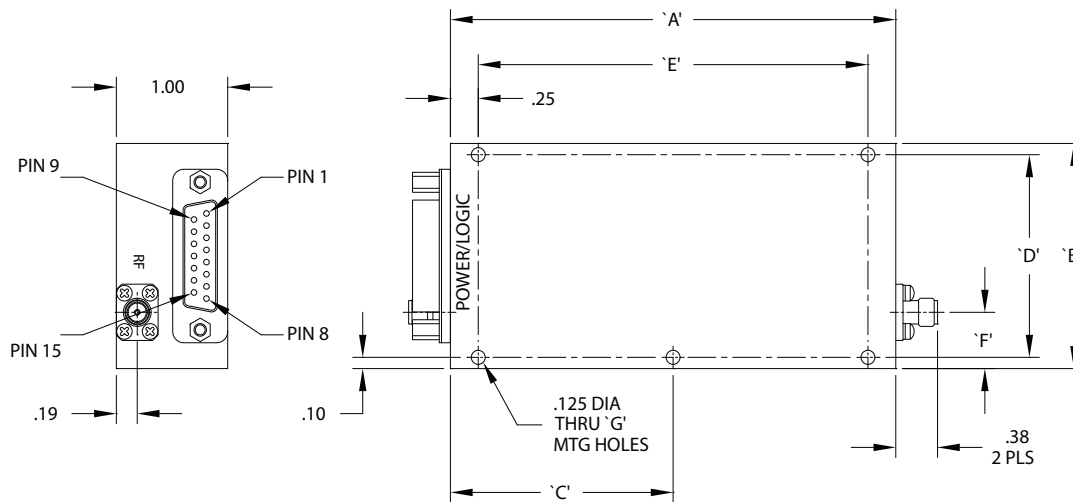
Connector Control: Micro-D 21 Pin

Bias & Control Pins: ø0.02" x 0.15" long

Mounting: ø0.10" through holes
(4) places



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OUTLINE CASE STYLE QQ

Notes:

1. The voltages required are $\pm 15V @ 50mA$.
2. The Phase shift varies with frequency at any voltage setting. This variation, referenced to 0° at logic 0 for each frequency, is approximately $\pm 15\%$ for octave models, 10% for models with 25% bandwidth, and $\pm 7.5\%$ for models with 10% bandwidth. Phase flatness of the QQ-65 & QQ-74 is $\pm 25\%$.
3. Switching speed on all models is $200nS$.
4. Monotonicity is Guaranteed.
5. Least Significant BIT = Total Phase Shift divided by the number of steps. 8 BITS = 256 steps.

Custom Options – Contact the Factory

- Gray epoxy paint per MIL-C-22750
- Video transient suppression
- GPO connectors
- ECL logic input
- Phase and amplitude tracking
- Other frequency ranges available from 1MHz to 26GHz
- Reversed logic
- Available without SMA connectors for drop-in applications
- High rel screening

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ISO 9001:2008 certified



Our passion for performance is defined by three attributes represented by these three icons: solution-minded, performance-driven and customer-focused.