STANDARD DIGITAL ATTENUATORS

Advanced Control Components' line of switched-bit PIN diode digital attenuators offers precision, reliability, and repeatability for the most demanding applications. The AT series digital attenuators are available in convenient binary 4-, 5-, and 6-bit configurations with 0.5dB resolution and up to 63dB total attenuation. The attenuators require only a single +5V DC power supply and feature TTL-compatible control logic. All switches incorporate DC blocks at the RF ports. Standard screened devices incorporate epoxy sealed lids and undergo a stringent yet cost effective screening cycle. The attenuators are also available with hermetic seal and high-rel screening for mil and space applications.

Applications:

- EW Systems
- Communications Systems
- Automatic Gain Control
- Test Equipment
- Electronic Simulators
- Leveling Circuits

Frequency Range	Part Number	Type	Total Attenuation (dB)	LSB (dB)	MSB (dB)	Insertion Loss (dB max)	VSWR (max)
1 – 2 GHz	**ATL4A**	4-BIT	7.5	0.5	4	2.5	1.5
	ATL4B	4-BIT	15	1	8	2.5	1.5
	ATL4C	4-BIT	30	2	16	2.5	1.5
	ATL4D	4-BIT	60	4	32	2.5	1.5
	ATL5A	5-BIT	15.5	0.5	8	2.8	1.5
	ATL5B	5-BIT	31	1	16	2.8	1.5
	ATL5C	5-BIT	62	2	32	2.8	1.5
	ATL6A	6-BIT	31.5	0.5	16	3.3	1.6
	ATL6B	6-BIT	63	1	32	3.3	1.8
2 – 4 GHz	**ATS4A**	4-BIT	7.5	0.5	4	2.9	1.6
	ATS4B	4-BIT	15	1	8	2.9	1.6
	ATS4C	4-BIT	30	2	16	2.9	1.6
	ATS4D	4-BIT	60	4	32	2.9	1.6
	ATS5A	5-BIT	15.5	0.5	8	3.1	1.6
	ATS5B	5-BIT	31	1	16	3.1	1.6
	ATS5C	5-BIT	62	2	32	3.1	1.6
	ATS6A	6-BIT	31.5	0.5	16	3.7	1.7
	ATS6B	6-BIT	63	1	32	3.7	1.7

CONTROL LOGIC TABLE

Part Number	E1	E2	E3	E4	E5	E6
ATL4A / ATS4A	0.5dB	1dB	2dB	4dB	N/C	N/C
ATL4B / ATS4B	1dB	2dB	4dB	8dB	N/C	N/C
ATL4C / ATS4C	2dB	4dB	8dB	16dB	N/C	N/C
ATL4D / ATS4D	4dB	8dB	16dB	32dB	N/C	N/C
ATL5A / ATS5A	0.5dB	1dB	2dB	4dB	8dB	N/C
ATL5B / ATS5B	1dB	2dB	4dB	8dB	16dB	N/C
ATL5C / ATS5C	2dB	4dB	8dB	16dB	32dB	N/C
ATL6A / ATS6A	0.5dB	1dB	2dB	4dB	8dB	16dB
ATL6B / ATS6B	1dB	2dB	4dB	8dB	16dB	32dB

Attenuation Accuracy:	+/-0.4dB (0-20dB attenuation) +/-2% (above 20dB attenuation)
Attenuation Flatness:	+/-0.5dB max
Logic Control:	TTL 0 = Low Loss TTL 1 = Attenuation

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ADDITIONAL ELECTRICAL SPECIFICATIONS:

DC Bias: +5V +/-0.5V @	130mA max (4-Bit models)
	160mA max (5-Bit models)
	190mA max (6-Bit models)
Switching Speed:	250nsec max (50%TTL-90%RF)
	75nsec max (50%TTL-10%RF)
	175nsec max (10%RF-90%RF)
	25nsec max (90%RF-10%RF)
Operating RF Power:	1W CW max

ENVIRONMENTAL SPECIFICATIONS:

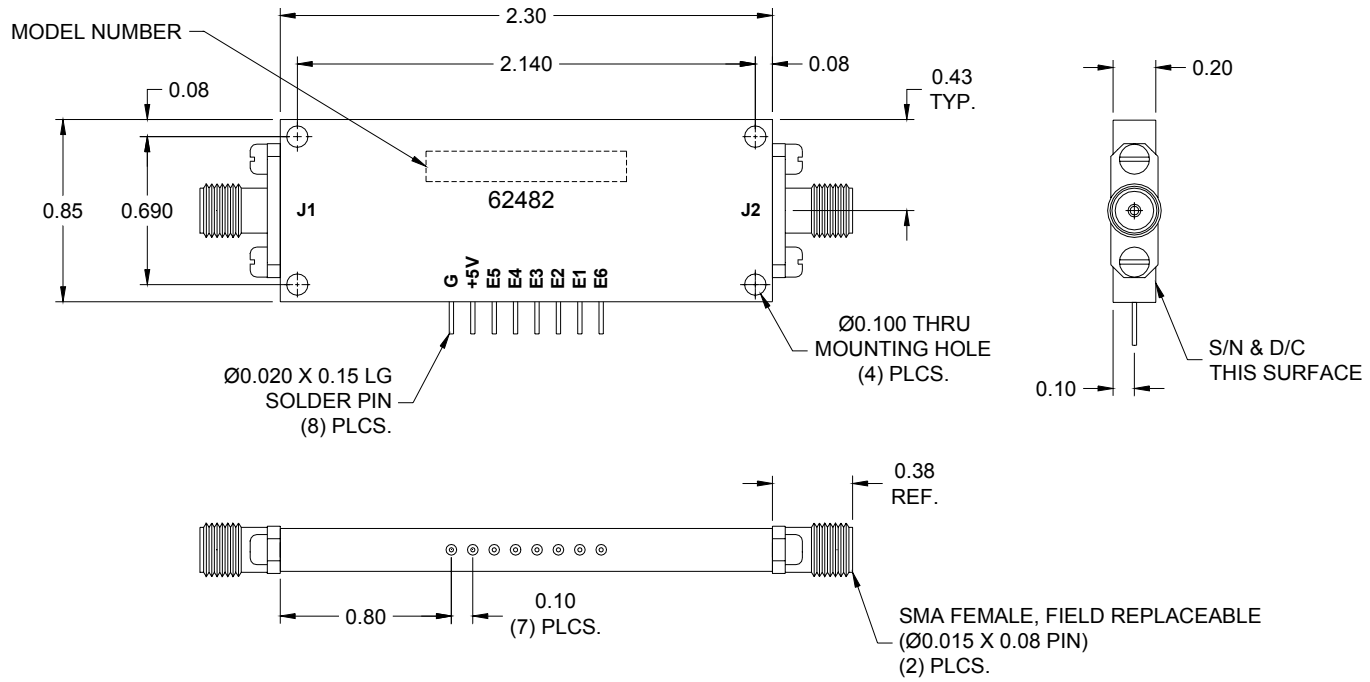
MIL-E-5400, MIL-STD-202, MIL-E-16400
Operating Temp: -55°C to +85°C
Storage Temp: -65°C to +125°C
Humidity: MIL-STD-202F, M103, Cond B
Shock: MIL-STD-202F, M213, Cond B
Altitude: MIL-STD-202F, M105, Cond B
Vibration: MIL-STD-202F, M204, Cond B
Thermal Shock: MIL-STD-202F, M107, Cond A
Temperature Cycle: MIL-STD-202F, M105C, Cond D

MECHANICAL SPECIFICATIONS:

Case Style: AT Outline
Finish: Gold plate per MIL-G-45204
Connectors: SMA Female per MIL-C-39012
Bias & Control Pins: ø0.02" x 0.15" long
Weight: 19g max
Mounting: ø0.10" through holes (4) places

SCREENING :

Standard Screening:
Internal Visual per MIL-STD-883, Method 2017
Temperature Cycle: -65°C to +100°C, 10 cycles
Optional High-Rel Screening (Ref MIL-PRF-38534):
Internal Visual per MIL-STD-883, Method 2017
Stabilization Bake per MIL-STD-883, Method 1008
Temperature Cycle per MIL-STD-883, Method 1010
Constant Acceleration per MIL-STD-883, Method 2001
Burn-in per MIL-STD-883, Method 1015
Leak Test per MIL-STD-883, Method 1014
External Visual per MIL-STD-883, Method 2009



OUTLINE CASE STYLE AT

OPTIONS:

- Other frequency ranges available
- Reversed logic
- Available without SMA connectors for drop-in applications
- Hermetic seal (Add "H" to part number)
- Supply voltage options: +12V, +15V
- Video transient suppression
- GPO connectors
- ECL logic inputs
- Other attenuation BIT values and ranges available
- Phase free performance
- Unit-to-unit phase and amplitude tracking

*** Contact the factory for price and delivery or to discuss custom requirements**

AT-0205

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