



Model 3203 & 3204 Phase Compensated Programmable Attenuators

dc to 1.5 GHz
1 Watt

Ruggedized SMA Connectors



Features

- /// Usable to 2.0 GHz
- /// Low Current Gain
- /// Switching Time - Cell switching is completed, after electrical command, within 6 msec.
- /// Long Switch Life - Each cell has a rated switch life of 5,000,000 switching operations.
- /// Designed to meet many of the environmental requirements of MIL-A-24215, Class IV

Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 1.5 GHz

MAXIMUM SWR:

Frequency Range (GHz)	SWR
dc - 1.0	1.25
1.0 - 1.5	1.35

CELL CONFIGURATIONS:

Model Number	NO. Cells	Attenuation Range/Steps (dB)	Cell Increments (dB)
3203-1	8	103/1	1, 2, 4, 8, 16, 24, 24, 24
3204-1	6	55/1	1, 2, 4, 8, 16, 24

MAXIMUM INSERTION LOSS (dB):

Frequency Range (GHz)	3203-1	3204-1
dc - 0.5	2.50	2.00
0.5 - 1.0	3.25	2.75
1.0 - 1.5	3.75	3.25

INCREMENTAL ATTENUATION ACCURACY:

±0.3 dB or 1.0%

INCREMENTAL PHASE DEVIATION: 10° maximum for any attenuator setting.

INCREMENTAL TEMPERATURE COEFFICIENT:

0.00005 dB/dB/°C

POWER RATING: 1 watt average to 25 °C ambient temperature, derated linearly to 0.25 watt @ 71 °C. 50 watts peak (5 μsec pulse width; 1% duty cycle)

POWER COEFFICIENT: < 0.005 dB/dB/watt

RATED SWITCH LIFE: 5 million cycles operations per cell @ 0 dBm

SWITCHING TIME: 6 msec maximum at nominal rated voltage

RELEASE TIME: 3 msec maximum

CYCLING RATE: 5 Hz maximum per relay

OPERATING VOLTAGE: +12V (+16V maximum; +9V minimum)

OPERATING CURRENT: 14 mA typical per cell @ +12V

TEMPERATURE RANGE (Operating): -55°C to +71°C

CALIBRATION: Test data is available at additional cost.

CONNECTORS: SMA female connectors per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connectors.

CONTROL TERMINALS: 0.040 inch (1 mm) diameter solderable leads. May be used with PC board sockets/receptacles.

CONSTRUCTION:

Housing: Aluminum

Connectors: Stainless steel body and beryllium copper contacts.

Control terminals: Brass/Copper, Silver plated

WEIGHT (Typical): 3203-1: 108 g (3.9 oz)

3204-1: 84 g (3.0 oz)

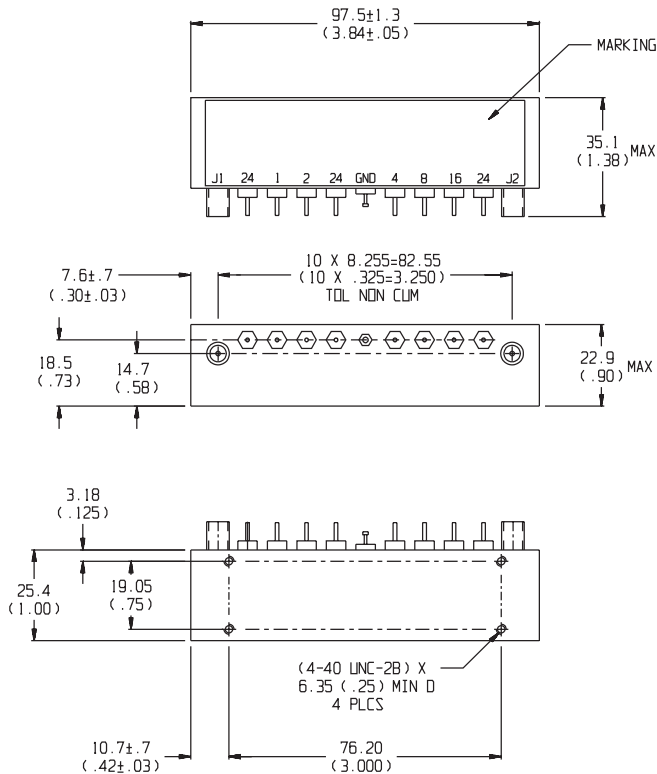
CONTROL CONFIGURATION:

One terminal is connected to case ground and the remaining terminals are provided for activation of individual cells. Attenuation is fail-safe to "0" setting in the absence of a control voltage. Application of a voltage (+) to a particular cell causes it to switch to the attenuate position.

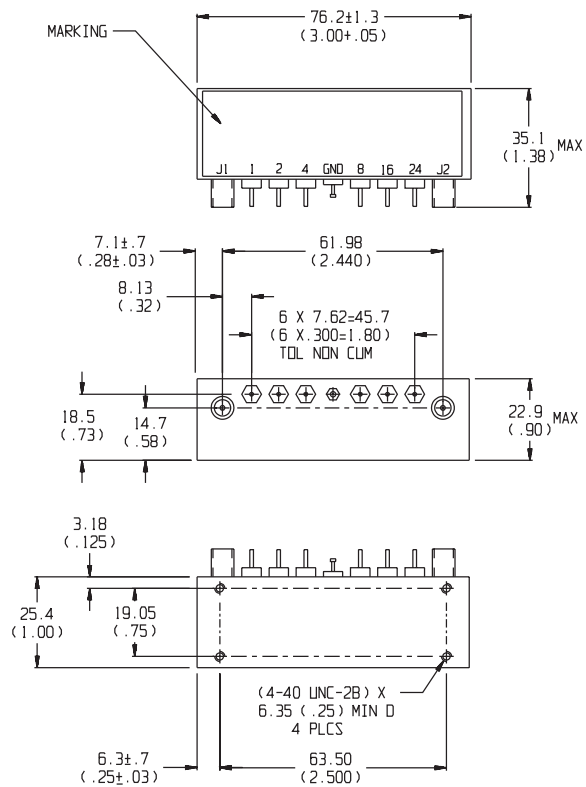
Note: Control is non-latching and requires a continuous control signal for the period of time in which attenuation is required.

PHYSICAL DIMENSIONS:

Model 3203-1:



Model 3204-1:



UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN MM (INCHES)
TOLERANCES ARE:
.X +/- .5(.02)
.XX +/- .25(.01)

NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.