Variable Attenuators



Models 3003, 3006, 3007, 3010, & 3014 dc to 2.5 GHz Manual Step, Ruggedized SMA Connectors 1 Watt



Features

// New Models - Models 3053 & 3054 offer an extended frequency range to 6 GHz.

// Available Express Models: 3003-100

3010-100

Other models may be available for Express delivery.

- High Reliability Repeatability better than 0.1 dB over frequency range and life. Weinschel patented detent mechanism, tested to 1,000,000 operations at +75°C, operates dependably even down to -40°C.
- Product Uniformity High volume fabrication techniques, including injection molding, stamping, broaching and thick film printing ensure a cost effective and uniform product.
- Low Frequency Sensitivity Typically 0.1 to 0.2 dB up to 2.5 GHz.
- Shock Resistant 100% spring contact system withstands mechanical and thermal shock and eliminates the need for epoxy or solder.
- Wide Selection Wide choice of attenuation ranges and increments in standard stock models. Single and dual drum configurations available.
- Knob Included Knobs for both single and dual drum models are included with every attenuator. Characters are screened on the face of the knob insert which is coated with a clear layer of epoxy for protection.

Special Configurations

Some modifications to the basic configuration of the 3000 Series can be made during manufacturing. Examples of these special configurations are shafts having special lengths and ends; clockwise shaft rotation; modified mounting arrangements; and provisions for add-on items such as concentric potentiometer and ganged switches.

Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: FREQUENCY RANGE:

Models 3006, 3014: dc to 1.25 GHz

Models 3003, 3007, 3010: dc to 2.5 GHz

INCREMENTAL ATTENUATION RANGE/STEPS:

 Model 3003:
 0-70 dB in 10 dB steps

 Model 3006:
 0-100 dB in 10 dB steps

 Model 3007:
 0-10 dB in 1 dB steps

 Model 3010:
 0-70 dB in 1 dB steps

 Model 3014:
 0-110 dB in 1 dB steps

POWER COEFFICIENT: < 0.006 dB/dB/watt
TEMPERATURE COEFFICIENT: 0.0004 dB/dB/ °C

TEMPERATURE RANGE:

Operating: -40°C to +65°C Non-Operating: -54°C to +85°C

ATTENUATION ACCURACY:			
Model	Accuracy		
3003	± 0.3 dB or 1% up to 60 dB ± 2% to 70 dB		
3006	± 0.3 dB or 1% up to 60 dB ± 2% to 100 dB		
3007	<u>+</u> 0.3 dB		
3010	± 0.3 dB up to 10 dB ± 0.3 dB or 1.5% to 60 dB ± 2 % to 70 dB		
3014	± 0.3 dB up to 10 dB ± 0.3 dB or 1.5% to 60 dB ± 3% to 110 dB		

POWER RATING: 1 watts **average** @ 25°C ambient temperature, derated linearly to 0 watts @ 65°C. 100 watts **peak** (5 μ sec pulse width; 0.5 % duty cycle).

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

SHAFT ROTATION: counter clockwise for increasing

attenuation

STEP ANGLE: 32.7°

DRUM CONFIGURATIONS:

Single Drum: 3003, 3006, 3007 Dual Drum: 3010, 3014



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MAXIMUM SWR & ZERO INSERTION LOSS:			
Model	Frequency (GHz)	SWR	Loss (dB)
3003	dc - 2.5	1.20	< 0.3
3006	dc - 1.25	1.20	< 0.2
3007	dc - 2.5	1.30	< 0.3
3010	dc - 2.5	1.35	< 0.7
3014	dc - 1.25	1.30	< 0.5

SWITCHING LIFE: 1,000,000 steps

REPEATABILITY: ±0.1 dB over frequency range and rated

life

ROTATION STOPS: Supplied on 10 dB step drums (not

supplied on 1 dB drums).

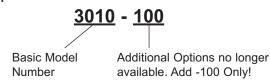
INCREMENTAL PHASE SHIFT: ~0.25° per dB x f(GHz) **CONSTRUCTION:** Shafting and external hardware and connector shells: CRES Type 303, per ASTM-A582 passivated per QQ-P-35. Housing: AL ALLOY Gold Flash. Knob is included with each unit.

TEST DATA: Test data is available at additional cost. **WEIGHT:** Single drum: Net 125 g (4.4 oz)

Dual drum: Net 201 g (9.9 oz)

MODEL NUMBER DESCRIPTION:

Example:



PHYSICAL DIMENSIONS:

