

# Data Sheet

## 5 MHz Sweep Function Generator Model 4012A



Model 4012A is a popular 5 MHz generator for general bench and lab use with an ideal mixture of features and sweep function at a compelling price.

### Features & Benefits

- 0.5 Hz to 5 MHz
- Sine, Square, Triangle, Pulse, and Ramp output
- Coarse and fine tuning knobs
- 4-digit LED display
- Linear and log sweep
- Variable duty cycle
- Variable DC offset
- Variable 20 Vpp output into open circuit (10 Vpp into 50 Ω)

| Specifications                            | 4012A   |
|---|---|
| <b>Frequency Characteristics</b>          |   |
| Waveforms                                 | Sine, Square, Triangle, $\pm$ Pulse, $\pm$ Ramp   |
| Range                                     | 0.5 Hz to 5 MHz in 7 ranges   |
| Resolution                                | 4 digits  |
| Tuning Range                              | 10:1  |
| Fine                                      | $\pm 5\%$ of coarse setting   |
| Variable Duty Cycle                       | 15:85:15 cont variable  |
| Operating Modes                           | Normal, Sweep, VCG  |
| <b>Output Characteristics</b>             |   |
| Impedance                                 | 50 $\Omega$ $\pm 10\%$  |
| Level                                     | 20 V p-p Open circuit, 10 V p-p into 50 $\Omega$  |
| Amplitude                                 | Variable, 20 dB range typical   |
| Attenuation                               | -20 dB $\pm 1$ dB   |
| DC Offset                                 | Preset: $\pm 0.1$ V typical<br>Variable: $\pm 10$ V open-circuit $\pm 5$ into 50 $\Omega$ |
| <b>Sine Wave</b>                          |   |
| Distortion                                | <3% typical at 1 kHz  |
| Flatness (Into 50 $\Omega$ )              | $\pm 5\%$ $\pm (.45$ dB) 0.5 Hz to 5 MHz  |
| <b>Square Wave</b>                        |   |
| Symmetry                                  | 0.1 Hz to 100 kHz <2%   |
| Rise time (Into 50 $\Omega$ )             | $\leq 120$ nS   |
| <b>Triangle Wave</b>                      |   |
| Linearity                                 | $\geq 98\%$ to 100 kHz  |
| <b>TTL Output</b>                         |   |
| Level                                     | 0.8 V to 2.4 V  |
| Rise time                                 | $\leq 20$ nS  |
| Duty Cycle                                | 50% typical   |
| <b>CMOS Output</b>                        |   |
| Max. Frequency                            | 2 MHz   |
| Level                                     | 4 V to 14 V $\pm 0.5$ V p-p continuously variable   |
| Rise Time                                 | $\leq 120$ nS (Open circuit)  |
| <b>VCG (Voltage controlled generator)</b> |   |
| Input Voltage                             | 0-10 V $\pm 1$ V causes a 100:1 frequency change  |
| Impedance                                 | 10 k $\Omega$ $\pm 5\%$   |
| <b>Sweep Operation</b>                    |   |
| Mode                                      | LIN/LOG   |
| Width                                     | 100:1 continuously variable   |
| Rate                                      | 0.5 s to 30 s continuously variable   |
| <b>Frequency Counter</b>                  |   |
| Accuracy                                  | Time base accuracy $\pm 1$ count  |
| Time Base Accuracy                        | $\pm 10$ ppm (23 $^{\circ}$ C $\pm 5$ $^{\circ}$ C)                                       |
| Display                                   | 4 digit LED   |
| <b>General</b>                            |   |
| AC Input                                  | 120/230 VAC $\pm 10\%$ , 50/60 Hz, internal jumper selectable                             |
| Dimensions (W x H x D)                    | 10.5" x 4.5" x 12.25" (266.7 x 114.3 x 311.15 mm)   |
| Weight                                    | 4 lbs (1.8 kg)  |
| <b>Two-Year Warranty</b>                  |   |
| Included Accessories                      | Instruction manual, output cable (BNC to alligator clips)                                 |