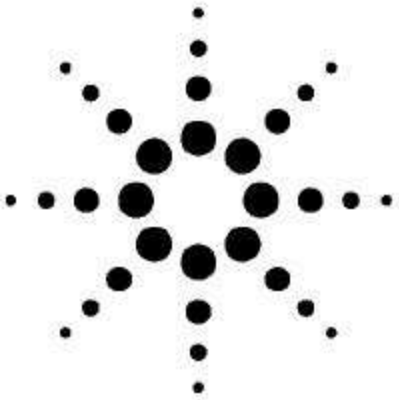

Agilent 5386A Frequency Counter

Data Sheet

Channel B

Range: 100 MHz to 3 GHz (3.5 GHz TYPICAL), prescaled

Sensitivity:
100 MHz to 3 GHz: 15 mVrms (-23.5 dBm)
100 MHz to 3.5 GHz TYPICAL: 5 mVrms (-33.0 dBm)

Maximum Input: 0.5 Vrms (+7 dBm)

Coupling: ac

Impedance: 50 ohm NOMINAL VSWR <2.5:1 TYPICAL **Note:** Manual level not active for Channel B.

Damage Level: ac >4V (+25 dBm) dc +/- 5V

Channel A Range: 10 Hz to 100 MHz

Sensitivity [MAN LEVEL] off: 15 mVrms sine wave 10 Hz to 100 MHz 45 mV pk-pk 5 ns minimum pulse width

Dynamic Range: 45 mV to 4V pk-pk X attenuator setting

Impedance:
X1: 1 Mohm NOMINAL || <25 pF
X20: 500 kohm NOMINAL || <25 pF

Attenuator: X1 or X20 NOMINAL, X20 increase to X40 below 50 Hz
Trigger Level:
[MAN LEVEL] ON: variable from -0.1V to +0.1V x attenuator setting about average signal value
[MAN LEVEL] OFF: automatically set to average value of signal

Damage Level:
X1: 10 - 200 Hz 350V (dc + ac peak) 0.2 - 420 kHz 170V (dc + ac peak) 0.42 - 10 MHz (5 X 10^7 Vrms Hz) / FREQ >10 MHz 5 Vrms
X20: <1 MHz, same as X1 >1 MHz, 50 Vrms

Frequency A and B

Range Channel A: 10 Hz - 100 MHz

Range Channel B: 100 MHz - 3 GHz, prescaled

LSD Displayed: 10 Hz to 1 nHz

LSD: ((4 ns) / (Gate Time)) X FREQ, rounded to nearest decade

Resolution: +/- 1 LSD +/- ((1.4 X Trigger Error + 1 ns rms) / (Gate Time)) X FREQ

Accuracy: +/- Resolution +/- Time Base Error X Frequency

Period A

Range: 10 ns to 0.1s

LSD Displayed: .001 fs to 10 ns

LSD: ((4 ns) / (Gate Time)) X period, rounded to nearest decade

Resolution: +/- 1 LSD +/- ((1.4 X Trigger Error + 1 ns rms) / (Gate Time)) X period

Accuracy: +/- Resolution +/- Time Base Error X Period

Timebase (TCXO)

Frequency: 10 MHz

Aging Rate: <1 X 10e-7/month

Temperature: <2 X 10e-6, 0-40 degrees C (+/-1 X 10e-6, 0-40 degrees C if referenced to 25 degrees C, and set to the offset frequency)

Line Voltage: <5 X 10e-8 for +/-10% variation

Option 004, Oven Timebase

Frequency: 10 MHz

Aging Rate: <3 X 10e-8/month, after 30 days of continuous operation

Temperature: +/-1 X 10e-7, 0-50 degrees C referenced to 25 degrees C

Line Voltage: <2 X 10e-0 for +-10% variation

General

Gate Times: 0.1, 1, or 10s NOMINAL Accuracy: +/-15% + up to 1 period of input signal

Timebase Output: 10 MHz 25 mV pk-pk NOMINAL into 50 ohm load

External Timebase Input: 10 MHz, 0.5 Vrms into 500 ohm; 15V (dc + ac pk) maximum

Operating Temperature: 0 degrees C to 50 degrees C

Power Requirements:

AC Operation: Selectable, 30 VA maximum 115V + 10%, -25%: 48-66 Hz 230V + 10%, -15%: 48-66 Hz 115V + 10%, -10%: 380-420 Hz

Weight: Net, 3.4 kg (7 lb 8 oz) Shipping 5.3 kg (11 lb 9 oz)

Dimensions: 212.3 mm W X 88.1 mm H X 421.6 mm D (8-1/3 X 3-1/2 X 16-1/2 in)