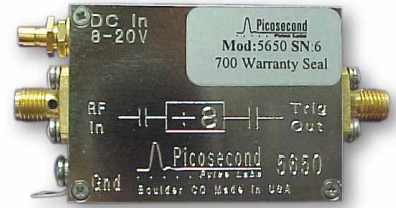




Model 5650
Trigger Countdown

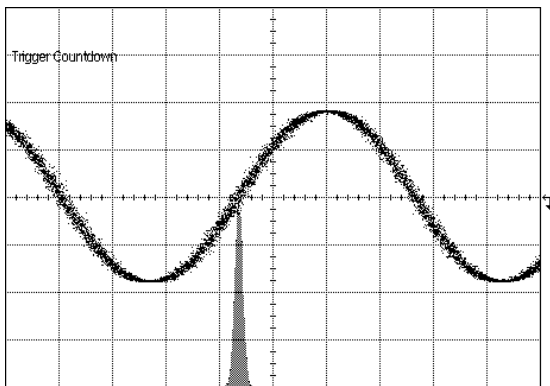
• **200 MHz to 16 GHz**

The Model 5650 Trigger Countdown is a divide-by-8 prescaler that extends the frequency range of 2 GHz frequency counters to 16 GHz. It may also be used as an inexpensive trigger countdown to extend the triggering capability of digital sampling oscilloscopes to 16 GHz. It requires no adjustments to achieve synchronization, unlike the expensive, tunnel diode models offered by other manufacturers. Extremely low timing jitter trigger pulses are characteristic of the 5650.



The waveform plot shown below is a 15 GHz, 0 dBm sine wave along with a jitter histogram measured on an Agilent 86100 oscilloscope using the 5650 as a trigger countdown. The measured timing jitter is a phenomenally low 0.8 ps rms, which includes the combined jitter of the countdown and the scope.

Trigger Countdown



Typical Low Jitter Performance. 15 GHz, 0 dBm input, 100 mV/div and 10 ps/div. Standard Deviation (Jitter) 755 fs @ 15 GHz, 2000 samples.

Frequency Range	< 200 MHz to >16 GHz, typical 0.5 GHz to 15 GHz, guaranteed @ Pin = 0 dBm
Typical Sensitivity	-17 dBm @ 1 GHz to -2 dBm @16 GHz
Max. CW Input Power	+10 dBm, 0.5-12 GHz +4 dBm, 12-16 GHz
Input / Output Impedance	50 Ω
Input / Output Coupling	AC
Output Amplitude into 50 Ω	900 mV ptp, typical
Output Rise/Falltime	80 ps typical
Jitter	< 1 ps rms, typical
Input Return Loss	>20 dB @ 1 GHz, 5 dB typical @ >4 GHz
DC Power Requirements	+8 V to +20 V @ 100 mA
DC Power Connector	SMB
Dimensions	1.25 x 1.75 x 0.625" (3.2 x 4.4 x 1.6 cm) + connectors
Temperature Range	0 C to +65 C, operating case temp, -25 C to +90 C, storage
Accessories Supplied	SMB power cable, 4 ft. Optional Heat Sink Available
Warranty	Static-Sensitive Devices. Limited 30 day warranty

Ordering Information

Model Number	Connector Configuration
5650-106	SMA jacks (f)
5650-125	With heat sink option

Use the 5650 to extend your scope's high-end trigger frequency range from 2-4 GHz up to **16 GHz!**

Compatible with many oscilloscopes including:

- HP-54120
- HP/Agilent 54750 and 83480
- Agilent 86100
- TEK 11801 and CSA-803
- TEK TDS-820
- TEK 8000