

Economic models

TOS-2020CH/2040CH/2050CH

TOS-2020CF/2040CF/2050CF: with built-in 6 digits frequency counter

TOS-2020CT/2040CT/2050CT: with component test function

Features

- ✓ Dual channel 20MHz/40MHz/50MHz
- ✓ 10 times sweep magnification
- ✓ TV synchronization; X-Y mode
- ✓ High illumination internal graticule CRT
- ✓ Encoded switch, reliable and durable
- ✓ Fully sealed durable attenuation switch
- ✓ ALT triggering function, enabling simultaneous observation of two independent signals

TOS-2020CH



TOS-2020CF



TOS-2020CT



Specifications

Model	20MHz	40MHz	50MHz
Vertical system			
Sensitivity	5mV~5V/DIV, 10 steps in 1-2-5 sequence		
Accuracy	≤3%		
Vernier sensitivity	≤1/2.5 of panel indicated value		
Bandwidth	DC (AC 10Hz)~20MHz	DC (AC 10Hz)~40MHz	DC (AC 10Hz)~50MHz
AC coupling	<10Hz (at 100kHz, 8DIV, frequency response -3dB)		
Rise time	Approx. 17.5ns	Approx. 8.75ns	Approx. 7ns
Input impedance	Approx. 1MΩ//Approx. 25pF		
DC balance shift	5mV~5V/DIV: ±0.5DIV		
Vertical mode	CH1, CH2, DUAL (ALT/CHOP), ADD, CH2 INV		
Chopping repetition frequency	Approx. 250kHz		
Input coupling	AC, GND, DC		
Max. Input voltage	400V peak-peak, AC frequency≤1kHz		
Common mode rejection ratio	>50:1 at 50kHz sine wave (set CH1 and CH2 at same sensitivity)		
CH2 INV BAL	Balanced point variation≤1DIV (referred to graticule center)		

Analog Oscilloscope

Horizontal system					
Sweep time		0.2us~0.5s/DIV, 20 steps in 1-2-5 sequence			
Accuracy		±3%, X10MAG: ±5% (20ns~50ns/DIV uncalibrated)			
Vernier sweep time control		≤1/2.5 of panel indicated value			
Sweep magnification		X10 (fastest sweep time 20ns/DIV)			
Position shift@X10MAG		≤2DIV at CRT screen center			
Linearity		±5%, X10MAG: ±10% (0.2s~1us)			
Trigger system					
Trigger mode		AUTO, NORM, TV-V, TV-H			
Trigger level lock		Not provided			
Trigger source		CH1, CH2, ALT, LINE, EXT			
Trigger coupling		AC: 20Hz to full bandwidth			
Trigger slope		“+” or “-”			
Sensitivity	Frequency	20Hz~2MHz	2MHz~20MHz	20MHz~40MHz	40MHz~50MHz
	CH1, CH2	1DIV	1.5DIV	2.5DIV	3DIV
	ALT	2DIV	3DIV		
	EXT	200mV	800mV		
	TV	Sync pulse>1DIV (EXT: 1V)			
External trigger input					
Input impedance		Approx. 1MΩ//Approx. 25pF			
Max. input voltage		400V (DC+AC peak), AC frequency≤1kHz			
X-Y mode					
Sensitivity		5mV~5V/DIV±3%			
X-axis bandwidth		DC~500kHz (-3dB)			
Phase error		≤3° at DC~50kHz			
Calibration signal output					
Waveform		Positive-going square wave			
Frequency		Approx. 1kHz			
Duty ratio		<48:52			
Output voltage		2Vpp±2%			
Output impedance		Approx. 1kΩ			
Frequency counter (only for TOS-2020CF, TOS-2040CF, TOS-2050CF)					
Display		6 digits LED			
Accuracy		±0.01%			
Component test (only for TOS-2020CT, TOS-2040CT, TOS-2050CT)					
Testing subject		Resistor, Capacitor, Coil, Diode, Zener or simple combination of the components			
Testing voltage		Approx. 9Vac pp			
Testing frequency		50/60Hz			
Testing current		Approx. 0.6mA			
CRT					
Type		6-inch rectangular with internal graticule, 8x10DIV (1DIV=1cm)			
Phosphor		P31			
Accelerating voltage		Approx. 2kV (20MHz); Approx. 12kV (40MHz)			
Trace rotation		Adjustable at front panel			
General					
Power source		AC110V/220V±10%, 50/60Hz, Max. 35VA			
Accessories		Power cord x1, Operation manual x1, Probe x2			
Dimension (WxHxD)		310x150x455mm			
Weight		Approx. 8kg			