

# CT3684/CT3685

# Datasheet

High Voltage

Differential Probe

50 MHz /  $\pm 700$  V (CT3684)

50 MHz /  $\pm 1400$  V (CT3685)

## Overview:

Differential probes allow safe, accurate measurement between two voltage points where neither point is referenced to ground. The CT3684 and CT3685 both offer 50 MHz bandwidth and can test up to  $\pm 700$  V (DC + AC peak) and  $\pm 1400$  V (DC + AC peak), respectively. Compatible with oscilloscopes from all major manufacturers, the probes are powered by the included 9 VDC adapter.

## Features:

- 50 MHz bandwidth (-3 dB)
- Up to  $\pm 700$  V (DC + AC peak) common mode (CT3684)
- Up to  $\pm 1400$  V (DC + AC peak) common mode (CT3685)
- Attenuation settings of 10x (CT3684) and 100x (CT3685)
- High accuracy ( $\pm 1\%$ )
- High CMRR
- Power indicator LED
- 9 VDC adapter, CT3723 (included)
- USB power lead, CT4122 (optional)
- Battery pack with 4 AA batteries, CT3729 (optional)



CT3684 shown

Electrical Specifications		
	CT3684	CT3685
Bandwidth (-3dB)	50 MHz (driving 1 M $\Omega$ oscilloscope input)	
Rise Time (10%-90%)	7 ns	
Attenuation ratio	10x	100x
Accuracy	$\pm 1\%$	
CMRR (typical)	-90 dB @ 60 Hz -55 dB @ 1 MHz	
Maximum Differential Input Voltage (DC + AC peak)	$\pm 70$ V	$\pm 700$ V
Maximum Common Mode Input Voltage (DC + AC peak)	$\pm 700$ V	$\pm 1400$ V
Absolute Maximum Rated Input Voltage (each side to ground)	500 Vrms CAT I	1000 Vrms CAT II
Input Impedance	1.6 M $\Omega$ // 7 pF (each side to ground)	4.0 M $\Omega$ // 7 pF (each side to ground)
Output Voltage Swing	$\pm 7$ V (driving 1 M $\Omega$ oscilloscope input)	
Offset (typical)	$\pm 2$ mV	$\pm 1$ mV
Noise (typical)	0.7 mVrms	0.3 mVrms
Source Impedance	50 k $\Omega$	
Power Supply	CT3723 power adapter (included) or 4 AA batteries (optional) CT4122 USB power lead (optional)	

Mechanical Characteristics	
Weight	300 g
Dimensions	111 x 22 x 14 mm
BNC Cable Length	125 cm
Input Leads Length	50 cm each

Environmental Characteristics	
Operating Temp/Humidity	-10°C to 40°C / Up to 85% RH
Storage Temp/Humidity	-30°C to 70°C / Up to 85% RH
Pollution Degree	Pollution Degree 2
Altitude	Operating: 3,000 m Nonoperating: 15,300 m

Safety Specifications	
IEC 61010-031 CAT I (CT3684) CATII (CT3685)	

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