

## AC/DC Current Measurement Systems 高效能電流探棒系統

TCPA300 • TCP312 • TCP305 • TCP303 • TCPA400 • TCP404XL



TCPA300 和 TCPA400 系列電流測試系統為符合當今高性能需求的電流量測系統。可公認合示波器使用之 AC/DC 電流探棒，並且提供寬廣的頻寬量測，即使在量測 1mA~1000A 以上(配合 CT4 電流轉換器)的電流，讓您能獲得 DC 到 100MHZ 最精確之 AC 及 DC 波行量測頻寬。

TEKPROBE 界面使量測更加簡單和方便。

TCPA300/400 電流放大器主機配備四種不同之電流探棒。

特色：

- 直接在示波器上確定刻度和單位，減少手動計算測量差
- 低輸入阻抗
- 體積小，不佔空間
- 操作方便，且易與示波器做連接

勝特力材料 886-3-5753170  
 勝特力电子(上海) 86-21-54151736  
 勝特力电子(深圳) 86-755-83298787  
[Http://www.100y.com.tw](http://www.100y.com.tw)

應用：

電源供應器、半導體設備、通訊及傳輸系統、POWER INVERTERS/CONVERTER

	TCP312 w/TCPA300	TCP305 w/TCPA300	TCP303 w/TCPA300	TCP404XL w/TCPA400
Bandwidth (-3 dB)	DC – 100 MHz	DC – 50 MHz	DC – 15 MHz	DC – 2 MHz * <sup>1</sup>
Risetime	?3.5 ns	?7 ns	?23 ns	?175 ns
Maximum Current Ratings:				
<b>High Current Sensitivity Range</b>	<b>10 A/V Range</b>	<b>10 A/V Range</b>	<b>50 A/V Range</b>	<b>1 A/mV Range</b>
DC (continuous)	30 A	50 A	150 A	500 A (750 A * <sup>2</sup> )
RMS (sinusoidal)	21.2 A	35.4 A	150 A	500 A
Peak Pulse	50 A	50 A	500 A	750 A
<b>Low Current Sensitivity Range</b>	<b>1 A/V Range</b>	<b>5 A/V Range</b>	<b>5 A/V Range</b>	<b>N/A</b>
DC (continuous)	5 A	25 A	25 A	
RMS (sinusoidal)	3.5 A	17.7 A	17.7 A	
Peak Pulse	50 A	50 A	500 A	
DC Accuracy (Operating temp 0 °C to 50 °C)	± 3% of reading	± 3% of reading	± 3% of reading (10 °C to 50 °C) +3%/-6% of reading (0 °C to <10 °C)	± 3% of reading
DC Accuracy, Typical (Operating temp 23 °C ± 5 °C)	± 1% of reading	± 1% of reading	± 1% of reading	± 1% of reading
<b>Nominal</b>				
Maximum Bare Wire Voltage	For Use With Insulated Wires Only		600 V <sub>RMS</sub> CAT I & II	

			300 V <sub>RMS</sub> CAT III	
Lowest Measurable Current (at ± 3% accuracy at DC)	1 mA	5 mA	5 mA	1 A
	<i>Scope Set To 1 mV/div and 20 MHz BW Limited</i>		<i>Scope Set To 1 mV/div and 20 MHz BW Limited</i>	
Insertion Impedance (See Curves Below)	0.08 Ω at 1 MHz	0.035 Ω at 1 MHz	0.01 Ω at 1 MHz	0.1 mΩ at 10 kHz
	0.15 Ω at 10 MHz 0.27 Ω at 50 MHz 0.7 Ω at 100 MHz	0.12 Ω at 10 MHz 0.4 Ω at 50 MHz	0.025 Ω at 5 MHz 0.1 Ω at 15 MHz	0.6 mΩ at 100 kHz 8 mΩ at 1 MHz 16 mΩ at 2 MHz
<b>Typical</b>				
Maximum Amp-Second Product (Based on Amplifier Range setting)	50 A*μS – 1 A/V 500 A*μS – 10 A/V	500 A*μS – 5 A/V NA – 10 A/V	3,000 A*μS – 5 A/V 15,000 A*μS – 50 A/V	NA – 1 A/mV
AC Coupling Low Frequency Bandwidth	< 7 Hz (Low Pass - 3 dB point)			
Displayed RMS Noise (at 20 MHz Bandwidth Limit)	?250 μA RMS	?1.25 mA RMS	?2.5 mA RMS	?250 mA RMS
Signal Delay (Delay to Output BNC)	17 ns	19 ns	53 ns	103 ns
Inputs (probe amplifier)	1			
Probe Open Indicator	YES		<b>勝特力材料 886-3-5753170</b> <b>勝特力电子(上海) 86-21-54151736</b> <b>勝特力电子(深圳) 86-755-83298787</b> <a href="http://www.100y.com.tw">Http://www.100y.com.tw</a>	
Overload Indicator	YES			
Termination Indicator	YES			
Non-Compatible Probe Indicator	YES			
<b>Safety Certifications</b>				
U.S. NRTL Listing	UL3111-1 (Amplifier)		UL3111-2-032 ; UL3111-1 (Probe and Amplifier)	
Canadian Certification	CAN/CSA C22.2 No.1010.1 (Amplifier)		CAN/CSA C22.2 No.1010.2.032 CAN/CSA C22.2 No.1010.1 (Probe and Amplifier)	
European Union Compliance	EN61010-1/A2 (Amplifier)		EN61010-1/A2; EN61010-2-032 EN61010-1/A2 (Probe and Amplifier)	
Other	IEC61010-1/A2 (Amplifier)		IEC61010-2-032 IEC61010-1/A2 (Probe and Amplifier)	
Electromagnetic Compatibility	Meets EC Council Directive 89/336/EEC, FCC Part 15, Subpart B Class A, AS/NZS 2064.1/2.			
Power Requirements (TCPA300/TCPA400 Amplifiers)	90 V to 264 V; 47 to 440 Hz; 50 W Maximum CAT II (Auto Switch)			
Power Requirements (Probes)	Requires TCPA300 Amplifier			Requires TCPA400 Amplifier
Probe Model	TCP312	TCP305	TCP303	TCP404XL
Warranty	1 Year			
<b>Probe Mechanical Characteristics</b>				
Probe Cable Length	1.5 meters (60 inches)		2 meters (78.7 inches)	8 meters (315 inches)
Probe Jaw Size (Max Conductor Size)	3.8 mm (0.15 inches)		21 mm x 25 mm (0.83 x 1.0 inches)	
Length:	20 cm (7.87 inches)		26.8 cm (10.55 inches)	26.8 cm (10.55 inches)
Width:	1.6 cm (0.625 inches)		4.1 cm (1.60 inches)	4.1 cm (1.60 inches)
Height:	3.2 cm (1.25 inches)		15.6 cm (6.13 inches)	15.6 cm (6.13 inches)
Weight:	0.15 kg (0.33 lb.)		0.66 kg (1.45 lb.)	0.88 kg (1.90 lb.)
<b>TCPA300 and TCPA400 Mechanical Characteristics</b>				
Length:	17.3 cm (6.8 in)			
Width:	16.7 cm (6.6 in)			

Height:	9.14 cm (3.6 in)
Weight:	1.14 kg (2.5 lb.)
<b>Environmental Characteristics</b>	
Temperature - Operating	0 °C to +50 °C (32 °F to 122 °F)
Temperature - Nonoperating	- 40 °C to +75 °C (- 40 °F to 167 °F)
Humidity – Operating	5% to 95% R.H.to +30 °C (86 °F) 5% to 85% R.H.+30 °C to +50 °C (86 °F to 122 °F)
Humidity – Nonoperating	5% to 95% R.H.to +30 °C (86 °F) 5% to 85% R.H.+30 °C to +75 °C (86 °F to 167 °F)
Altitude – Operating	2000 m (6800 ft) maximum
Altitude – Nonoperating	12,192 m (40,000 ft) maximum

\*1 Calculated from Risetime

\*2 Derated w/ duty cycle and frequency

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