

Vehicle Transient Simulator

VTS 200

Datasheet



In Compliance with

> Ford EMC-CS-2009.1

Introduction

Transient simulator VTS 200 is designed according to test requirements of Ford EMC-CS-2009, capable of generating Pulse A1, A2-1, A2-2, C-1 and C-2 under CI 220, Pulse A2-1 and A2-2 under CI 260 F and RI 130. For RI 130 tests, the BNC co-axial cable is provided for connection with specific test clamps.

Features

> Capable of generating wide range of pulses in compliance with Ford standards

Application Areas

> Automobiles

Technical Parameters	
Input Voltage	Max 13.5 V;
Output Voltage	Max 10 A – 20 A (standard 10 A relay)
Test Mode	By sequence or infinite loop
Resistor R1	51 Ω, 25 W
Resistor R2	220 Ω ± 5%, 2 W
Resistor R3	33 Ω ± 5%, 10 W
Resistor R4	6 Ω ± 5%, 50 W
Capacitor C1	100 nF capacitor, 400 V
Inductor L1	5 μH inductor
Inductor L2	100 mH inductor
Diode D1	Zener diode, 39 V, 5 W
Transistor Q1	NPN transistor
SW0 - SW4	Single Throw Switch
RLY1	12 V AC relay, NC contact used (Potter & Brumfield KUP-14A15-12)

Test Procedures	
As per EMC-CS-2009	CI 220: A1, Mode M1, M2 CI 220: A2-1, Mode M1, M2, M3 CI 220: A2-2, Mode M2, M3 CI 220: C-1, Mode M2, M3 CI 220: C-2, Mode M2 和 M3
	CI 260: F RI 130: A2-1, Mode M2 and M3; RI 130: A2-2, Mode M2 and M3; Specific type of test clamp shall be used.

Output Waveforms and Current						
Tests	Output Waveform	Mode	Time *1	Max Output Voltage	Output Terminal	
RI 130	A2-1	2	60	*2	SOURCE SINK	
		3				
	A2-2	2				
		3				
CI 220	A1	1	120	10	PULSE A, F+ GND-	
	A2-1	1				
		2				
		3				
	A2-2	2	20			
		3				
	C-1	2			50	PULSE C, F+ GND-
		3				
	C-2	2				
		3				
CI 260	Waveform F	-	60	10	PULSE A, F+ GND-	

General Parameters	
Fuse	20 A, for DUT power supply current
Protection	Over-voltage protection and reverse polarity protection
Power Supply	12 V battery or APS/APG series
Operating Temp.	15 - 35 °C
Operating Humidity	35%-85%RH (no condensation)
Dimension	335 x 310 x 195 mm
Weight	Approx 7.2 kg

Input and Output Method	
Input	Via 4 mm safety connector, for DC power supply
Output	Via 4 mm safety connector, for CI 220, CI 260 tests; 50 Ω BNC connector for RI 130 tests;
LED Indicators	Test status, Test items (ID); Waveform; Mode;

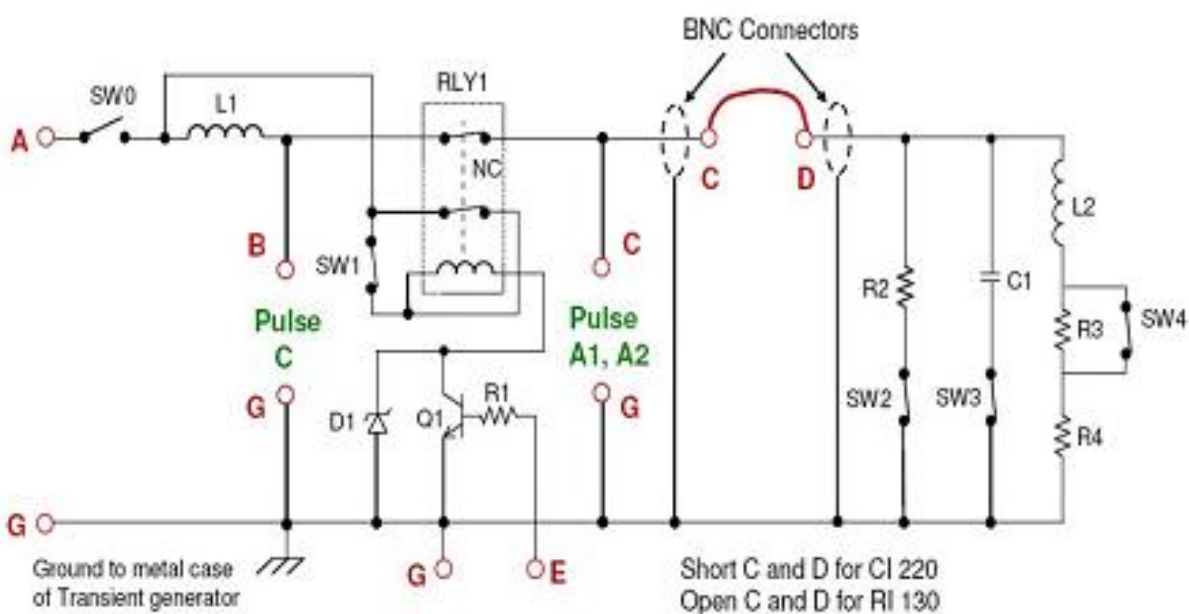
Standard Accessories	
Grounding cable	1 pc
Power supply cable	1 pc
Testing wire	1 pc
Fuse	1 pc
BNC cable	1 pc
Factory Inspection Report	1 pc
Quality Guarantee	1 pc
User manual	1 pc

Optional Accessories	
Test Clamp – TF 1315	Dimension: 1,345 x 110 x 152 mm; Weight: 5 kg
Relay – KUP-14A15-12	Switch voltage: 12 V; Switch current: 10 A; Triggering mode: 3PDT;



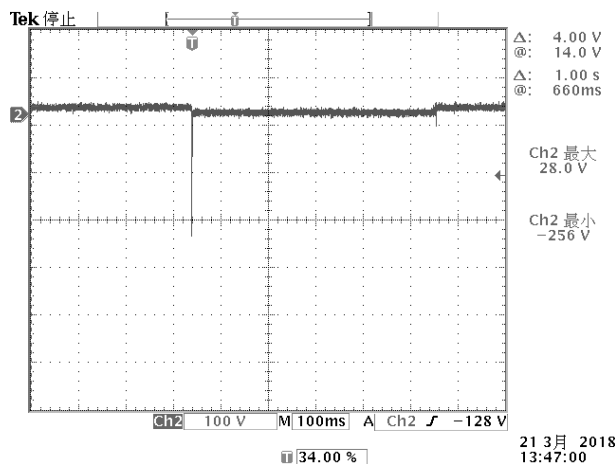
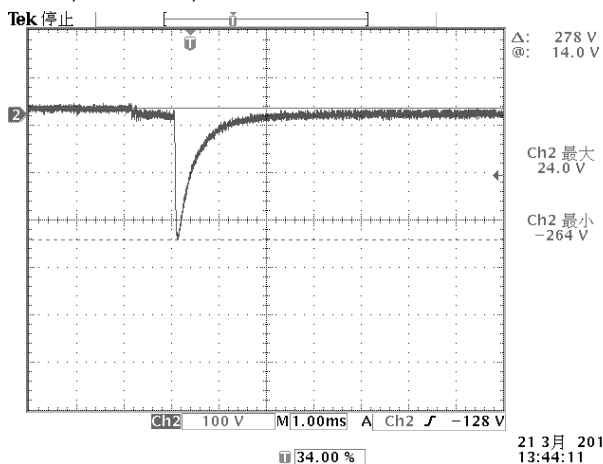
Design Schematic Diagram:

Figure F-1: Transient Generator Circuit for RI 130 and CI 220

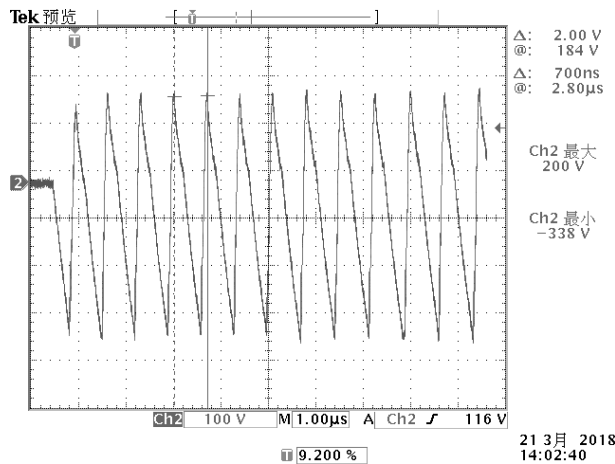
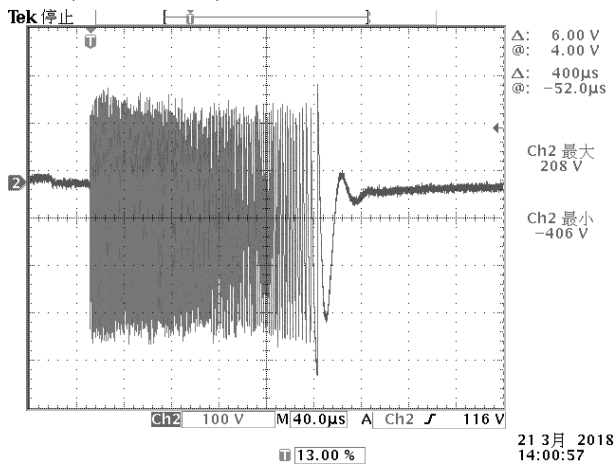


Waveforms

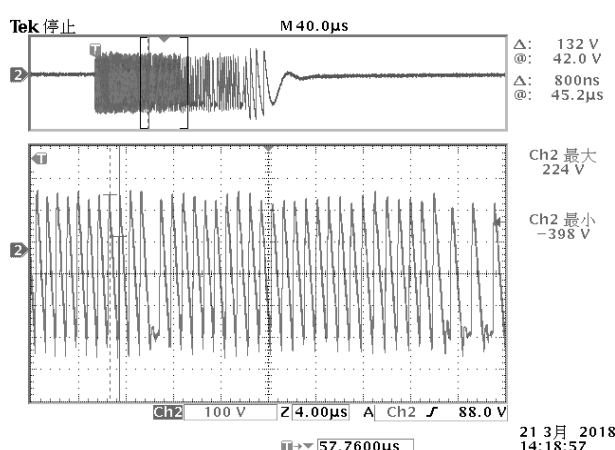
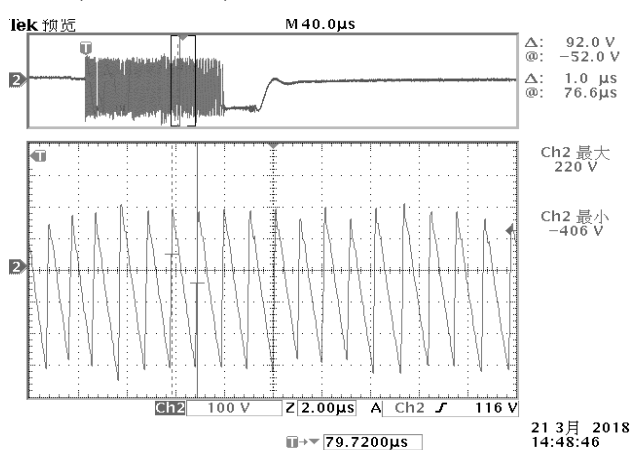
CI 220, Pulse A1, Mode 1



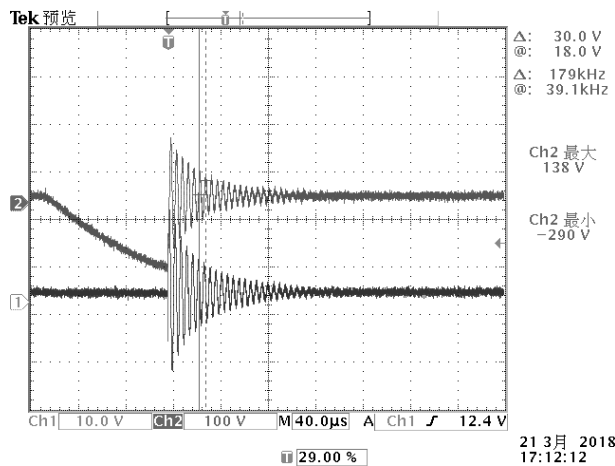
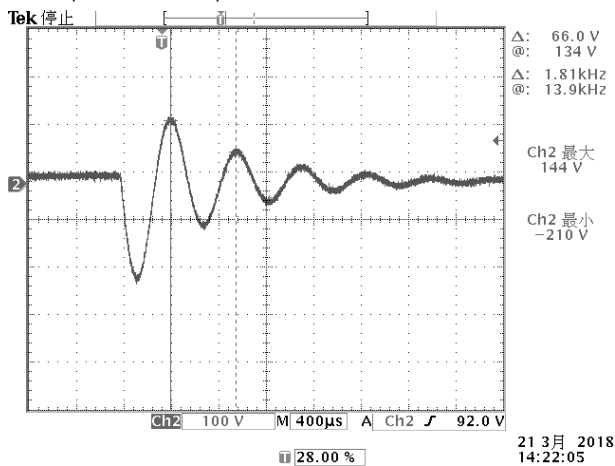
CI 220, Pulse A2-1, Mode 1



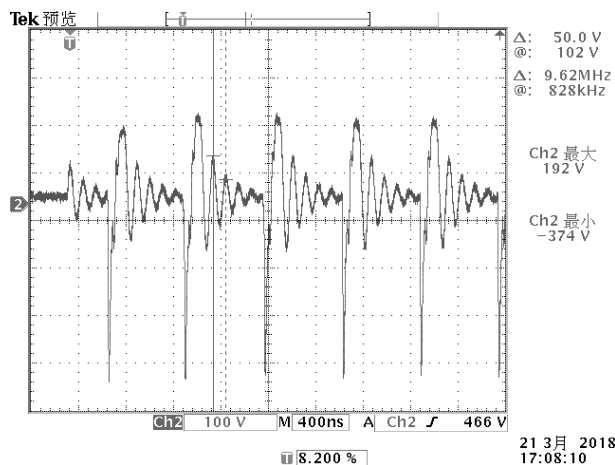
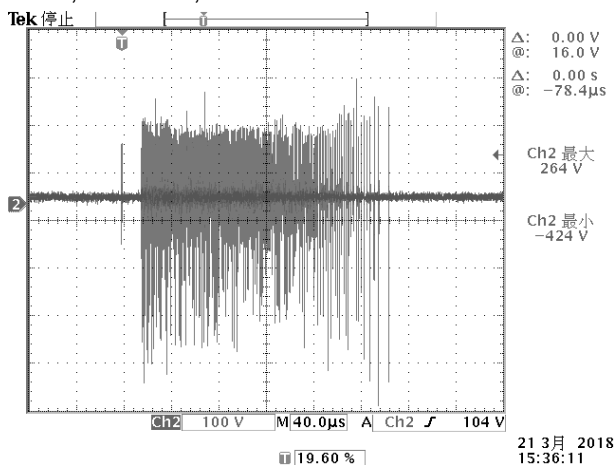
CI 220, Pulse A2-1, Mode 2



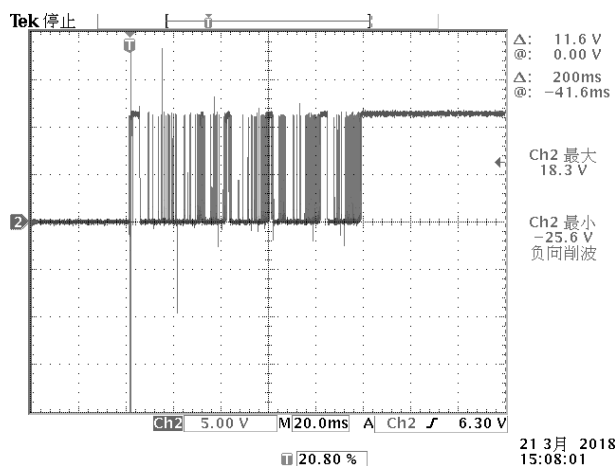
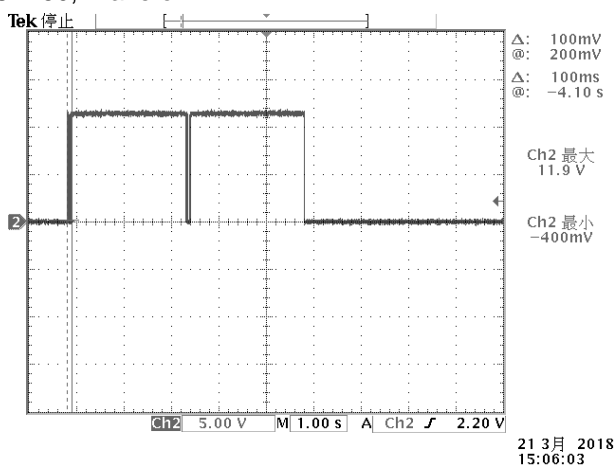
CI 220, Pulse A2-2, Mode 2



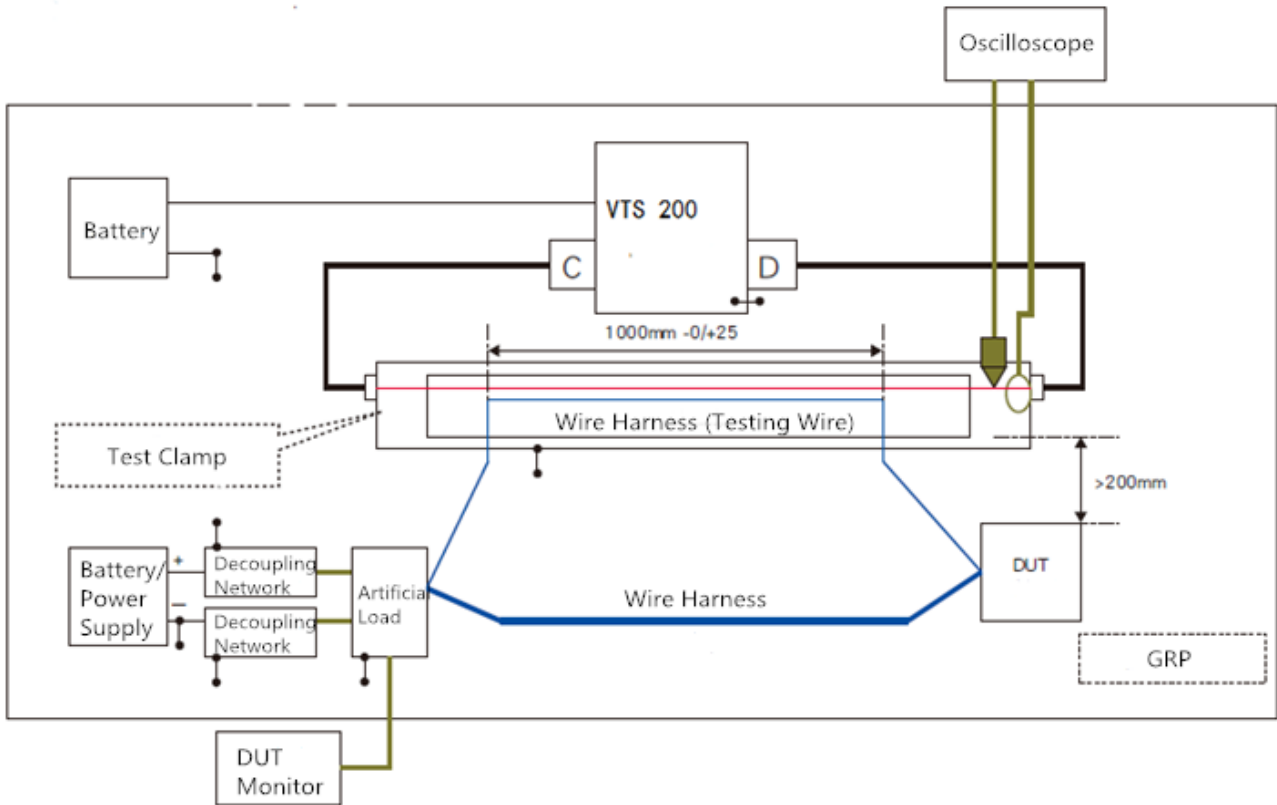
CI 220, Pulse C1, Mode 2



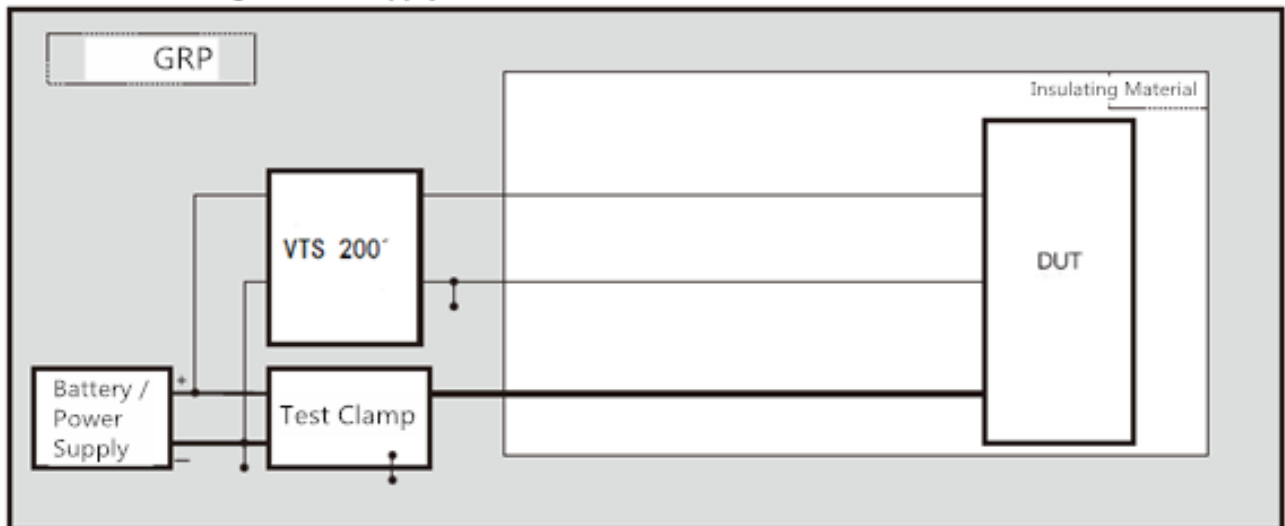
CI 260, Waveform F



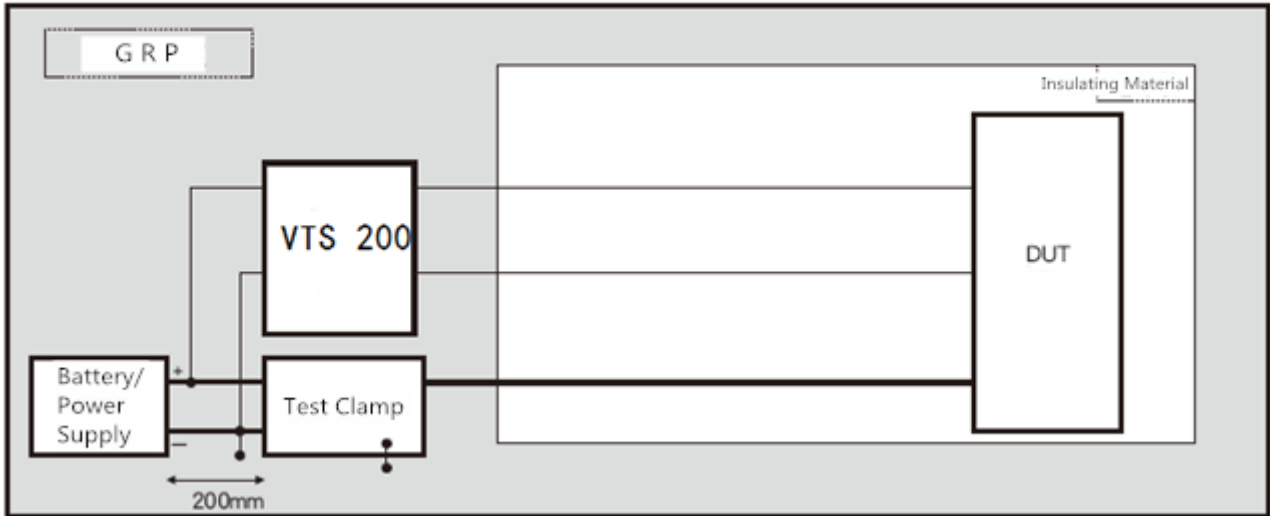
Equipment Connection Diagram



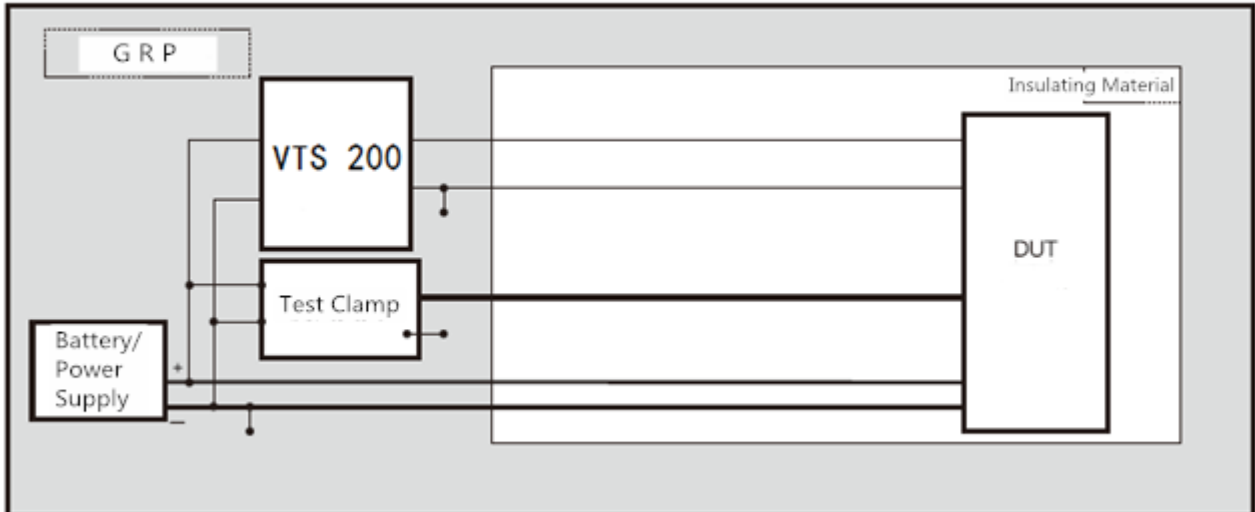
• Devices with a Single Power Supply Circuit



• Devices with Input Circuit



• Devices with Two Power Supply Connections





MAINLAND CHINA

SUZHOU 3CTEST ELECTRONIC CO., LTD.
 Add.: No. 99 Emeishan Rd, SND, Suzhou 215153,
 Tel: +86 (0)512 6807 7192
 Fax: +86-512-68079795
 Email: globalsales@3ctest.cn
www.3c-test.com

TAIWAN

RICHTEC INSTRUMENTS CO., LTD.
 Add.: 6F.-5, No.130, Ln. 235, Baoqiao Rd., Xindian
 Dist., New Taipei City 23145, Taiwan, China
 Tel: +886 2 8912 1185 #10
 Email: ryan@richtec.com.tw
www.richtec.com.tw

SOUTH KOREA

TESTEK Co., LTD.
 Add.: 601Ho, SungwoonKoa, 141 Hyeonam-ro,
 Suji-Gu, Yongin-Si, Gyeonggi-Do, South Korea.
 Tel: +82 70 4099 2071,
 E-mail: woo@testek.co.kr
www.testek.co.kr

SINGAPORE

QUANTEL PTE LTD.
 Add.: 25 Kallang Ave, #05-02, 339416, Singapore
 Tel: +65 6745 3200
 Email: engtat.ong@sg.quantel-global.com
www.quantel-global.com

USA

THE EMC SHOP
 Add.: 7401 Galilee Rd. #160, Roseville, CA 95678,
 USA
 Tel: +1 844 423 7435
 Email: brendon.berg@theemcshop.com
www.theemcshop.com

RUSSIA

CDIP LLC
 Add.: Room 7, Building 5, House 69, Ryabinovaya
 Street, Moscow 121471, Russia
 Tel: +7 (495) 956 20 22
 Email: info@cdip.ru
www.cdip.ru