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High Power Device Test Fixture Instrument Characteristics

CONDITIONS

This document contains specifications and supplemental information for the Model 8010 High Power Device Test Fixture. These specifications are for the motherboard only and not the personality modules. Specifications are the standards against which the Model 8010 is tested. Upon leaving the factory, the Model 8010 meets these specifications. Characteristics, supplemental characteristics, and typical values are nonwarranted, apply at 23 °C ± 5 °C, < 70 percent relative humidity, and are provided solely as useful information.

CHARACTERISTICS

Maximum signal voltage (signal or guard to any other signal or chassis)	3-lug high-voltage triaxial connector: 3280 V 3-lug standard triaxial connector: 210 V 8-pin screw terminal block: 40 V 2-pin high current screw terminal block: 40 V
Maximum signal current	3-lug high-voltage triaxial connector: 120 mA DC 3-lug standard triaxial connector: 1.5 A DC 8-pin screw terminal block: 1 A DC 2-pin high-current screw terminal block: 15 A DC, 50 A pulsed
Maximum combined pulse current	100 A at 1% duty cycle for Model 2651A High Power SourceMeter Instrument (SMU) path 10 A at 1% duty cycle for Series 2600A and Model 4200-SCS paths
Maximum combined DC current	15 A DC for Model 2651A High Power SourceMeter Instrument path 1.5 A DC for Model 2600A and 4200-SCS Instrument paths
Path inductance	Less than 400 nH typical from 2-pin high-current screw terminal block to device socket (test frequency = 10 kHz)
Device socket configuration	Axial (2-wire or Kelvin) 2-pin and 3-pin TO-220 and TO-247 (2-wire or Kelvin)
Environment	For indoor use only Altitude: Maximum 2000 meters above sea level Operating: 0 °C to 50 °C, 70% relative humidity up to 35 °C. Derate 3% relative humidity/°C, 35 °C to 50 °C Storage: -25 °C to 65 °C
Dimensions	8¼ in. × 17¾ in. × 11¾ in. (210 mm high × 451 mm wide × 298 mm deep)
Weight	15.0 lb (6.81 kg)

SUPPLEMENTAL CHARACTERISTICS

Offset/leakage current	Less than 10 pA at 1500 V and 20 pA at 3000 V typical (through the 2657A path) Less than 10 pA at 200 V typical (through the 2600A and 4200 paths) For the 8010-DTB, 8010-DTB-220, or 8010-CTB, add 15 pA at 1500 V (typical, with clean module) to the above leakage characteristic
Path isolation	Resistance: More than 100 G Ω typical from Force HI to Force HI of any two source-measure units (SMUs) Capacitance: Less than 1 pF typical (test frequency = 10 kHz, guarded)
Path resistance	Less than 10 m Ω typical from 2 -pin high-current screw terminal block to end of the cable that is connected to the 6 mm banana jack

SPECIFICATIONS

Rear panel connectors	Three 3-lug high voltage triaxial connectors Eight 3-lug standard triaxial connectors Two 8-pin screw terminal blocks Two 2-pin high current screw terminal blocks One 3-pin circular DIN interlock connector Five 3-pin 26XXA interlock sockets
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GENERAL

Warranty	1 year
Safety	Listed to UL61010-1:2004 Conforms to European Union Low Voltage Directive

ACCESSORIES

Model or part number	Supplied	Optional	Description
SHV-CA-553-1 SHV-CA-553-2 SHV-CA-553-3		x	High-voltage triaxial to SHV cable 3.3 ft, 6.6 ft, 9.8 ft (1.0 m, 2.0 m, 3.0 m)
HV-CA-554-.5 HV-CA-554-1 HV-CA-554-2 HV-CA-554-3		x	High-voltage triaxial cable 1.6 ft, 3.3 ft, 6.6 ft, 9.8 ft (0.5 m, 1.0 m, 2.0 m, 3.0 m)
CA-557-1 CA-557-2 CA-557-3		x	Eight-pin male/receptacle cable assembly 3.3 ft, 6.6 ft, and 9.8 ft (1 m, 2 m and 3 m)
CA-558-1		x	Three-pin interlock connector cable 3.3 ft (1 m)
CA-558-2	3	x	Three-pin interlock connector cable 6.6 ft (2 m)
CA-558-3		x	Three-pin interlock connector cable 9.8 ft (3 m)
CA-559-0		x	Black banana-plug jumper cable 4 in. (102 mm)
CA-559-2		x	Red banana-plug jumper cable 4 in. (102 mm)

Specifications and characteristics are subject to change without notice.

Model or part number	Supplied	Optional	Description
CA-560-0	10	x	Banana-plug jumper cable 8 in. (203 mm)
CA-560-2	2	x	Banana-plug jumper cable 8 in. (203 mm)
CA-561-0		x	Black banana-plug jumper cable 12 in. (305 mm)
CA-561-2		x	Red banana-plug jumper cable 12 in. (305 mm)
CA-562-0	1	x	Black safety banana-plug jumper cable, 10 in. (254 mm)
CA-562-2	1	x	Red safety banana-plug jumper cable, 10 in. (254 mm)
CA-563	6	x	BNC to banana-plug cable, 9.5 in. (241 mm)
CA-567-0		x	Black stack-up banana-plug cable, 9 in. (22.86 cm)
CA-567-2		x	Red stack-up banana-plug cable, 9 in. (22.86 cm)
CA-568-12		x	Protective earth (safety ground) cable 12 in. (304.8 mm)
CA-568-18		x	Protective earth (safety ground) cable 18 in. (457.2 mm)
CA-568-120	2	x	Protective earth (safety ground) cable 120 in. (304.8 cm)
CS-1592-2		x	Two-pin female/plug termination block
CS-1626-2		x	2-pin panel-mount female and receptacle cable termination block
236-ILC-3		x	Three-pin interlock cable for Model 4200-SCS
2600-KIT		x	Screw terminal connector kit
2651A-KIT-1 2651A-KIT-2 2651A-KIT-3		x	High-current cable kit 3.3 ft, 6.6 ft, and 9.8 ft (1 m, 2 m and 3 m)
8010-317	1	x	Socket insulating plugs (10 pieces per card)
8010-318	2	x	Document pouches
8010-CTB	1	x	Customizable test board that the customer can configure
8010-DTB	2	x	Device test board for use with three-terminal TO-247 or two-terminal axial devices
8010-DTB-220		x	Device test board for use with three-terminal TO-220 or TO-247 packages or two-terminal axial devices Limited to 1000 V