

# TEST SPECIFICATIONS

## SCIENTIFIC TEST, INC. TEST SPECIFICATIONS 5000C/5300C

	TEST		SPECIFICATION		
	PARAMETER	V RANGE	I RANGE	MAX RES.	ACCURACY
<b>LEAKAGE</b>	IR, ICBO, ICEO/R/S/X, IDSS/X, IDOFF, IDRM, IRRM	.10V to 999V (2000V) <sup>1</sup>	2NA (20PA) <sup>2</sup> to 50MA	1 NA (1PA) <sup>2</sup>	1% + 2NA + 20PA/V <sup>3</sup> (1% + 200PA + 2PA/V) <sup>2,8</sup>
	IEBO, IGSSF, IGSSR, IGSS, IGKO, IR (OPTO)	.10V to 20V (80V) <sup>3</sup>	2NA (20PA) <sup>2</sup> to 3A	1 NA (1PA) <sup>2</sup>	1% + 2NA + 20PA/V <sup>3</sup> (1% + 200PA + 2PA/V) <sup>2,8</sup>
<b>BREAKDOWN</b>	BVCEO, BVCE(S) (IGBT) (300µS Pulse above 10mA)	.10V to to 450V (900V) <sup>1</sup> to 700V (1400V) <sup>1</sup> to 800V (1600V) <sup>1</sup>	100µA to 200MA to 100MA to 50MA	1 MV	1% + 100MV
	BVDSS, VD, BVCEO, VDRM, VRRM, VBB, BVR	.10V to 999V (2000V) <sup>1</sup>	100NA to 50MA	1 MV	1% + 100MV
	BVZ	.10V to 5.00V to 9.999V to 50.00V to 700V (1400V) <sup>1</sup> to 999V (2000V) <sup>1</sup> BVZ Soak - 50V (100V) 0-50 ms to 99 secs	10µA to 49.9A (500A) <sub>4</sub> to 25A (250A) <sub>4</sub> to 9.99A to 100 MA to 50MA to 400mA to 80mA	1 MV	0.4% + 2 LSB
	BVEBO, BVGSS, BVGKO	.10V to 20V (80V) <sup>3</sup>	100NA to 3A	1 MV	1% + 10MV
<b>VCE(S)</b>	VCEOSUS, VCERSUS, VCEVSUS	VCE: TO 1500V Inductive Kickback, 35mH choke	IC: to 4A	0.5V	2% + 0.5V
<b>IMPEDANCE</b>	ZZ (1 kHz) 0.1Ω to 20 KΩ	0.1V to 200V DC (measure 50µV to 300mV rms)	100µA to 300mA DC	0.001 Ω 1µV	1% + 1% Range
<b>GAIN</b>	hFE (1 to 99,999) CTR (.01 to 99,999)	VCE: .10V to 5.00V <sup>5</sup> to 9.99V to 49.9V	IE: 10µA to 49.9A (99.9A) <sup>3</sup> (500A) <sup>4</sup> derate to 25A (50A) <sup>3</sup> (250) <sup>4</sup> derate to 9.99A IF, IB: 100NA to 10A	.01 hFE .0001 CTR	VCE: 1% + 10MV IC: 1% + 100NA IF, IB: 1% + 5NA

- 2000V Hi Voltage (Anode/Collector) Option
- Lo Current Deck Option — Also adds programmable soak time from 1 mS to 99 secs. for current under 1 $\mu$ A. (Not available on 5000E)
- 80V Lo Source (Gate/Base) Option
- 500 Amp Hi Current Deck Option. (Not available on 5000E)

- Voltage @ front panel terminals; allow for drop in cables
- Optional 100V Hi Source
- 40A Lo Source Option
- Hi Deck or Adaptor: 1% + 2NA + 40PA/V
- 100A Option

TEST		SPECIFICATION			
	PARAMETER	V RANGE	I RANGE	MAX RES.	ACCURACY
<b>ON STATE</b>	V <sub>CESAT</sub> , V <sub>BESAT</sub> , V <sub>BEON</sub> V <sub>F</sub> , V <sub>T</sub> V <sub>DSON</sub> , I <sub>DON</sub> , V <sub>GSON</sub> V <sub>GEON</sub> V <sub>F</sub> (Opto-Diode)	V <sub>CE</sub> , V <sub>D</sub> , V <sub>F</sub> , V <sub>T</sub> : .10V to 5.00V to 9.99V V <sub>GS</sub> , V <sub>GE</sub> , V <sub>BE</sub> , V <sub>F</sub> : .10V to 9.99V	I <sub>E</sub> , V <sub>T</sub> , I <sub>F</sub> , I <sub>D</sub> : 10 $\mu$ A to 49.9A (99.9A) <sup>9</sup> (500A) <sup>4</sup> derate to 25A (50A) <sup>9</sup> (250A) <sup>4</sup> I <sub>B</sub> , I <sub>F</sub> , I <sub>GT</sub> : 100NA to 10A (40A) <sup>7</sup>	1MV	V: 1% + 10MV I <sub>E</sub> , I <sub>F</sub> , I <sub>D</sub> , I <sub>T</sub> : 1% + 100NA I <sub>B</sub> , I <sub>GT</sub> : 1% + 5NA
	VG <sub>STH</sub> , VG <sub>ETH</sub>	.10V to 49.9V	I <sub>D</sub> : 100 $\mu$ A to 3A	1MV	1% + 10MV
	V <sub>O</sub> (Regulator)	V <sub>O</sub> : .10V to 20V (50V) <sup>3</sup> V <sub>IN</sub> : .10V to 49.9V Load: Resistive or Electronic	I <sub>O</sub> : 1MA to 5A	1MV	1% + 10MV
	I <sub>IN</sub> (Regulator)	V <sub>IN</sub> : .10V to 20V (80V) <sup>3</sup> Load: R <sub>GK</sub> , 1K, 10K, EXT, OPEN, SHORT	I <sub>IN</sub> : 1MA to 3A	10NA	1% + 5NA
	V <sub>C</sub>	.10V to 49.9V	10MA to 10A	1MV	1% + 10MV
<b>OFF</b>	VG <sub>SOFF</sub>	V <sub>O</sub> : .10V to 20V (80V) <sup>3</sup>	I <sub>D</sub> : 100NA (20PA) <sup>2</sup> to 3A V <sub>DS</sub> : .10V to 50V	1MV	1% + 10MV
<b>TRIGGER</b>	I <sub>GT</sub> V <sub>GT</sub> V <sub>OPER</sub> (Relay)	V <sub>D</sub> : 5V to 49.9V V <sub>GT</sub> : .10V to 20V (80V) <sup>3</sup> .10V to 50V	I <sub>AK</sub> : to 3A I <sub>GT</sub> : 100NA to 3A R <sub>L</sub> : 12, 30, 100 $\Omega$ , EXT	10NA 1MV .10V	1% + 5NA 1% + 10MV 1% + .10V
	I <sub>H</sub> V <sub>RELEASE</sub> (Relay)	V <sub>D</sub> : 5V to 49.9V .10V to 50V	I <sub>H</sub> : 1.5A I <sub>GT</sub> : 100NA to 3A R <sub>L</sub> : 12, 30, 100 $\Omega$ , EXT (Initial I <sub>AK</sub> set by R <sub>L</sub> )	1 $\mu$ A .10V	1% + 2 $\mu$ A 1% + .10V
<b>LATCH</b>	I <sub>L</sub> (Tested indirectly, no exact value)	V <sub>D</sub> : 5V to 49.9V	I <sub>L</sub> : 100 $\mu$ A to 3A I <sub>GT</sub> : 100NA to 3A R <sub>L</sub> : 12, 30, 100 $\Omega$ , EXT	N/A	N/A
<b>BREAKOVER</b>	V <sub>BO</sub> , I <sub>BO</sub> (SSOVP)	0.10 to 400V <sup>1</sup>	10mA to 900mA		1% + 100mV
	V <sub>BO</sub> , I <sub>BO</sub> (STS, DIAC)	0.10 to 20V (80V) <sup>3</sup>	1 $\mu$ A to 200 $\mu$ A		1% + 10mV
	V <sub>BO</sub> , I <sub>BO</sub> (SIDAC)	0.10 to 400V <sup>1</sup>	1 $\mu$ A to 1mA	1mV	1% + 100mV
	V <sub>S</sub> , I <sub>S</sub> (SBS, STS)	0.10 to 20V (80V) <sup>3</sup>	1 $\mu$ A to 200 $\mu$ A		1% + 100mV

Accuracy specifications are in addition to  $\pm 1$  digit in readout.