

Test Specifications

SCIENTIFIC TEST INC. 5300HX TEST SPECIFICATIONS						
TEST		SPECIFICATION				
PARAMETER	V RANGE	I RANGE	MAX RES.	ACCURACY		
LEAKAGE	$I_{R1}, I_{CBO}, I_{CEO/R/S/X}, I_{DSS/X}, I_{DOFF}, I_{DRM}, I_{RRM}$	.10V to 999V (2000V) ¹	1.0NA (20PA) ² to 50MA	0.1NA(1PA) ²	1% + 0.5NA + 20PA/V (1% + 200PA + 2PA/V) ²	
	$I_{EBO}, I_{GSSF}, I_{GSSR}, I_{GSS}, I_{GKO}, I_R$ (OPTO)	.10V to 20V (80V) ³	1.0NA (20PA) ² to 3A	0.1NA(1PA) ²	1% + 0.5NA + 20PA/V (1% + 200PA + 2PA/V) ²	
BREAKOWN	BV_{CEO}, BV_{CES} (IGBT) (300µS Pulse above 10mA)	.10V to 450V (900V) ¹ to 700V (1400V) ¹ to 800V (1600V) ¹	100µA to 200MA to 100MA to 50MA	MV	1% + 100MV	
	$BV_{DSS}, V_D, BV_{CBO}, V_{DRM}, V_{RRM}, V_{BB}$	.10v to 999V (2000V) ¹	100NA to 50MA	MV	1% + 100MV	
	BV_R, BV_Z	.10V to 5.000V to 9.999V to 50.00V to 700V (1400V) ¹ to 999V (2000V) ¹ BVZ Soak- 50V (100V) 0 to 50ms to 99secs	10µA to 49.9A (500A) to 25A (250A) to 3A to 100MA to 50MA to 400mA to 80mA	MV	0.4% + 2 LSB	
	$BV_{EBO}, BV_{GSS}, BV_{GKO}$	.10V to 20V (80V) ³	100NA to 3A	MV	1% + 10MV	
VCEBUS	$V_{CEBUS}, V_{CERSUS}, V_{CEVSUS}$	V_{CE} : to 1500V Inductive Kickback, 35mH choke	I_C : to 4A	0.5V	2% + 0.5V	
IMPEDANCE	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	
GAIN	h_{FE} (1 to 99,999) CTR (.01 to 99,999)	V_{CE} : .10V to 5.00V ⁵ to 9.99V to 49.9V	I_E : 10µA to 49.9A (500A) ⁴ derate to 25A (250A) ⁴ derate to 3A I_F, I_B : 100NA to 10A	.01 h_{FE} .0001 CTR	V_{CE} : 1% + 10MV I_C : 1% + 100NA I_F, I_B : 1% + 5NA	
ON STATE	$V_{CESAT}, V_{BESAT}, V_{BEON}, V_F, V_T, V_{BSON}, I_{DON}, V_{GSON}, V_{GEON}, V_F$ (Opto-Diode)	V_{CE}, V_D, V_F, V_T : .10V to 5.00V to 9.99V $V_{GS}, V_{GE}, V_{BE}, V_F$: .10V to 9.99V	I_E, V_T, I_F, I_D : 10µA to 49.9A (500A) ⁴ derate to 25A (250A) ⁴ I_B, I_F, I_{GT} : 100NA to 10A (40A) ⁷	1MV	V: 1% + 10MV I_E, I_F, I_D, I_T : 1% + 100NA I_B, I_{GT} : 1% + 5NA	
	V_{GSTH}, V_{GETH}	.10V to 49.9V	I_D : 100µA to 3A	1MV	1% + 10MV	
	V_O (Regulator)	V_O : .10V to 20V (50V) ³ V_{IN} : .10V to 49.9V Load: Resistive or Electronic	I_D : 1MA to 5A	1MV	1% + 10MV	
	I_{IN} (Regulator)	V_{IN} : .10V to 20V (80V) ³ Load: R_{GK} , 1K, 10K, EXT, OPEN, SHORT	I_{IN} : 1MA to 3A	10NA	1% + 5NA	
	V_C	.10V to 49.9V (99.9V) ⁸	10mA to 10A	1mV	1% + 10mV	
OFF	V_{GSOFF}	V_O : .10V to 20V (80V) ³	I_D : 100NA (20PA) ² to 3A V_{DS} : .10V to 50V	1MV	1% + 10MV	
TRIGGER	I_{GT}, V_{GT}, V_{OPER} (Relay)	V_D : 5V to 49.9V V_{GT} : .10V to 20V (80V) ³ .10V to 50V	I_{AK} : to 3A I_{GT} : 100NA to 3A R_L : 12, 30, 100 Ω, EXT	10NA 1mV .10V	1% + 5NA 1% + 10mV 1% + .10V	
HOLD	$I_H, V_{RELEASE}$ (Relay)	V_D : 5V to 49.9V .10V to 50V	I_H : 1.5A I_{GT} : 100NA to 3A R_L : 12, 30, 100Ω, EXT (Initial I_{AK} set by R_L)	1µA .10V	1% + 2µA 1% + .10V	
LATCH	I_L (Tested indirectly, no exact value)	V_D : 5V to 49.9V	I_L : 100µA to 3A I_{GT} : 100NA to 3A R_L : 12, 30, 100Ω, EXT	N/A	N/A	
BREAKOVER	V_{BO}, I_{BO} (SSOVP) V_{BO}, I_{BO} (STS, DIAC) V_{BO}, I_{BO} (SIDAC) V_S, I_S (SBS, STS)	0.10 to 400V ¹ 0.10 to 20V (80V) ³ 0.10 to 400V ¹ 0.10 to 20V (80V) ³	10mA to 900mA 1µA to 200µA 1µA to 1mA 1µA to 200µA	1mV	1% + 100mV 1% + 10mV 1% + 100mV	

Accuracy specifications are in addition to ± 1 digit in readout.