Digital IC Tester : Initial Specifications

Power Supply Specifications

Initial plan is to make **3** independent power supply units which makes the IC tester capable of creating 3 voltage levels at the same time. Those 3 power supplies are planned to be as follows,

1A Power Supply **(Qty :2)**

Supply Voltage Range	: 0V (MIN) - 5V (MAX)
Supply Voltage Resolution (Step Size)	: 0.01V
Supply Current Maximum	: 1.1A
Overcurrent Protection	: Yes

6A Power Supply **(Qty :1)**

Supply Voltage Range	: 0.6V (MIN) - 5V (MAX)
Supply Voltage Resolution (Step Size)	: 0.1V
Supply Current Maximum	: 6A
Overcurrent Protection	: Yes

Digital I/O Specifications

Initial plan is to make **8** logic transceivers that can be configured as digital inputs/outputs or clock sources which makes the IC tester capable of using up to 8 digital/clock pins at the same time. In order to handle more pins those transceivers should be multiplexed over time.

Logic High Voltage	: 0.6V (MIN) - 5V (MAX)
Logic Low Voltage	: 0.6V (MIN) - 5V (MAX)
Logic Voltage Resolution (Step Size)	: 0.1V
Digital I/O Source Current Maximum	: 50mA
Digital I/O Sink Current Maximum	: 50mA
Frequency (bit rate) Range	: 1Hz (MIN) - 2MHz (MAX)
Frequency Resolution (Step Size)	: 1Hz (MIN)

Pin Bed for the Device Under Test

Pin bed is the slot to plug in a breakout board consisting of a holder for the IC being tested.

Maximum number of pins	: 256

Following units are placed to take measurements right at the pins,

1 current measuring unit (multiplexed with 16 pins)

Maximum Measurable Current	: 6A
Current Measuring Resolution (Step Size)	: 1uA (MIN)
Current Measuring Accuracy	: ±1%

1 voltage voltage measuring unit (multiplexed with 16 pins)

Voltage Measuring Resolution (Step Size)	: 0.01V (MIN)
Voltage Measuring Accuracy	: ±1%