



康舒科技

ACBEL POLYTECH INC.

# Approval Sheet

**Model No.** : FSH017 Option 4QAG  
**MKT Model No.** : R2CU5801A Option P4QA  
**Hardware Rev.** : A00  
**Software Rev.** : APM12V0106

**Customer** : AIC INC.  
**Customer PN** : PH-000000046\_A01

**Approval by :** Smith Lu

**Prepare by** : Debbie Hung



**Date: 05/13/2020**



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ACBEL POLYTECH INC.

# Specification



ACBEL POLYTECH INC.

# CRPS 2U 1+1 800W

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## Power Distribution Board Specification

Model Number: R2CU5801A

AcBel PN:  
use R1C Module Series

Revision: A02

Release Date: 2018/07/16

Released by: Issac Ho

Change Date: 2018/10/17

Changed by: Issac Ho



**1. GENERAL SCOPE**

This specification describes the performance characteristic of a DC-DC switching power distribution board (PDB) with a +12V main DC input and a +12Vsb auxiliary input. The PDB will switch into +5V, +3.3V main and +5Vsb auxiliary output and distribute +12V main output. The PDB operates with a single power supply or in 1+1 parallel. Power modules shall support hot-plug and active load share for 12V Main output. Mixed operation of different input type power modules (AC-DC and DC-DC) is allowed. The PDB shall limit the OPP to 800W continuous power operation.

**2. ELETRICAL PERFORMANCE**

**2.1 POWER BUS AND SIGNAL CONNECTOR**

The PDB shall have a common Power Bus and signal connector complying to FCI PCE interconnect series. The exact PN for interconnect is **FCI PN 10035388-102LF (RA) or ALLTOP C21009-102H3-Y or equivalent.**

The Pin definition shall comply with chapter 11.2 and shall provide +12VDC as main input and +12Vsb DC as auxiliary input.

**2.2 POWER INPUT SPECIFICATION**

**2.2.1 Input Voltage**

The maximum input current defines the maximum possible input current to ensure the proper function of the PDB to meet all defined specifications.

INPUT VOLTAGE	INPUT CURRENT	MAX POWER	PEAK POWER
12VDC	66.67A	800W	1120W
12V <sub>SB</sub> DC	4A	48W	62.5W

**2.2.2 Line dropout (*Refer to Power Module*)**

An Input line dropout is a transient condition defined as the line input to the power supply drops to 0 VAC at any phase of the AC line or DC line, for any length of time. During an Input dropout the power supply must meet dynamic voltage regulations requirements. An Input line dropout of any duration shall not cause dripping of the control signals and protection circuits. If the Input dropout lasts longer than the holdup time, the power supply should recover when VIN meets VIN<sub>recover</sub> and meet all turn on requirements. An Input dropout of any length shall not cause any damage to the power supply.

**Holdup time until Power output goes out of regulations**

Loading	Main output	Standby output
80%	12mS	70mS

**2.2.3 Efficiency of multi-output power system**

The efficiency of multi-output power system should be measured at 230VAC with following criteria and meet the efficiency requirements:

Configuration	Load	Minimum Efficiency
1+0	20%	80%
1+1	50%	80%

**2.2.4 AC Line Transient Specification (refer to power module)**

AC line transient conditions shall be defined as “sag” and “surge” conditions.

“Sag” conditions are also commonly referred to as “brownout”, these conditions will be defined as the AC line voltage dropping below nominal voltage conditions.

“Surge” will be defined to refer to conditions when the AC line voltage rises above nominal voltage.

The power supply shall meet the requirements under the following AC line sag and surge conditions.

***AC Line SAG and SURGE transient performance.***

**AC Line Sag (10sec interval between each sagging)**

Duration	Sag	Operating AC voltage	Line frequency	Performance criteria
0 to 1/2 AC cycle	95%	Nominal AC Voltage ranges	50/60Hz	No loss of function or performance
>1 AC cycle	>30%	Nominal AC Voltage ranges	50/60Hz	Loss of function acceptable, self-recoverable
Continues	10%	Nominal AC Voltages	50/60Hz	No loss of function or performance
0 to 1/2 AC cycle	30%	Mid-point of nominal AC Voltages	50/60Hz	No loss of function or performance

**2.2.5 Power Recovery**

The power supply shall recover automatically (auto recover) after an Input power failure. Input power failure is defined to be any loss of Input power that exceeds the dropout criteria.

**2.2.6 Input Line Leakage Current (Refer to Power module)**

The maximum leakage current to ground for power supply system shall not exceed 3.5mA when tested at 230VAC Input voltages.

**2.3 BROWNOUT (Refer to Power module)**

Power supply shall contain protection circuitry such that the application of an input voltage below the minimum specified in *Power Module* section 2.1.3 shall not cause damage to the power supply unit nor cause failure of the input fuse and overstress to any other component. In the event of shutdown due to extended brownout, the power supply shall automatically restart after the AC input is within specified limits. The voltage level between shutdown and recovery shall have a minimum of 5 VAC of voltage hysteresis, so that the power supply will not oscillate on and off due to voltage change condition. The power supply shall meet dynamic voltage regulations (Section 2.4.2) and all turn on requirements or turn off requirements while shutdown or recovery.

**2.3.1 AC Turn off Requirements (Refer to Power module)**

Power supply shall go to power off state after a slow brownout condition. The brownout condition shall be tested with all valid redundant power system configurations using the system. While the power system is operating at full rated DC load, the AC line voltage shall be reduced from 90VAC/60Hz to 0VAC at a constant rate over a period of 30 minutes. Power supply shall shutdown at the AC voltage 75VAC±4VAC.

**2.3.2 AC Turn on Requirements (Refer to Power module)**

Power supply shall return to normal power up state after a slow recovery condition. The recovery shall be tested in all valid redundant power system configurations. With the test loads configured for maximum system DC output in resistive mode, the AC line voltage shall be increased from 0VAC to 90VAC/60Hz at a constant rate over a period of 30 minutes. Power supply shall turn up at the AC voltage 85VAC±4VAC

**2.4 POWER OUTPUT SPECIFICATION**

**2.4.1 Output Power/Currents**

The following table defines the power and current rating of the **R2C** power supply series. The combined output power of all outputs shall not exceed the maximum rated output power, if a combined power rating is specified. The power supply must meet both static and dynamic voltage regulation requirements.

<b>Voltage</b>	<b>Mini</b>	<b>Max</b>	<b>Peak</b>
+3.3V	0.5A	24A	30A
+5V	0.5A	40A	50A
+12V	0.5A	66.67A	80A
-12V	0.0A	0.3A	
+5Vsb	0.5A	4A	5.2A

1. Maximum continuous total DC output power should not exceed 800W.
2. Maximum continuous combined load on +3.3Vdc and +5Vdc outputs shall not exceed 240W.
3. Maximum peak total DC output power should not exceed 960W.
4. Peak current shall not exceed 5s for any output. After exceeding the max peak current for 5s, the power supply will shut down in a OCP state, and will be reported according warning and failures.

#### 2.4.2 Voltage Regulation

The power supply shall stay within the following voltage limits when operating at steady state and dynamic loading conditions. These limits include the peak-peak ripple/noise conditions specified in paragraph 2.3.5. All outputs are measured with reference to the return remote sense (ReturnS) signal.

Parameter	MIN	NOM	MAX	Units	Tolerance
+3.3V	+3.13	+3.30	+3.47	V <sub>rms</sub>	+/-5%
+5V	+4.75	+5.00	+5.25	V <sub>rms</sub>	+/-5%
+12V <sub>1,2</sub> ,	+11.40	+12.00	+12.60	V <sub>rms</sub>	+/-5%
-12V	-11.40	-12.00	-13.20	V <sub>rms</sub>	+10/-5%
+5Vsb	+4.75	+5.00	+5.25	V <sub>rms</sub>	+/-5%

#### 2.4.3 Dynamic Loading

The power supply shall operate within specified limits and meet regulation requirements for step loading and capacitive loading specified below.

The load transient repetition rate shall be tested between 50Hz to 5kHz at duty cycles ranging from 10%-90%. The load transient repetition rate is only a test specification. The  $\Delta$  step load may occur anywhere within the MIN load and the MAX load.

Output	$\Delta$ Step Load Size	Load Slew Rate	Capacitive Load
+3.3V	30% of max load	0.5 A/ $\mu$ s	1000 $\mu$ F
+5V	30% of max load	0.5 A/ $\mu$ s	1000 $\mu$ F
+12V	60% of max load	0.5 A/ $\mu$ s	2200 $\mu$ F
+5Vsb	25% of max load	0.5 A/ $\mu$ s	1 $\mu$ F

**2.4.4 Capacitive Loading**

The power supply shall meet all requirements with the following capacitive loading ranges.

Output	MIN	MAX	Units
+3.3V	10	12,000	μF
+5V	10	12,000	μF
-12V	1	350	μF
+5Vsb	1	350	μF
+12V	follow PSU	follow PSU	μF

**2.4.5 Maximum Load Change**

The power supply shall continue to operate normally when there is a step change  $\leq 1 \text{ A}/\mu\text{sec}$  between minimum load and maximum load.

**2.4.6 Closed loop stability**

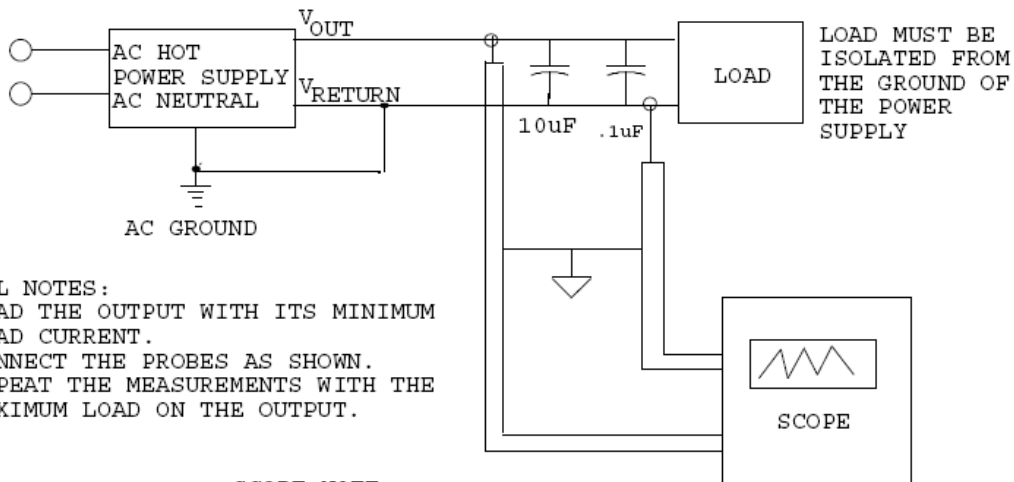
The power supply shall be unconditionally stable under all line/load/transient load conditions including capacitive load ranges specified in Section 2.3.5 and meet a minimum of: 45 degrees phase margin and -6dB-gain margin.

**2.4.7 Ripple and Noise**

Ripple and Noise shall be measured over a Bandwidth of 20MHz at the power supply output connector. A 0.1μF ceramic capacitor and 10μF of tantalum capacitor shall be placed at each point of measurement.

+3.3V	+5V	-12V	+5Vsb	+12V
50 mVp-p	50 mVp-p	120 mVp-p	50 mVp-p	120 mVp-p

The test set-up shall be as shown below:



- GENERAL NOTES:
1. LOAD THE OUTPUT WITH ITS MINIMUM LOAD CURRENT.
  2. CONNECT THE PROBES AS SHOWN.
  3. REPEAT THE MEASUREMENTS WITH THE MAXIMUM LOAD ON THE OUTPUT.

SCOPE NOTE:  
USE A TEKTRONIX 7834 OSCILLOSCOPE WITH 7A13 AND DIFFERENTIAL PROBE P6055 OR EQUIVALENT.

### 3. TIMING REQUIREMENTS

These are the timing requirements for the power supply operation. The output voltages must rise from 10% to within regulation limits ( $T_{vout\_rise}$ ) within 5 to 70ms. For 5Vsb, it is allowed to rise from 1 to 25ms. All main outputs shall rise positive monotonically and have a slope value between 0 V/mS to 0.1V/mS.

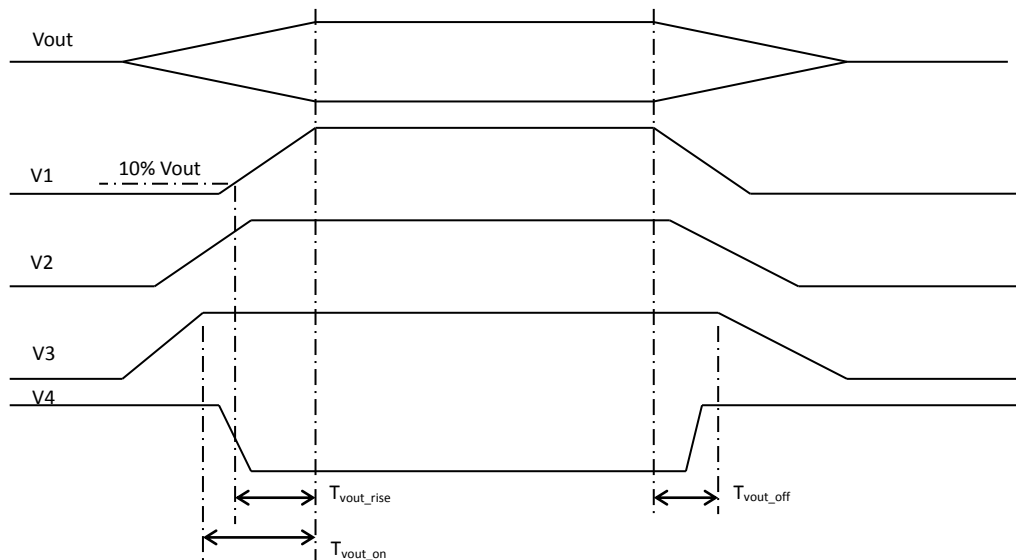
For 5Vsb output any 5ms segment of the 10% to 90% rise time waveform, a straight line draw between the end points of the waveform segment must have a slope  $\geq [V_{out, nominal} / 20]V/mS$ .

Each output voltage shall reach regulation within 5mS ( $T_{vout\_on}$ ) of each other during turn on of the power supply system. Each output voltage shall fall out of regulation within 400mS ( $T_{vout\_off}$ ) of each other during turn off.

Table below shows the timing requirements for the power supply being turned on and off via the input power, with PSON held low and the PSON signal, with the input power applied.

Item	Description	MIN	MAX	Units
$T_{vout\_rise}$	Output voltage rise time for all main output	5	70	ms
	Output voltage rise time for the 5Vsb output	1	50	ms
$T_{vout\_on}$	All main outputs must be within regulation of each other within this time.		50	ms
$T_{vout\_off}$	All main outputs must leave regulation within this time.		400	ms

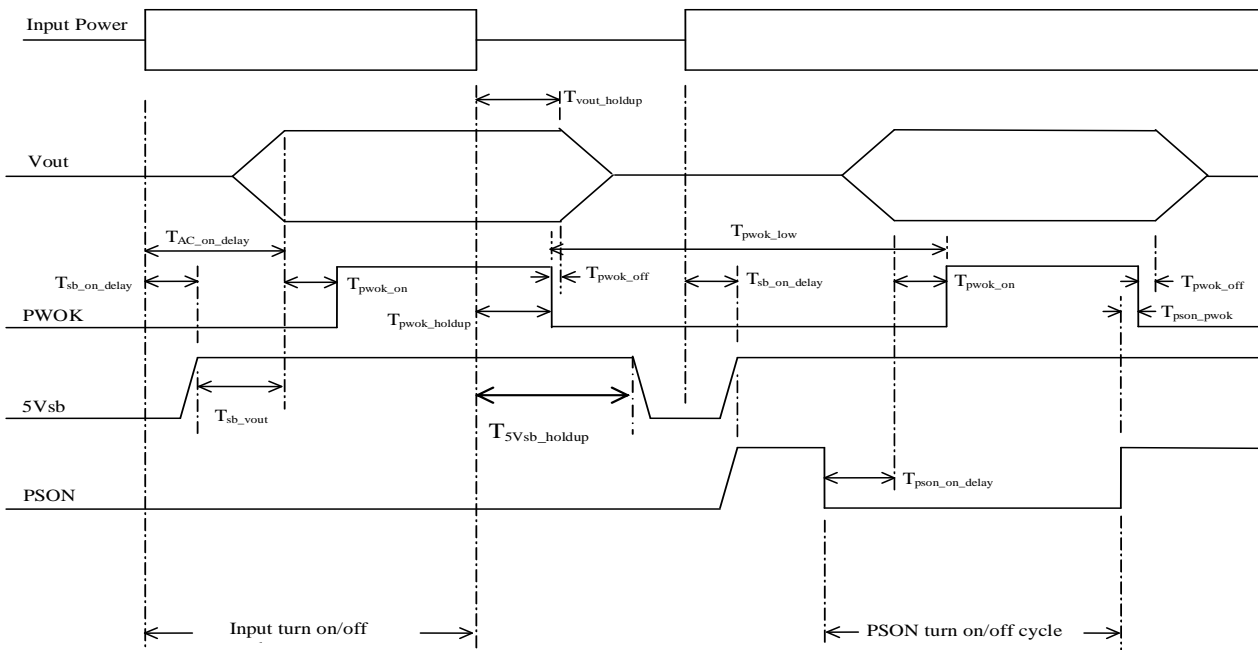
#### Output Voltage Timing



#### Turn On/Off Timing

Item	Description	MIN	MAX	UNITS
$T_{sb\_on\_delay}$	Delay from ac begin applied to 5Vsb begin within regulation.		1500	ms
$T_{ac\_on\_delay}$	Delay from AC begin applied to all output voltage begin within regulation.		2500	ms
$T_{out\_holdup}$	Time all output voltages stay within regulation after loss of AC.	14		ms
$T_{pwok\_holdup}$	Delay from loss of AC to de-assertion of PWOK in single PSU operation mode.	12		ms
$T_{pson\_on\_delay}$	Delay from PSON# active to output voltages within regulation limits.	5	400	ms
$T_{pson\_pwok}$	Delay from PSON# de-active to PWOK begin de-asserted.		50	ms
$T_{pwok\_on}$	Delay from output voltages within regulation limits to PWOK asserted at turn on.	100	500	ms
$T_{pwok\_off}$	Delay from PWOK de-asserted to output voltages (3.3V, 5V, 12V) dropping out of regulation limits.	1		ms
$T_{psok\_low}$	Duration of PWOK begin in the de-asserted state during an off/on cycle using AC or the PSON# signal.	100		ms
$T_{sb\_vout}$	Delay from 5Vsb begin in regulation to O/Ps begin in regulation at AC turn on.	50	1000	ms

**Turn On/Off Timing (single Power supply)**



#### 4. CONTROL AND INDICATOR FUNCTIONS

The following section defines the input and output signals from the power supply.

Signals that can be defined as low true use the following convention:

Signal<sup>#</sup> = low true.

##### 4.1 PSON<sup>#</sup> INPUT SIGNAL (POWER SUPPLY ENABLE)

The PSON<sup>#</sup> signal is required to remotely turn on/off the main output of the power supply.

PSON<sup>#</sup> is an active low signal that turns on the main output power rail. When this signal is not pulled low by the system or left open, the outputs (except the Standby output) turn off.

PSON<sup>#</sup> is pulled to a standby voltage by a pull-up resistor internal to the power supply.

**PSON<sup>#</sup> Signal Characteristic**

Signal Type	+3.3V TTL Compatible output signal	
PSON <sup>#</sup> = Low	ON	
PSON <sup>#</sup> = High or Open	OFF	
	MIN	MAX
Logic level low (power supply ON)	0V	1.0V
Logic level high (power supply OFF)	2.0V	3.46V
Source current, $V_{pson} = \text{low}$		1.1mA
Power up delay: $T_{pson\_on\_delay}$	5ms	400ms
PWOK delay: $T_{pson\_pwok}$		50ms
$T_{pson} = \text{Delay PSON\# disconnect MO OFF}$		100 $\mu$ sec

##### 4.2 POWER OK (PWOK OR PG) BUS

PWOK is a power good signal and shall be pulled HIGH by the power supply to indicate that all outputs are within regulation limits. When any output voltage falls below regulation limits, an internal failure or when AC power has been removed for a time sufficiently long, so that power supply operation is no longer guaranteed, PWOK will be de-asserted to a LOW state. The start of the PWOK delay time shall inhibited as long as any power supply output is in current limit.

**PWOK / PG Signal Characteristics**

Signal Type	+3.3V TTL Compatible output signal	
PWOK = High	Power OK	
PWOK = Low	Power Not OK	
	MIN	MAX
Logic level low voltage, $I_{sink} = 4\text{mA}$	0V	0.4V
Logic level high voltage, $I_{source} = 200\mu\text{A}$	2.4V	3.46V
Sink current, PWOK = low		4mA
Source current, PWOK = high		2mA
PWOK delay: $T_{pwok\_on}$	100ms	500ms
PWOK rise and fall time		100 $\mu$ sec
Power down delay: $T_{pwok\_off}$	1ms	200ms

**4.3 SMBALERT# SIGNAL**

This signal indicates that the power supply is experiencing a problem that the user should investigate. This shall be asserted due to Critical events or Warning events. In the PDB, the signal shall follow in module in any condition.

**SMBAlert# Signal Characteristics**

Signal Type (Active Low)	Open collector / drain output from power supply. Pull-up to VSB located in system.	
Alert# = High	OK	
Alert# = Low	Power Alert to system	
	<b>MIN</b>	<b>MAX</b>
Logic level low voltage, Isink=4 mA	0 V	0.4 V
Logic level high voltage, Isink=50 $\mu$ A		3.46 V
Sink current, Alert# = low		4 mA
Sink current, Alert# = high		50 $\mu$ A
Alert# rise and fall time		100 $\mu$ s

**4.4 COLD REDUNDANT-BUS# (CR\_BUS) SIGNAL [B22] (Refer to Power Supply)**

This signal is used for power supply to power supply communication in form of an interrupt. This interrupt is by default low impedance low. For all power supplies connected to this bus shall have an open collector and a pull high circuitry, which can provide at least 4mA. This function shall be PMBus controlled and allows the system to set the power module into four different modes:

1. MASTER – Load dependent function
2. SLAVE – Load dependent function
3. MASTER – HVDC Input dependent function
4. SLAVE – Master dependent function

SLAVE’s in CR Standby shall provide PG and LED should be solid GREEN.

**CR\_BUS# Signal Characteristics**

Signal Type (Active HIGH)	Open collector drain or Source output from power supply. Pull-up to VSB located in system.	
<b>CR_BUS# = High</b>	<b>CR Standby allowed</b>	
<b>CR_BUS# = Low</b>	<b>SLAVEs need to be Active on.</b>	
	MIN	MAX
<b>Logic level low voltage, Isink=4 mA</b>	<b>0 V</b>	<b>0.4 V</b>
<b>Logic level high voltage, Isource=4 mA</b>		<b>3.46 V</b>
<b>Sink current, CR_BUS# = low</b>		<b>4 mA</b>
<b>Source current, CR_BUS# = high</b>		<b>4 mA</b>
<b>CR_BUS# rise and fall time</b>		<b>100 μs</b>

**4.5 PRESENT# SIGNAL [B24] (Refer to Power Supply)**

This signal is used for system present identification. This Pin is tied to GND and shall sink any current to GND to signal the system that the power module had been asserted into the system.

## 5. PROTECTION CIRCUITS

Protection circuits shall cause only the power supply’s main outputs to shutdown (latch off). If the power supply latches off due to a protection circuit tripping, an AC cycle OFF for 15 second or a PSON# cycle HIGH for 1 second must be able to reset the power supply. The auxiliary output shall not be affected by any protection circuit, unless the auxiliary output itself is affected.

### 5.1 CURRENT LIMIT

The power supply shall prevent the main and auxiliary outputs from exceeding the values shown in below Table. If the main current limits are exceeded the power supply will shut down and latch off, *the auxiliary output shall be auto recover (Vsb<sub>AR</sub>) after the OCP/SCP had been removed.*

**Over Current Protection**

Voltage	Over Current Limit (I <sub>out</sub> limit)
+3.3V	110% minimum, 150% maximum
+5V	110% minimum, 150% maximum
+12V	110% minimum, 150% maximum
+5Vsb (Auxiliary)AR	110% minimum, 150% maximum

### 5.2 OVER VOLTAGE PROTECTION

The power supply shall shutdown and latch off after an over voltage condition occurs. This latch will be cleared by toggling the PSON# signal or by an AC power interruption.

**Over Voltage Limits**

Output Voltage	MIN (V)	MAX (V)
+3.3V	3.6	4.6
+5V	5.5	6.6
+12V	follow PSU	follow PSU
+5Vsb (Auxiliary)AR	5.5	6.6

### 5.3 OVER TEMPERATURE PROTECTION

The PDB shall have thermal sensors to measure the environmental (T<sub>env</sub>). The thermal sensors shall be part of a protection circuit to protect against over temperature conditions caused by loss of fan cooling or excessive ambient temperature. In a critical over temperature condition, specified in below table, the power system shall be shutdown with the exception of the *auxiliary output (Vsb<sub>AR</sub>)*.

The Thermal CLST shall be part of the **OTP<sub>AR</sub>**.

The PDB will auto recover the power system from this condition, when the temperature is

dropping within specification again.

<b>Condition</b>	<b>Warning in °C</b>	<b>Critical in°C</b>	<b>Timing for SMBAlert<sup>#</sup>/LED</b>
T <sub>env</sub>	65	70	follow PSU

T<sub>env</sub>: Environment Temperature

## 6. POWER SUPPLY MANAGEMENT

### 6.1 HARD WARE LAYER

The serial bus communication devices for Power Supply Management Controller (PSMC) and Field Replacement Unit (FRU) in the power supply shall be compatible with both SMBus 2.0 “high power” and I<sup>2</sup>C Vdd based power and drive specification.

This bus shall operate at 3.3V but be tolerant to 5V pull-ups. The power supply should not have any internal pull-ups on the SMBus, pull-ups shall be located on system side.

Two pins are allocated on the power supply. One pin is the serial clock (SCL). The second pin is used for serial data (SDA). Both pins are bi-directional and are used to form a serial bus. The device(s) in the power supply shall be located at an address(s) determined by addressing pins A0 and A1 on the power supply module. The circuits inside the power supply shall derive their 3.3V power from the 5Vsb bus through a buffer. Device(s) shall be powered from the system side of the 5VSB or’ing device. No pull-up resistors shall be on SCL or SDA inside the power supply. The pull-up resistors should be located external to the power supply on system/application side.

#### 6.1.1 Capacitance for SMBus

The recommended Capacitance per pin on SDA and SCL shall be 10pF, and is not allowed to exceed 40pF per pin. In an n+1 configuration of up to four (4) power modules with additional PDB, the total Capacitance of each Bus pin shall not exceed 400pF.

#### 6.1.2 I<sup>2</sup>C Bus Noise Requirement

The power supplies I<sup>2</sup>C Bus’ SDA and SCL line shall be clean from noise, which might affect the proper function when utilized with other devices.

The maximum allowed line noise on SDA or SCL is 400mV.

### 6.2 POWER SUPPLY MANAGEMENT CONTROLLER (PSMC)

The PSMC device on the PDB shall derive its power of the 5Vsb output on the system side of the O’ring device and shall be grounded to return. It shall be compatible with SMBus specification 2.0 and PMBus™ Power System Management Protocol Specification Part I and Part II in Revision 1.2 or later

It shall be located at the address set by the A0 and A1 pins.

The PDB Addressing can be changed by utilizing the MFR\_CONFIG\_ADDRESS command.

Refer to the specification posted on [www.ssiforum.org](http://www.ssiforum.org) and [www.pmbus.org](http://www.pmbus.org) website for details on the power supply monitoring interface requirements and refer to followed section of supported features. The below table reflect the power module addresses complying with the position in the housing.

PDB position and PSMC address	PM1 B0h/B1h	PM2 B2h/B3h	PDB 4Ah/4Bh
Pin A0/A1	0/0	1/0	None

**7. ENVIRONMENTAL**

**7.1 TEMPERATURE REQUIREMENTS**

The power supply shall operate within all specified limits over the Top temperature range. The average air temperature difference ( $\Delta T_{ps}$ ) from the inlet to the outlet of the power supply shall not exceed the values shown below Table. All airflow shall pass through the power supply and not over the exterior surfaces of the power supply

ITEM	DESCRIPTION	MIN	MAX	UNITS
Top	Operating temperature range.	0	50	°C
Tnon-op	Non-operating temperature range.	-40	70	°C

**7.2 HUMIDITY**

Operating: 20% to 85% relative humidity, non-condensing.  
 Storage: 10% to 90% relative humidity, non-condensing.

**7.3 ALTITUDE**

Operating: meet up to new CCC 5,000m requirement.

**7.4 VIBRATION**

Operating: 0.01G<sup>2</sup>/Hz at 10Hz, 0.02G<sup>2</sup>/Hz at 20Hz.  
 Non-Operating: 0.02G<sup>2</sup>/Hz form 20Hz to 1000Hz.

**7.5 MECHANICAL SHOCK**

Operating: 5G, no malfunction.  
 Non-operating: 50G, no damage. Trapezoidal Wave, Velocity change = 4.3m/sec. Three drops in each of six directions are applied to each of the samples.

**7.6 EMI/EMC REQUIREMENTS**

The power supply shall comply with FCC part 15, CRISP 22 and EN55-22; Class A for both conducted and radiated emissions. Test shall be conducted using a shielded DC output cable to a shielded load. The load shall be adjusted to 100% load. Tests will be performed full load on each output power at 120VAC, 60Hz, and 230VAC, 50Hz.

## **8. REGULATORY REQUIREMENTS**

### **8.1 PRODUCT SAFETY COMPLIANCE**

The PDB design shall meet the following safety approvals with most current editions:

- A) UL 60950-1/CSA 60950-1 Edition 2 (USA/Canada)
- B) TUV EN60950-1 Edition 2 (Europe)
- C) IEC60950-1 Edition 2 (International)
- D) CB Certificate & Report, IEC60950-1 Edition 2
- E) CE – Low Voltage Directive 2006/95/EC (Europe)
- F) BSMI (Taiwan)
- G) GB4943-2012 Certification (China)
- H) KCC Certification (Korea)

### **8.2 MAXIMUM LEAKAGE CURRENT TO GROUND**

Less than 3.5mA for entire power system at 230VAC/50Hz

### **8.3 ELECTROSTATIC DISCHARGE**

The objective of ESD test is to determine the susceptibility and immunity of products to electrostatic discharge to which the products may be exposed, when operating under all potential environmental conditions. The test conditions and setup shall conform to that outlined in CISPR24-2 and IEC 801-2 (EN55101-2).

Air discharge: 8KV not allow error.

Contact discharge: 4KV not allow error.

Note: The above test discharge time is 1 time/sec and repeats each test 10 times.

### **8.4 HI-POT**

The power supply module in the system shall be test at 1800Vac, with a trigger limit of 30mA.

## **9. RELIABILITY**

The MTBF of the power supply can be calculated with the Part-Stress Analysis method of Bell Core SR-332 Issue 1 using the quality factors. A calculated MTBF of the power supply shall be at least 100,000 hours at 40 °C ambient with 115VAC and in full load condition.

## **10. RoHS COMPLIANCE**

The directive 2002/95/EC of the European Parliament and of the Council of the 27th January 2003, on the restriction of the use of certain hazardous substances in electrical and electronic equipment, requires the reduction of the substances Lead, Mercury, Cadmium, Hexavalent Chromium, Polybrominated Biphenyls (PBB), and Polybrominated Biphenyl ethers (PBDE) in electronic products by July 1, 2006. Unless otherwise noted, all materials used will be compliant with this directive and any subsequent revisions or amendments.

## 11.MECHANICAL DIMENSIONS

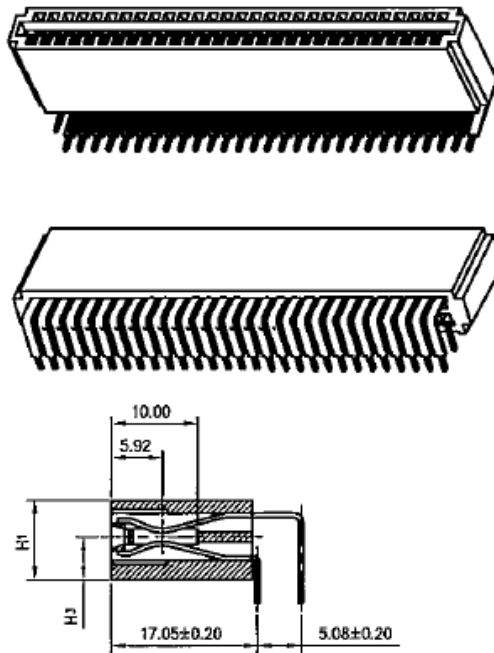
### 11.1 POWER DISTRIBUTION CAGE DIMENSIONS

Dimension (L x W x H): 265 x 76.9 x 84mm / 10.43 x 3.03 x 3.31inch

*Note: Above drawing for reference only, detail drawing refer to mechanical drawing*

### 11.2 DC Output connector

The power supply shall use a card edge output connection for power and signal that is compatible with a 2x25 Power Card Edge connector



**Gold finger pin assignment**  
**OUTPUT PIN ASSIGNMENT**

PIN	SIGNAL_NAME	PIN	SIGNAL_NAME
A1	GND	B1	GND
A2	GND	B2	GND
A3	GND	B3	GND
A4	GND	B4	GND
A5	GND	B5	GND
A6	GND	B6	GND
A7	GND	B7	GND
A8	GND	B8	GND
A9	GND	B9	GND
A10	+12V	B10	+12V
A11	+12V	B11	+12V
A12	+12V	B12	+12V
A13	+12V	B13	+12V
A14	+12V	B14	+12V
A15	+12V	B15	+12V
A16	+12V	B16	+12V
A17	+12V	B17	+12V
A18	+12V	B18	+12V
A19	PMBus SDA	B19	A0 (SMBus address)
A20	PMBus SCL	B20	A1 (SMBus address)
A21	PSON	B21	12VSB
A22	SMBAAlert#	B22	CR_BUS#
A23	Return Sense	B23	12V load share Bus
A24	+12V Remote Sense	B24	Present
A25	PWOK	B25	NC

**11.2 BRACKET OPTIONS**

Per customer requirements.

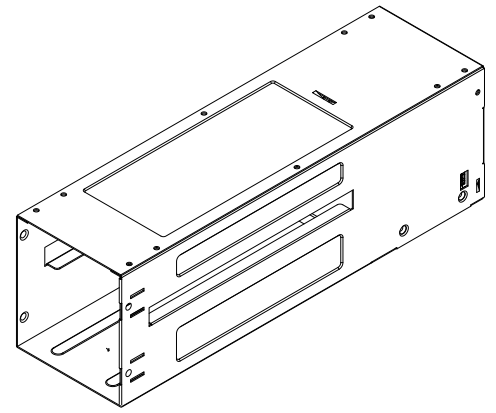
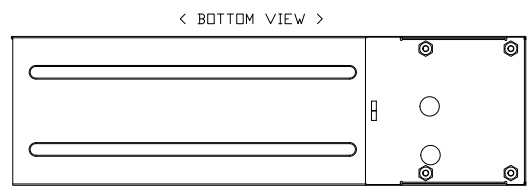
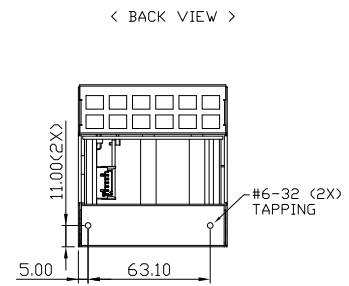
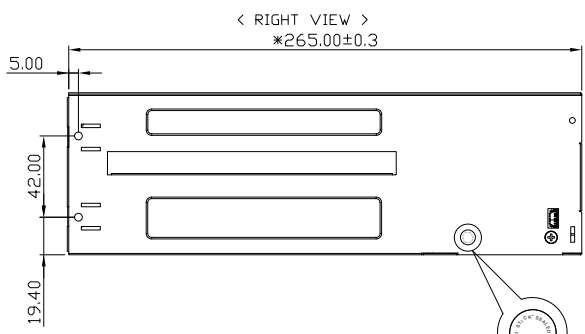
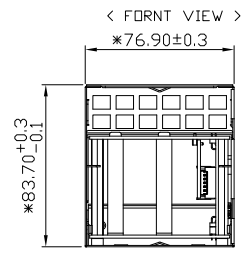
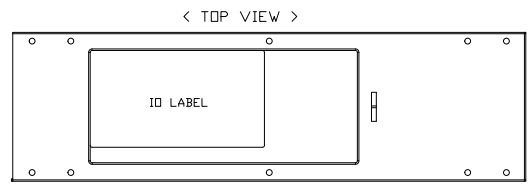
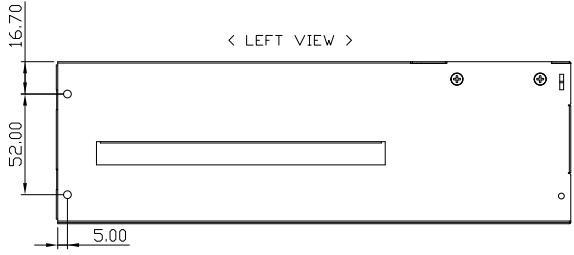


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ACBEL POLYTECH INC.

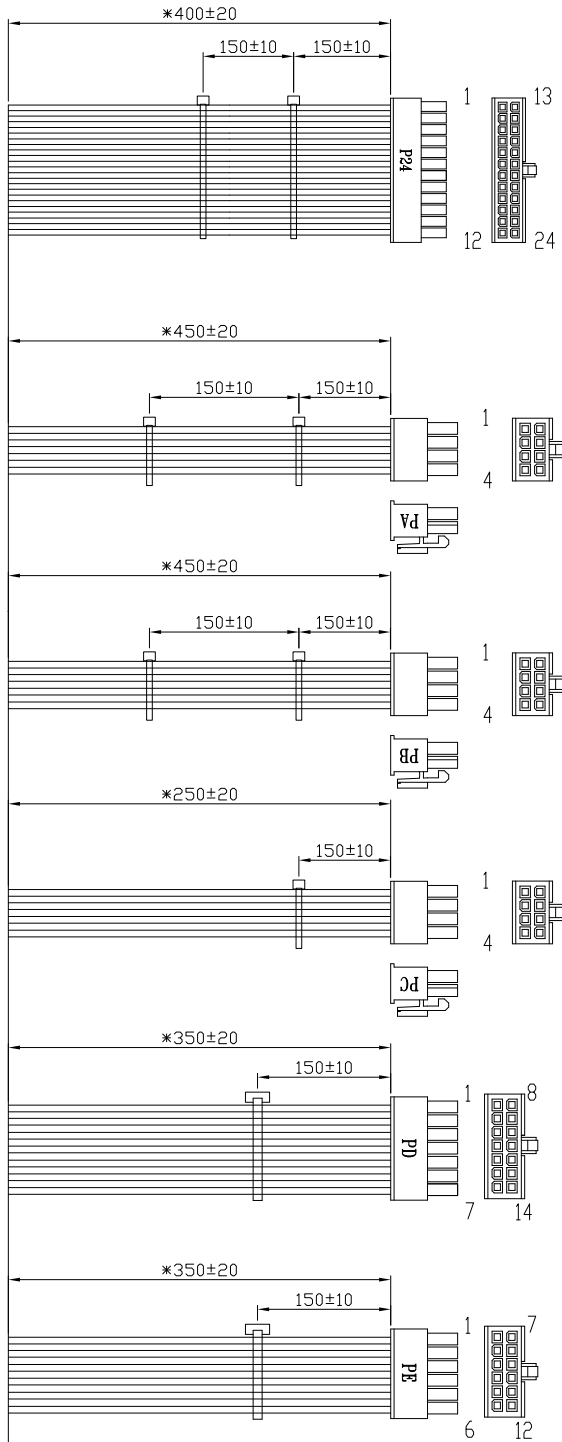
# **Mechanical Outline Drawing**

- NOTE 備註:
1. UNIT: MM 單位: 毫米
  2. MATERIAL: SGCC 材質: 熱浸鍍鋅鋼板  
THICKNES: 0.7mm 厚度: 0.7mm
  3. NET WEIGHT: 1145g±3% 淨重: 1145克+/-3%
  4. " \* " CRITICAL DIMENSION. THE SUPPLIER COMPLY TO ACBEL SPEC DIMENSION FOR EVERY SHIPMENT.  
" \* " 表示該(尺寸/位置)為設計之重點尺寸, 供應商每次出貨前必須檢驗合格後, 方可出貨.
  5. POWER SUPPLY MUST CONFIRM TO CUSTOMER'S SPEC XXXXXX-XXXX, 必須遵守客戶XXXXXX-XXXX規格書之規定.
  6. THESE MATERIAL/PART/ASSEMBLY MUST COMPLY TO ACBEL SPEC "CRITERIA FOR ENVIRONMENT-RELATED SUBSTANCES", 材質/零件/製程均必須符合康舒"環境管理物質規範".



NON-RELEASE		
試作圖面		REV: 1
ENG.	Mia	APPR.
QTY	依試轉備料數量為準	DATE 05/03/18
⚠ 注意: 此圖面僅供試產使用, 量產請以資料室正式發行圖面為準.		

1	PRIMARYLY	MIA	05/03/18
REV	DESCRIPTION	BY	DATE
 <b>ACBEL POLYTECH INC.</b>		MODEL NO.	FSH017-4QAG
		PART NO.	MD-FSH017-4QAG
		DWG. NO.	MD-FSH017-4QAG_1
 THIRD ANGLE PROJECTION		TITLE	
		MECHANICAL OUTLINE	
SCALE	NONE	DESIGNER	MIA 05/03/18
SHEET 1 OF 2		CHECKED	PERRY 05/03/18
		APPROVED	RAY 05/03/18

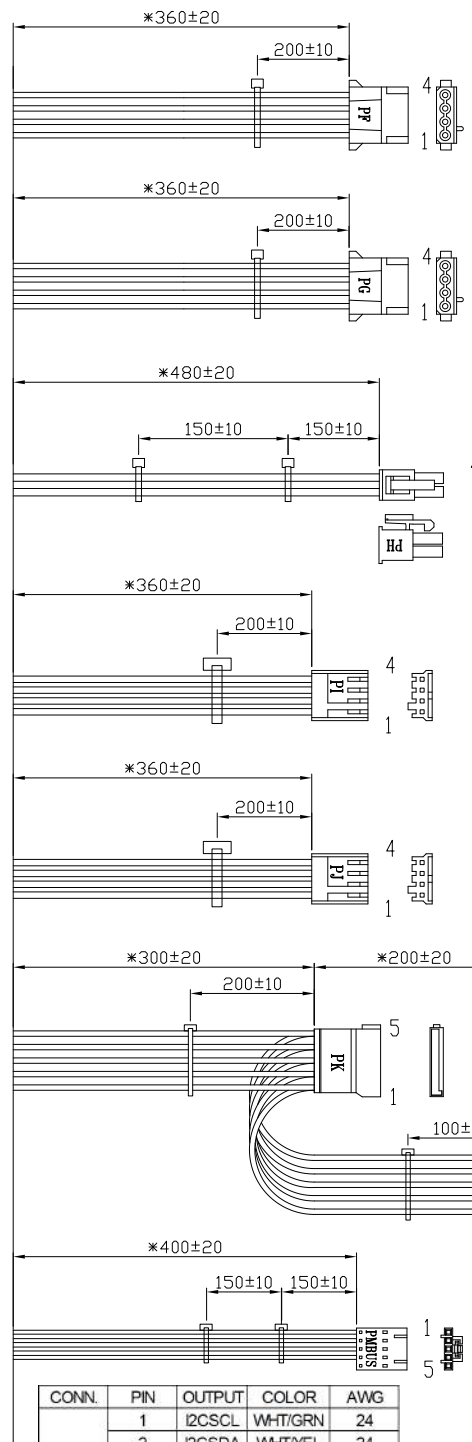


CONN.	PIN	OUTPUT	COLOR	AWG	
P24 MINI-FIT 24PIN	1	+3.3V	ORANGE	18	
	2	+3.3VS	BROWN	22	
	3	+3.3V	ORANGE	18	
	4	+5V	RED	18	
	5	+5VS	WHITE/RED	22	
	6	GND	BLACK	18	
	7	+5V	RED	18	
	8	GND	BLACK	18	
	9	PW-OK	GRAY	22	
	10	+5VSB	PURPLE	18	
	11	+12V	YELLOW	18	
	12	+3.3V	ORANGE	18	
	13	+3.3V	ORANGE	18	
	14	-12V	BLUE	18	
	15	GND	BLACK	18	
	16	PS-ON	GREEN	22	
	17	GND	BLACK	18	
	18	GND	BLACK	18	
	19	GND	BLACK	18	
	20				
	21	+5V	RED	18	
	22	+5V	RED	18	
	23	+5V	RED	18	
	24	GND	BLACK	18	

CONN.	PIN	OUTPUT	COLOR	AWG
PA-PC MINI-FIT 8PIN	1	GND	BLACK	18
	2	GND	BLACK	18
	3	GND	BLACK	18
	4	GND	BLACK	18
	5	+12V	YELLOW	18
	6	+12V	YELLOW	18
	7	+12V	YELLOW	18
	8	+12V	YELLOW	18

CONN.	PIN	OUTPUT	COLOR	AWG
PD MINI-FIT 14PIN	1	GND	BLACK	18
	2	GND	BLACK	18
	3	GND	BLACK	18
	4	GND	BLACK	18
	5	GND	BLACK	18
	6	GND	BLACK	18
	7	GND	BLACK	18
	8	+12V	YELLOW	18
	9	+12V	YELLOW	18
	10	+12V	YELLOW	18
	11	+12V	YELLOW	18
	12	+5V	RED	18
	13	+5V	RED	18
	14	+5V	RED	18

CONN.	PIN	OUTPUT	COLOR	AWG	
PE MINI-FIT 12PIN	1	GND	BLACK	18	
	2	GND	BLACK	18	
	3	GND	BLACK	18	
	4				
	5				
	6	GND	BLACK	18	
	7	+12V	YELLOW	18	
	8	+12V	YELLOW	18	
	9	+3.3V	ORANGE	18	
	10	+5V	RED	18	
	11				
	12				



CONN.	PIN	OUTPUT	COLOR	AWG
PMBUS	1	I2CSCL	WHT/GRN	24
	2	I2CSDA	WHT/YEL	24
	3	PS_Alert	WHITE	24
	4	GND	BLACK	24
	5			

PF-PG HDD	PIN	OUTPUT	COLOR	AWG
PF-PG HDD	1	+12V	YELLOW	18
	2	GND	BLACK	18
	3	GND	BLACK	18
	4	+5V	RED	18

CONN.	PIN	OUTPUT	COLOR	AWG
PH MINI-FIT 4PIN	1	GND	BLACK	18
	2	GND	BLACK	18
	3	+12V	YELLOW	18
	4	+12V	YELLOW	18

CONN.	PIN	OUTPUT	COLOR	AWG
PI-PJ S4P	1	+5V	RED	22
	2	GND	BLACK	22
	3	GND	BLACK	22
	4	+12V	YELLOW	22

CONN.	PIN	OUTPUT	COLOR	AWG
PK-PL SATA	1	+3.3V	ORANGE	18
	2	GND	BLACK	18
	3	+5V	RED	18
	4	GND	BLACK	18
	5	+12V	YELLOW	18

NON-RELEASE  
試作圖面  
REV: 1  
ENG. Mia APPR.  
QTY 依技術轉錄數量為準 DATE 05/03/18  
注意: 此圖面僅供試產使用, 量產請以資料室正式發行圖面為準.

**AcBel**  
ACBEL POLYTECH INC.

SI Metric AO

THIRD ANGLE PROJECTION

SCALE NONE SHEET 2 OF 2

MODEL NO.	F5H017-4QAG	
PART NO.	MD-F5H017-4QAG	
DWG. NO.:	MD-F5H017-4QAG_1	
TITLE	MECHANICAL OUTLINE	
DESIGNER	MIA	05/03/18
CHECKED	PERRY	05/03/18
APPROVED	RAY	05/03/18

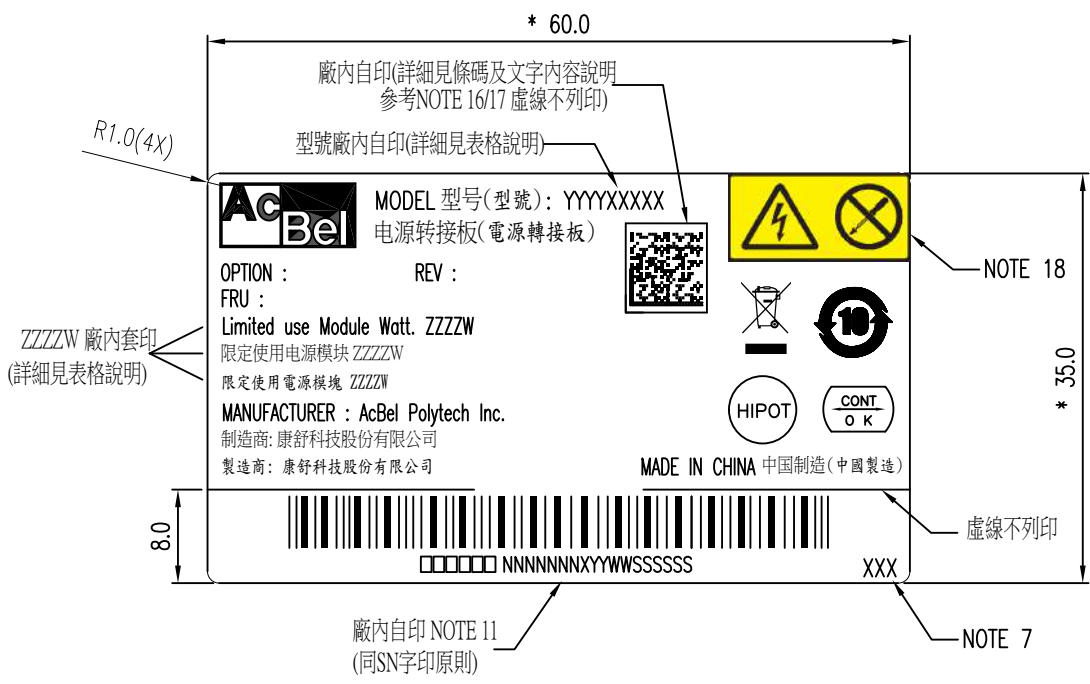


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ACBEL POLYTECH INC.

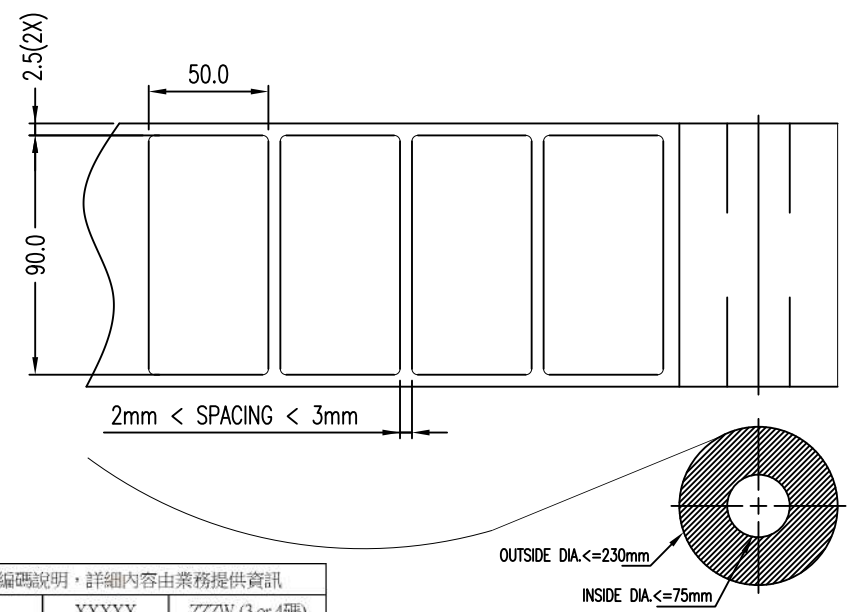
# I/O Label Drawing

7 6 5 4 3 2 1



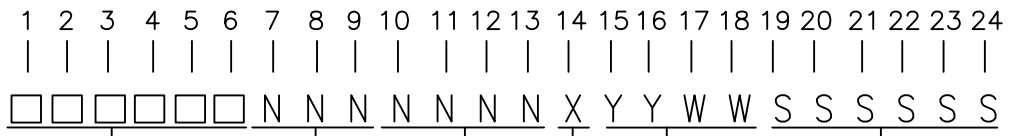
機種型號編碼說明, 詳細內容由業務提供資訊

YYYY	XXXXX	ZZZW (3 or 4碼)
系列	編號	瓦特數



RELEASE			
正式發行圖面		REV: C	
ENG.	MIA	APPR.	RAY

SN自印原則:



SERIAL NO 000001~999999

DATE CODE(YY: YEAR WW:WEEK  
FOR EXAMPLE: 2012 13TH WEEK 則此4欄位為"1213")

MFG. FACTORY CODE:  
(東莞康舒印: B; 東莞康展印: T; 武漢康舒印: W)

ID CODE (Ex.: 若機種FSA035-001G印001G)

API REVISION CONTROL CODES1印: OS1; S2印: OS2; A印: A00

API MODEL NAME (Ex.: 若機種FSA035-001G, 則印製"FSA035"於此6個欄位)

C	增加研華S/N標準	MIA	09/19/19
B	MODIFY LABEL FORMAT	TING	09/23/14
A	RELEASE	TING	06/05/14
1	PRIMARILY	TING	01/21/14
REV	DESCRIPTION	BY	DATE

AcBel ACBEL POLYTECH INC.	DRAWINGS & SPEC. ARE THE EXCLUSIVE PROPERTY OF ACBEL POLYTECH INC. SAID ITEMS ARE ISSUED IN STRICT CONFIDENTIAL	MODEL NO. FSC043-7EFG
		PART NO. X01AAA-7100IA
		DWG. NO :X01AAA-7100IA_C

SI Metric A3	TOLERANCES UNLESS OTHERWISE NOTED SEE NOTE 4	TITLE I/O LABEL	
		DESIGNER	Mia 09/19/19
THIRD ANGLE PROJECTION		CHECKED	Perry 09/19/19
SCALE NONE	SHEET 1 OF 3	APPROVED	Ray 09/19/19

7 6 5 4 3 2 1

NOTES:

1. UNIT : MM.  
單位:毫米.
2. MATERIAL :  
2.1 FACE STOCK 底材 :  
WHITE POLYESTER, THICKNESS = 0.05 MM.  
白霧龍50#,厚度= 0.05毫米
- 2.2 OVERLAMINATION 保護膜 :  
 A TRANSPARENT FILM 透明膠膜     NONE 無
- 2.3 ADHESIVE 背膠 : PRESSURE SENSITIVE ACRYLIC 壓克力壓膠膜  
THICKNESS 厚度 = 0.025 MM
- 2.4 BACKED WITH RELEASE LINER. 背面附離型紙
- 2.5 LABEL TO BE AFFIXED TO AND MAXIMUM TEMPERATURE RATING 貼紙所貼附之材質與最大耐溫等級 :  
 GALVANIZED STEEL 鍍鋅鋼     ALUMINUM 鋁  
 NICKEL PLATED METAL 鍍鎳金屬  
 ZINC PLATED METAL WITH CHROMATE POST TREATMENT 後處理之鍍鉻酸鋅金屬  
 100°C 攝氏100度
- 2.6 MATERIAL MUST BE UL RECOGNIZED AND COMPLY TO UL 969 STANDARD.  
材質必須符合UL 認證, 並且遵從 UL 969 標準.
3. LABEL MUST BE MADE BY A UL RECOGNIZED AND CSA APPROVED VENDOR.  
貼紙之製造商必須是UL與 CSA 所認證.
4. TOLERANCE : XX = +/- 0.5    XX.X = +/- 0.2  
                  XX.XX = +/- 0.15  
公差:   XX = +/- 0.5    XX.X = +/- 0.2  
                  XX.XX = +/- 0.15
5. "\*"CRITICAL DIMENSION SYMBOL, SUPPLIER MUST INSPECT THIS DIMENSION FOR EVERY SHIPMENT  
"\*"表示該(尺寸/位置)為設計之重點尺寸, 供應商每次出貨前必須檢驗合格後, 方可出貨.
6. ALL PRODUCTS MUST BE THE SAME AS ENGINEERING API MECHANICAL ENGINEERING APPROVED SAMPLES, ANY MODIFICATION MUST BE APPROVED BY ACBEL MECHANICAL ENGINEERING SECTION.  
所有產品必須與認可的樣品一致, 任何的修改都必須經由康舒機構工程師同意及認可.
7. LABEL MUST CONTAIN THE VENDOR'S ID MARK LOCATED IN THE AREA INDICATED. ID MARK LETTER HEIGHT TO BE 1.5MM.  
貼紙必須印製廠商代碼, 代碼字高為 1.5 毫米.
8. CHARACTER HEIGHT : 1.5 MM , UNLESS OTHERWISE SPECIFIED.  
圖面未標示之字體高度皆為 1.5 毫米
9. PRINTED COLOR :  
BLACK - TEXT, GRAPHICS, IMAGE, LOGO SURROUND SHAPE.  
WHITE - BACKGROUND.  
???? :  
黑色 - 文字、圖形、圖像、標誌、外圍圖形    白色 - 背景

10. THESE MATERIAL/PART/ASSEMBLY MUST COMPLY TO ACBEL 20. USES OF RED PHOSPHORUS MATERIAL IS PROHIBITED. SPEC" CRITERIA FOR ENVIRONMENT-RELATED SUBSTANCES". 禁止使用含有紅磷材料, 材質/零件/製程均必須符合康舒"環境管理物質規範".

11. BAR CODE FORMAT: CODE 128 / CPI : 13.64 THE NARROW ELEMENT DIMENSION (X DIMENSION) SHOULD BE WITHIN A RANGE OF 0.170MM(0.0067 INCH) 條碼格式: CODE 128 / CPI 13.64 寬/窄比: 0.17毫米(0.0067英寸)

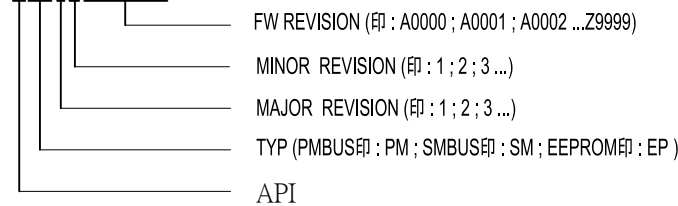
12. BAR CODE & SN & FRU 廠內自印

13. REV : XXX (S1印: 0S1; S2印: 0S2; A印: A00)

14. DATE : XYYWW 為廠口自印, 4碼 XYYWW 為製造週期, X 為工廠代碼\*  
工廠代碼: 康舒東莞廠印B, 康展東莞廠印T, 康舒武漢廠印W

15. FRU自印原則

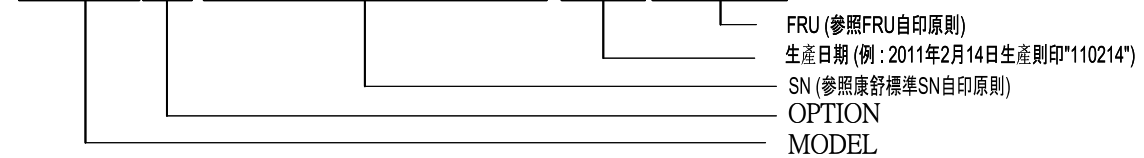
AXXSS□□□□



16. 2維條碼自印原則

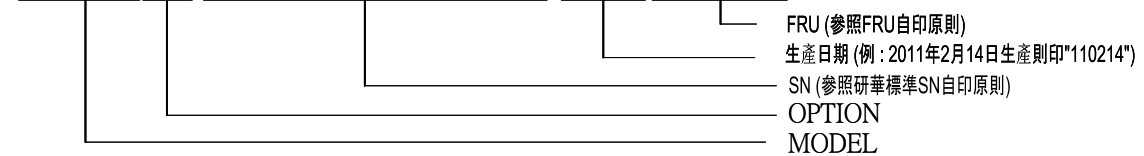
康舒標準2維條碼自印原則

XXXXXXXXXXXX; OOOOOONNNNNNNXYYWWSSSSSS; YMMDD; XXXXXXXXXXXX



研華標準2維條碼自印原則

XXXXXXXXXXXX; PRRRYWWSSSSSS; YMMDD; XXXXXXXXXXXX



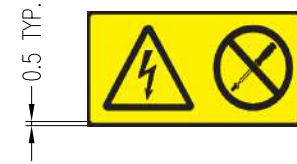
17. 條碼及文字內容說明

編碼: DATAMATRIX

18. 警告符號顏色定義如下:

PMC BlackC 黑色 - 文字、圖形、圖像、標誌

PMC 108C 黃色 - 背景



19. 加入工廠代碼, 如康舒東莞廠生口即印製(B)如圖示, 如康展東莞廠生產即印製(T); 如康舒武漢廠生產即印製(W)

 ACBEL POLYTECH INC.	DRAWINGS & SPEC. ARE THE EXCLUSIVE PROPERTY OF ACBEL POLYTECH INC. SAID ITEMS ARE ISSUED IN STRICT CONFIDENTIAL	MODEL NO. FSC043-7EFG	
		PART NO. X01AAA-7100IA	
DWG. NO : X01AAA-7100IA_C		TITLE	
I/O LABEL		DESIGNER Mia 09/19/19	
CHECKED Perry 09/19/19		APPROVED Ray 09/19/19	

RELEASE			
正式發行圖面		REV: C	
ENG.	MIA	APPR.	RAY

	TOLERANCES UNLESS OTHERWISE NOTED
	SEE NOTE 4
	THIRD ANGLE PROJECTION

SCALE NONE SHEET 3 OF 3



**康舒科技**

ACBEL POLYTECH INC.

# **ATE Test Report**

SEQ.1: Set Up Function ----- PASS

Vin\_Port (1-4) = 2 Vin type = AC  
ON Phase (mS) = 0.000 OFF Phase = 0.000  
Setup off(Sec) = 0.100 PAUSE function= N  
Display Message= PLEASE PRESS ENTER

Relay status: Pre value-1 = 00 Pre value-2 = 00  
TTL status : Pre value-1 = 0000 Pre value-2 = 0008  
Change state delay: For relay = 0.000 For TTL = 0.000  
Ext. device GPIB address = \* GPIB EOS byte = 1  
Message for ext. device = V10

	Load Name	MODE	I <sub>fs</sub>	V <sub>fs</sub>	Meas	BITS
1.	5V	I	50	10	UUT	0000
2.	3.3V	I	50	10	UUT	0000
3.	PG	I	50	10	UUT	0000
4.	-12V	I	20	100	UUT	0000
5.	5VS	I	50	10	UUT	0000
6.	12V	I	50	100	UUT	0000
7.	12V	I	50	100	UUT	0000
8.	12V	I	50	100	UUT	0000
9.	12V	I	50	100	UUT	0000
10.	12V	I	50	100	UUT	0000

-----  
SEQ.2: Turn On & Sequence Test (Rise Time) ----- PASS

Vin Port = 2 Vin Type = AC  
ON Phase delay = 0.000 OFF Phase delay = 0.000  
Vin = 90.000 Fin = 47.0  
UUT OFF time = 1.000

	Load Name	MODE	I <sub>fs</sub>	V <sub>fs</sub>	Meas.	V <sub>on</sub>	BITS	Rise	I/R
1.	5V	I	50	10	UUT	0.000	0000	0.010	40.000
2.	3.3V	I	50	10	UUT	0.000	0000	0.010	24.000
3.	PG	I	50	10	UUT	0.000	0000	0.010	0.000
4.	-12V	I	20	100	UUT	0.000	0000	0.010	0.300

5.	5VS	I	50	10	UUT	0.000	0000	0.010	4.000
6.	12V	I	50	100	UUT	0.000	0000	0.010	8.400
7.	12V	I	50	100	UUT	0.000	0000	0.010	8.400
8.	12V	I	50	100	UUT	0.000	0000	0.010	8.400
9.	12V	I	50	100	UUT	0.000	0000	0.010	8.400
10.	12V	I	50	100	UUT	0.000	0000	0.010	8.400

Ld	START TRIGG NO.	START TRIGG LEVEL	END TRIGG NO.	END TRIGG LEVEL	Va	Vb	Vos Check	Vos Reading
1.	7	H	8	H	0.500	4.750	N	-----
2.	7	H	8	H	0.330	3.135	N	-----
3.	7	H	8	H	0.330	2.400	N	-----
4.	7	H	8	H	-1.200	-11.400	N	-----
5.	7	H	8	H	0.500	4.500	N	-----
6.	7	H	8	H	1.200	11.400	N	-----
7.	7	H	8	H	1.200	11.400	N	-----
8.	1	H	1	H	1.200	11.400	N	-----
9.	1	H	1	H	1.200	11.400	N	-----
10.	1	H	1	H	1.200	11.400	N	-----

Ld	Ton Max	Ton Min	Ton Read	Tsb Min	Tsb Read
1.	70.000	5.000	23.235	*	> 1.024
2.	70.000	5.000	23.947	*	> 1.024
3.	*	*	0.129	*	> 1.024
4.	70.000	5.000	6.870	*	> 1.024
5.	50.000	1.000	6.332	*	> 1.024
6.	70.000	5.000	37.375	*	> 1.024
7.	70.000	5.000	37.373	*	> 1.024
8.	*	*	0.000	*	-----
9.	*	*	0.000	*	-----
10.	*	*	0.000	*	-----

Ref Ton from LOAD: \*

	Max	Min	Reading/+	Reading/-
Iinruch	*		8.125	18.109
Tds	*	*	0.000	
Td1	*	*	37.375	

Tdls \* 37.375

Ld	Tons	Source	LOAD No.	Td Max	Td Min	Td Read
1.		*		*	*	-----
2.		*		*	*	-----
3.		*		*	*	-----
4.		*		*	*	-----
5.		*		*	*	-----
6.		*		*	*	-----
7.		*		*	*	-----
8.		*		*	*	-----
9.		*		*	*	-----
10.		*		*	*	-----

-----  
SEQ.3: Extra Timing Test (PS OFF) ----- PASS

Vin = 90.000 Fin = 47.0 Delay Time = 1.000

Load	Name	MODE	Ifs	Vfs	Meas.	Von	BITS	Rise	I/R
1.	5V	I	50	10	UUT	3.500	0000	0.010	40.000
2.	3.3V	I	50	10	UUT	2.100	0000	0.010	24.000
3.	PG	I	50	10	UUT	0.000	0000	0.010	0.000
4.	-12V	I	20	100	UUT	-8.000	0000	0.010	0.300
5.	5VS	I	50	10	UUT	3.500	0000	0.010	4.000
6.	12V	I	50	100	UUT	8.000	0000	0.010	8.400
7.	12V	I	50	100	UUT	8.000	0000	0.010	8.400
8.	12V	I	50	100	UUT	8.000	0000	0.010	8.400
9.	12V	I	50	100	UUT	8.000	0000	0.010	8.400
10.	12V	I	50	100	UUT	8.000	0000	0.010	8.400

Relay status: Pre value-1 = 00 Pre value-2 = 00  
Relay status: Post value-1 = 00 Post value-2 = 00  
TTL status : Pre value-1 = 0008 Pre value-2 = 0000  
TTL status : Post value-1 = 0000 Post value-2 = 0000  
Change state delay: For relay = 0.000 For TTL = 0.000

START START END END

Ld	TRIGG NO.	TRIGG LEVEL	TRIGG NO.	TRIGG LEVEL	Va	Vb	Vos Check	Vos Reading
1.	5	H	7	L	4.750	5.250	N	-----
2.	5	H	7	L	3.130	3.470	N	-----
3.	5	H	7	L	2.400	3.460	N	-----
4.	5	H	7	L	-11.400	-13.200	N	-----
5.	1	H	1	H	4.650	5.250	N	-----
6.	5	H	7	L	11.400	12.600	N	-----
7.	1	H	1	H	11.400	12.600	N	-----
8.	1	H	1	H	11.400	12.600	N	-----
9.	1	H	1	H	11.400	12.600	N	-----
10.	1	H	1	H	11.400	12.600	N	-----

Short which LOAD = \* Short Time = 0.100 UUT OFF Time = 0.100  
Tref from which LOAD = \*

	Max	Min	Reading/+	Reading/-
Iinpk	*	*	-----	-----
Tds	*	*	0.000	
Td1	*	*	8.119	
Td1s	*		8.119	

Ld	Timing Max	Timing Min	Timing Read	Tsb Min	Tsb Read
1.	*	*	6.869	*	> 1.024
2.	*	*	6.789	*	> 1.024
3.	50.000	0.100	3.075	*	> 1.024
4.	*	*	8.119	*	> 1.024
5.	*	*	0.000	*	-----
6.	*	*	6.442	*	> 1.024
7.	*	*	0.000	*	-----
8.	*	*	0.000	*	-----
9.	*	*	0.000	*	-----
10.	*	*	0.000	*	-----

Ld	Tref Source	LOAD No.	Td Max	Td Min	Td Reading
1.		3	200.000	1.000	3.794
2.		3	200.000	1.000	3.714
3.		1	-200.000	-1.000	-3.794
4.		*	*	*	-----

5.	*	*	*	-----
6.	3	200.000	1.000	3.367
7.	*	*	*	-----
8.	*	*	*	-----
9.	*	*	*	-----
10.	*	*	*	-----

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SEQ.4: Extra Timing Test (PS ON) ----- PASS

Vin = 90.000 Fin = 47.0 Delay Time = 1.000

	Load Name	MODE	I <sub>fs</sub>	V <sub>fs</sub>	Meas.	V <sub>on</sub>	BITS	Rise	I/R
1.	5V	I	50	10	UUT	3.500	0000	0.010	40.000
2.	3.3V	I	50	10	UUT	2.100	0000	0.010	24.000
3.	PG	I	50	10	UUT	0.000	0000	0.010	0.000
4.	-12V	I	20	100	UUT	-8.000	0000	0.010	0.300
5.	5VS	I	50	10	UUT	3.500	0000	0.010	4.000
6.	12V	I	50	100	UUT	8.000	0000	0.010	8.400
7.	12V	I	50	100	UUT	8.000	0000	0.010	8.400
8.	12V	I	50	100	UUT	8.000	0000	0.010	8.400
9.	12V	I	50	100	UUT	8.000	0000	0.010	8.400
10.	12V	I	50	100	UUT	8.000	0000	0.010	8.400

Relay status: Pre value-1 = 00 Pre value-2 = 00  
 Relay status: Post value-1 = 00 Post value-2 = 00  
 TTL status : Pre value-1 = 0000 Pre value-2 = 0008  
 TTL status : Post value-1 = 0000 Post value-2 = 0008  
 Change state delay: For relay = 0.000 For TTL = 0.000

Ld	START TRIGG NO.	START TRIGG LEVEL	END TRIGG NO.	END TRIGG LEVEL	Va	Vb	Vos Check	Vos Reading
1.	5	L	7	H	4.750	5.250	N	-----
2.	5	L	7	H	3.130	3.470	N	-----
3.	5	L	7	H	2.400	3.460	N	-----
4.	5	L	7	H	-11.400	-13.200	N	-----
5.	1	H	1	H	4.650	5.250	N	-----

6.	5	L	7	H	11.400	12.600	N	-----
7.	1	H	1	H	11.400	12.600	N	-----
8.	1	H	1	H	11.400	12.600	N	-----
9.	1	H	1	H	11.400	12.600	N	-----
10.	1	H	1	H	11.400	12.600	N	-----

Short which LOAD = \* Short Time = 0.100 UUT OFF Time = 0.100  
Tref from which LOAD = \*

	Max	Min	Reading/+	Reading/-
Iinpk	*	*	-----	-----
Tds	*	*	0.000	
Td1	*	*	518.990	
Td1s	*		518.990	

Ld	Timing Max	Timing Min	Timing Read	Tsb Min	Tsb Read
1.	400.000	5.000	340.304	*	> 1.024
2.	400.000	5.000	359.006	*	> 1.024
3.	*	*	518.990	*	> 1.024
4.	*	*	323.806	*	> 1.024
5.	*	*	0.000	*	-----
6.	400.000	5.000	308.844	*	> 1.024
7.	*	*	0.000	*	-----
8.	*	*	0.000	*	-----
9.	*	*	0.000	*	-----
10.	*	*	0.000	*	-----

Ld	Tref Source	LOAD No.	Td Max	Td Min	Td Reading
1.		3	-500.000	-100.000	-178.686
2.		3	-500.000	-100.000	-159.984
3.		1	500.000	100.000	178.686
4.		*	*	*	-----
5.		*	*	*	-----
6.		3	-500.000	-100.000	-210.146
7.		*	*	*	-----
8.		*	*	*	-----
9.		*	*	*	-----
10.		*	*	*	-----

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 SEQ.5: Dynamic Test (5V&50HZ MAX LOAD) ----- PASS

Vin = 90.000 Fin = 47.0 Delay Time = 3.000 Meas. Time = 1.000

Load Name	MODE	I <sub>fs</sub>	V <sub>fs</sub>	Meas.	Noise Filter	V <sub>on</sub>	BITS
1.	5V	I	50	10	UUT	20M	3.500 0000
2.	3.3V	I	50	10	UUT	20M	2.100 0000
3.	PG	I	50	10	UUT	20M	0.000 0000
4.	-12V	I	20	100	UUT	20M	-8.000 0000
5.	5VS	I	50	10	UUT	20M	3.500 0000
6.	12V	I	50	100	UUT	20M	8.000 0000
7.	12V	I	50	100	UUT	20M	8.000 0000
8.	12V	I	50	100	UUT	20M	8.000 0000
9.	12V	I	50	100	UUT	20M	8.000 0000
10.	12V	I	50	100	UUT	20M	8.000 0000

Ld	Period-1	Period-2	Rise	Fall	Vpp Max	Vpp Min	Vpp Read
1.	1.000	9.000	0.500	0.500	*	*	0.126
2.	1.000	9.000	0.500	0.500	*	*	0.055
3.	1.000	9.000	0.500	0.500	*	*	0.102
4.	0.100	0.100	0.500	0.500	*	*	0.059
5.	1.000	9.000	0.500	0.500	*	*	0.414
6.	1.000	9.000	0.500	0.500	*	*	0.160
7.	1.000	9.000	0.500	0.500	*	*	0.130
8.	1.000	9.000	0.500	0.500	*	*	0.099
9.	1.000	9.000	0.500	0.500	*	*	0.130
10.	1.000	9.000	0.500	0.500	*	*	0.110

Ld	I/R-1	Reading	I/R-2	Reading	dV Max	dV Read
1.	28.000	28.009	40.000	40.009	*	0.008
2.	24.000	23.984	24.000	23.981	*	0.001
3.	0.000	0.018	0.000	0.018	*	0.002
4.	0.300	0.306	0.300	0.306	*	0.006
5.	1.000	1.009	4.000	4.003	*	0.095
6.	8.400	8.400	8.400	8.396	*	0.000
7.	8.400	8.412	8.400	8.415	*	0.012
8.	8.400	8.412	8.400	8.406	*	0.000

9.	8.400	8.396	8.400	8.406	*	0.012
10.	8.400	8.390	8.400	8.387	*	0.006

Ld	Vs Max	Vs Min	Vs-1 Rd	Vs-2 Rd	Vn Max	Vn Read
1.	5.250	4.750	5.043	5.052	*	0.003
2.	3.470	3.130	3.333	3.332	*	0.004
3.	3.460	2.400	3.225	3.223	*	0.004
4.	-13.200	-11.400	-12.131	-12.137	*	0.010
5.	5.300	4.650	5.040	4.945	*	0.032
6.	12.600	11.400	11.956	11.956	*	0.008
7.	12.600	11.400	12.031	12.018	*	0.008
8.	12.600	11.400	12.031	12.031	*	0.012
9.	12.600	11.400	11.881	11.868	*	0.007
10.	12.600	11.400	11.912	11.906	*	0.006

-----  
 SEQ.6: Dynamic Test (5V&5KHZ MAX LOAD) ----- PASS

Vin = 90.000 Fin = 47.0 Delay Time = 3.000 Meas. Time = 1.000

Load Name	MODE	Ifs	Vfs	Meas.	Noise Filter	Von	BITS
1.	5V	I	50	10	UUT	20M	3.500 0000
2.	3.3V	I	50	10	UUT	20M	2.100 0000
3.	PG	I	50	10	UUT	20M	0.000 0000
4.	-12V	I	20	100	UUT	20M	-8.000 0000
5.	5VS	I	50	10	UUT	20M	3.500 0000
6.	12V	I	50	100	UUT	20M	8.000 0000
7.	12V	I	50	100	UUT	20M	8.000 0000
8.	12V	I	50	100	UUT	20M	8.000 0000
9.	12V	I	50	100	UUT	20M	8.000 0000
10.	12V	I	50	100	UUT	20M	8.000 0000

Ld	Period-1	Period-2	Rise	Fall	Vpp Max	Vpp Min	Vpp Read
1.	0.020	0.180	0.500	0.500	*	*	0.150
2.	0.020	0.180	0.500	0.500	*	*	0.057
3.	0.020	0.180	0.500	0.500	*	*	0.117
4.	0.020	0.180	0.500	0.500	*	*	0.051
5.	0.020	0.180	0.500	0.500	*	*	0.324

6.	0.020	0.180	0.500	0.500	*	*	0.171
7.	0.020	0.180	0.500	0.500	*	*	0.114
8.	0.020	0.180	0.500	0.500	*	*	0.085
9.	0.020	0.180	0.500	0.500	*	*	0.130
10.	0.020	0.180	0.500	0.500	*	*	0.103

Ld	I/R-1	Reading	I/R-2	Reading	dV Max	dV Read
1.	28.000	32.012	40.000	40.000	*	0.013
2.	24.000	23.978	24.000	23.975	*	0.044
3.	0.000	0.021	0.000	0.012	*	0.007
4.	0.300	0.306	0.300	0.309	*	0.025
5.	1.000	1.003	4.000	4.003	*	0.103
6.	8.400	8.390	8.400	8.396	*	0.068
7.	8.400	8.406	8.400	8.409	*	0.006
8.	8.400	8.403	8.400	8.403	*	0.031
9.	8.400	8.418	8.400	8.396	*	0.006
10.	8.400	8.384	8.400	8.384	*	0.012

Ld	Vs Max	Vs Min	Vs-1 Rd	Vs-2 Rd	Vn Max	Vn Read
1.	5.250	4.750	5.038	5.051	*	0.018
2.	3.470	3.130	3.310	3.354	*	0.010
3.	3.460	2.400	3.241	3.233	*	0.010
4.	-13.200	-11.400	-12.100	-12.125	*	0.018
5.	5.300	4.650	5.080	4.977	*	0.057
6.	12.600	11.400	12.031	11.962	*	0.025
7.	12.600	11.400	12.018	12.012	*	0.016
8.	12.600	11.400	12.050	12.018	*	0.020
9.	12.600	11.400	11.887	11.881	*	0.013
10.	12.600	11.400	11.900	11.912	*	0.013

-----  
 SEQ.7: Dynamic Test (3.3V&50HZ MAX LOAD) ----- PASS

Vin = 90.000 Fin = 47.0 Delay Time = 1.500 Meas. Time = 1.000

	Load Name	MODE	I fs	V fs	Meas.	Noise Filter	Von	BITS
1.	5V	I	50	10	UUT	20M	3.500	0000
2.	3.3V	I	50	10	UUT	20M	2.100	0000

3.	PG	I	50	10	UUT	20M	0.000	0000
4.	-12V	I	20	100	UUT	20M	-8.000	0000
5.	5VS	I	50	10	UUT	20M	3.500	0000
6.	12V	I	50	100	UUT	20M	8.000	0000
7.	12V	I	50	100	UUT	20M	8.000	0000
8.	12V	I	50	100	UUT	20M	8.000	0000
9.	12V	I	50	100	UUT	20M	8.000	0000
10.	12V	I	50	100	UUT	20M	8.000	0000

Ld	Period-1	Period-2	Rise	Fall	Vpp Max	Vpp Min	Vpp Read
1.	1.000	9.000	0.500	0.500	*	*	0.038
2.	1.000	9.000	0.500	0.500	*	*	0.181
3.	1.000	9.000	0.500	0.500	*	*	0.111
4.	1.000	9.000	0.500	0.500	*	*	0.082
5.	1.000	9.000	0.500	0.500	*	*	0.420
6.	1.000	9.000	0.500	0.500	*	*	0.126
7.	1.000	9.000	0.500	0.500	*	*	0.118
8.	1.000	9.000	0.500	0.500	*	*	0.089
9.	1.000	9.000	0.500	0.500	*	*	0.123
10.	1.000	9.000	0.500	0.500	*	*	0.105

Ld	I/R-1	Reading	I/R-2	Reading	dV Max	dV Read
1.	40.000	40.012	40.000	40.006	*	0.008
2.	16.800	16.803	24.000	23.984	*	0.023
3.	0.000	0.018	0.000	0.015	*	0.049
4.	0.300	0.309	0.300	0.306	*	0.000
5.	1.000	1.012	4.000	4.000	*	0.102
6.	8.400	8.400	8.400	8.400	*	0.037
7.	8.400	8.409	8.400	8.409	*	0.031
8.	8.400	8.409	8.400	8.406	*	0.000
9.	8.400	8.396	8.400	8.418	*	0.050
10.	8.400	8.393	8.400	8.390	*	0.018

Ld	Vs Max	Vs Min	Vs-1 Rd	Vs-2 Rd	Vn Max	Vn Read
1.	5.250	4.750	5.061	5.053	*	0.003
2.	3.500	3.090	3.317	3.341	*	0.007
3.	3.460	2.400	3.203	3.252	*	0.004
4.	-13.200	-11.400	-12.131	-12.131	*	0.011

5.	5.300	4.650	5.048	4.946	*	0.034
6.	12.600	11.400	11.981	11.943	*	0.006
7.	12.600	11.400	12.050	12.018	*	0.006
8.	12.600	11.400	12.031	12.031	*	0.011
9.	12.600	11.400	11.912	11.862	*	0.006
10.	12.600	11.400	11.906	11.887	*	0.005

-----  
 SEQ.8: Dynamic Test (3.3V&5KHZ MAX LOAD) ----- PASS

Vin = 90.000 Fin = 47.0 Delay Time = 1.500 Meas. Time = 1.000

	Load Name	MODE	I <sub>fs</sub>	V <sub>fs</sub>	Meas.	Noise Filter	V <sub>on</sub>	BITS
1.	5V	I	50	10	UUT	20M	3.500	0000
2.	3.3V	I	50	10	UUT	20M	2.100	0000
3.	PG	I	50	10	UUT	20M	0.000	0000
4.	-12V	I	20	100	UUT	20M	-8.000	0000
5.	5VS	I	50	10	UUT	20M	3.500	0000
6.	12V	I	50	100	UUT	20M	8.000	0000
7.	12V	I	50	100	UUT	20M	8.000	0000
8.	12V	I	50	100	UUT	20M	8.000	0000
9.	12V	I	50	100	UUT	20M	8.000	0000
10.	12V	I	50	100	UUT	20M	8.000	0000

Ld	Period-1	Period-2	Rise	Fall	Vpp Max	Vpp Min	Vpp Read
1.	0.020	0.180	0.500	0.500	*	*	0.029
2.	0.020	0.180	0.500	0.500	*	*	0.136
3.	0.020	0.180	0.500	0.500	*	*	0.120
4.	0.020	0.180	0.500	0.500	*	*	0.054
5.	0.020	0.180	0.500	0.500	*	*	0.300
6.	0.020	0.180	0.500	0.500	*	*	0.095
7.	0.020	0.180	0.500	0.500	*	*	0.106
8.	0.020	0.180	0.500	0.500	*	*	0.072
9.	0.020	0.180	0.500	0.500	*	*	0.127
10.	0.020	0.180	0.500	0.500	*	*	0.100

Ld	I/R-1	Reading	I/R-2	Reading	dV Max	dV Read
1.	40.000	39.996	40.000	40.000	*	0.010

2.	16.800	16.790	24.000	23.968	*	0.028
3.	0.000	0.025	0.000	0.015	*	0.011
4.	0.300	0.306	0.300	0.303	*	0.025
5.	1.000	1.006	4.000	4.003	*	0.195
6.	8.400	8.393	8.400	8.396	*	0.031
7.	8.400	8.409	8.400	8.406	*	0.000
8.	8.400	8.406	8.400	8.403	*	0.000
9.	8.400	8.403	8.400	8.409	*	0.012
10.	8.400	8.384	8.400	8.384	*	0.018

Ld	Vs Max	Vs Min	Vs-1 Rd	Vs-2 Rd	Vn Max	Vn Read
1.	5.250	4.750	5.060	5.050	*	0.004
2.	3.500	3.090	3.386	3.357	*	0.026
3.	3.460	2.400	3.233	3.222	*	0.012
4.	-13.200	-11.400	-12.112	-12.137	*	0.018
5.	5.300	4.650	5.140	4.944	*	0.065
6.	12.600	11.400	11.981	11.950	*	0.012
7.	12.600	11.400	12.031	12.031	*	0.011
8.	12.600	11.400	12.025	12.025	*	0.015
9.	12.600	11.400	11.868	11.881	*	0.011
10.	12.600	11.400	11.900	11.881	*	0.011

-----  
 SEQ.9: Dynamic Test (12V&50HZ MAX LOAD) ----- PASS

Vin = 90.000 Fin = 47.0 Delay Time = 1.000 Meas. Time = 1.000

Load Name	MODE	I <sub>fs</sub>	V <sub>fs</sub>	Meas.	Noise Filter	Von	BITS
1.	5V	I	50	10	UUT	20M	3.500 0000
2.	3.3V	I	50	10	UUT	20M	2.100 0000
3.	PG	I	50	10	UUT	20M	0.000 0000
4.	-12V	I	20	100	UUT	20M	-8.000 0000
5.	5VS	I	50	10	UUT	20M	3.500 0000
6.	12V	I	50	100	UUT	20M	8.000 0000
7.	12V	I	50	100	UUT	20M	8.000 0000
8.	12V	I	50	100	UUT	20M	8.000 0000
9.	12V	I	50	100	UUT	20M	8.000 0000
10.	12V	I	50	100	UUT	20M	8.000 0000

Ld	Period-1	Period-2	Rise	Fall	Vpp Max	Vpp Min	Vpp Read
1.	1.000	9.000	0.500	0.500	*	*	0.035
2.	1.000	9.000	0.500	0.500	*	*	0.051
3.	1.000	9.000	0.500	0.500	*	*	0.072
4.	1.000	9.000	0.500	0.500	*	*	0.103
5.	1.000	9.000	0.500	0.500	*	*	0.111
6.	1.000	9.000	0.500	0.500	*	*	0.587
7.	1.000	9.000	0.500	0.500	*	*	0.362
8.	1.000	9.000	0.500	0.500	*	*	0.494
9.	1.000	9.000	0.500	0.500	*	*	0.674
10.	1.000	9.000	0.500	0.500	*	*	0.730

Ld	I/R-1	Reading	I/R-2	Reading	dV Max	dV Read
1.	0.500	0.487	0.500	0.481	*	0.017
2.	0.500	0.509	0.500	0.493	*	0.042
3.	0.000	0.018	0.000	0.015	*	0.010
4.	0.000	0.012	0.000	0.006	*	0.018
5.	0.500	0.506	0.500	0.503	*	0.015
6.	5.334	5.328	13.334	13.318	*	0.018
7.	5.334	5.343	13.334	13.340	*	0.006
8.	5.334	5.331	13.334	13.331	*	0.081
9.	5.334	5.334	13.334	13.328	*	0.275
10.	5.334	5.328	13.334	13.309	*	0.262

Ld	Vs Max	Vs Min	Vs-1 Rd	Vs-2 Rd	Vn Max	Vn Read
1.	5.250	4.750	5.035	5.052	*	0.005
2.	3.470	3.130	3.318	3.361	*	0.005
3.	3.460	2.400	3.282	3.293	*	0.006
4.	-13.200	-11.400	-12.075	-12.093	*	0.013
5.	5.250	4.750	5.125	5.109	*	0.008
6.	12.600	11.400	12.050	12.068	*	0.050
7.	12.600	11.400	12.106	12.100	*	0.045
8.	12.600	11.400	12.062	12.143	*	0.052
9.	12.600	11.400	12.043	11.768	*	0.091
10.	12.600	11.400	12.050	11.787	*	0.086

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SEQ.10: Dynamic Test (12V&5KHZ MAX LOAD) ----- PASS

Vin = 90.000 Fin = 47.0 Delay Time = 1.000 Meas. Time = 1.000

Load Name	MODE	I <sub>fs</sub>	V <sub>fs</sub>	Meas.	Noise Filter	V <sub>on</sub>	BITS
1.	5V	I	50	10	UUT	20M	3.500 0000
2.	3.3V	I	50	10	UUT	20M	2.100 0000
3.	PG	I	50	10	UUT	20M	0.000 0000
4.	-12V	I	20	100	UUT	20M	-8.000 0000
5.	5VS	I	50	10	UUT	20M	3.500 0000
6.	12V	I	50	100	UUT	20M	8.000 0000
7.	12V	I	50	100	UUT	20M	8.000 0000
8.	12V	I	50	100	UUT	20M	8.000 0000
9.	12V	I	50	100	UUT	20M	8.000 0000
10.	12V	I	50	100	UUT	20M	8.000 0000

Ld	Period-1	Period-2	Rise	Fall	Vpp Max	Vpp Min	Vpp Read
1.	0.020	0.180	0.500	0.500	*	*	0.029
2.	0.020	0.180	0.500	0.500	*	*	0.040
3.	0.020	0.180	0.500	0.500	*	*	0.063
4.	0.020	0.180	0.500	0.500	*	*	0.067
5.	0.020	0.180	0.500	0.500	*	*	0.105
6.	0.020	0.180	0.500	0.500	*	*	0.371
7.	0.020	0.180	0.500	0.500	*	*	0.213
8.	0.020	0.180	0.500	0.500	*	*	0.241
9.	0.020	0.180	0.500	0.500	*	*	0.622
10.	0.020	0.180	0.500	0.500	*	*	0.682

Ld	I/R-1	Reading	I/R-2	Reading	dV Max	dV Read
1.	0.500	0.493	0.500	0.481	*	0.011
2.	0.500	0.521	0.500	0.493	*	0.005
3.	0.000	0.018	0.000	0.015	*	0.015
4.	0.000	0.006	0.000	0.006	*	0.025
5.	0.500	0.512	0.500	0.506	*	0.047
6.	5.334	5.693	13.334	13.312	*	0.125
7.	5.334	5.665	13.334	13.334	*	0.168
8.	5.334	5.950	13.334	13.328	*	0.168
9.	5.334	6.037	13.334	13.328	*	0.437

10. 5.334 5.828 13.334 13.303 \* 0.418

Ld	Vs Max	Vs Min	Vs-1 Rd	Vs-2 Rd	Vn Max	Vn Read
1.	5.250	4.750	5.029	5.040	*	0.005
2.	3.470	3.130	3.344	3.339	*	0.007
3.	3.460	2.400	3.296	3.280	*	0.009
4.	-13.200	-11.400	-12.068	-12.093	*	0.021
5.	5.250	4.750	5.160	5.112	*	0.020
6.	12.600	11.400	12.175	12.050	*	0.074
7.	12.600	11.400	12.193	12.025	*	0.047
8.	12.600	11.400	12.200	12.031	*	0.060
9.	12.600	11.400	12.175	11.737	*	0.110
10.	12.600	11.400	12.200	11.781	*	0.120

-----  
 SEQ.11: Combine Regulation Test (L/H) ----- PASS

Vin Port-1 = 2 Vin Port-2 = 2 Vin Port-3 = 2  
 Vin-1 = 90.000 Vin-2 = 90.000 Vin-3 = 90.000  
 Fac = 47.0 Fac-2 = 47.0 Fac-3 = 47.0  
 Delay Time = 1.000 Meas. Time = 1.000

	Load Name	MODE	Ifs	Vfs	Meas.	Vdc Filter	Noise Filter	Von
1.	5V	I	50	10	UUT	300	20M	3.500
2.	3.3V	I	50	10	UUT	300	20M	2.100
3.	PG	I	50	10	UUT	300	20M	0.000
4.	-12V	I	20	100	UUT	300	20M	-8.000
5.	5VS	I	50	10	UUT	300	20M	3.500
6.	12V	I	50	100	UUT	300	20M	8.000
7.	12V	I	50	100	UUT	300	20M	8.000
8.	12V	I	50	100	UUT	300	20M	8.000
9.	12V	I	50	100	UUT	300	20M	8.000
10.	12V	I	50	100	UUT	300	20M	8.000

Ld	BITS-1	BITS-2	BITS-3	SLEW Rate	I/R-1	I/R-2	I/R-3
1.	0000	0000	0000	0.010	40.000	32.000	20.000
2.	0000	0000	0000	0.010	24.000	19.200	12.000
3.	0000	0000	0000	0.010	0.000	0.000	0.000

4.	0000	0000	0000	0.010	0.300	0.300	0.300
5.	0000	0000	0000	0.010	4.000	3.200	2.000
6.	0000	0000	0000	0.010	8.400	6.720	4.200
7.	0000	0000	0000	0.010	8.400	6.720	4.200
8.	0000	0000	0000	0.010	8.400	6.720	4.200
9.	0000	0000	0000	0.010	8.400	6.720	4.200
10.	0000	0000	0000	0.010	8.400	6.720	4.200

Ld	Vdc Max	Vdc Min	Vdc-1 RD	Vdc-2 RD	Vdc-3 RD
1.	5.250	4.750	5.055	5.060	5.065
2.	3.470	3.130	3.333	3.339	3.347
3.	3.460	2.400	3.221	3.240	3.266
4.	-13.200	-11.400	-12.118	-12.093	-12.062
5.	5.250	4.650	4.943	4.987	5.051
6.	12.600	11.400	11.931	11.993	12.075
7.	12.600	11.400	11.993	12.037	12.106
8.	12.600	11.400	12.006	12.050	12.118
9.	12.600	11.400	11.875	11.943	12.050
10.	12.600	11.400	11.900	11.962	12.062

Ld	Vpp Max	Vpp Min	Vpp-1 RD	Vpp-2 RD	Vpp-3 RD
1.	0.050	*	0.012	0.010	0.008
2.	0.050	*	0.006	0.006	0.006
3.	*	*	0.101	0.086	0.057
4.	0.120	*	0.006	0.006	0.006
5.	0.050	*	0.010	0.010	0.009
6.	0.120	*	0.034	0.032	0.031
7.	*	*	0.064	0.061	0.061
8.	*	*	0.028	0.025	0.025
9.	*	*	0.119	0.108	0.092
10.	*	*	0.078	0.071	0.064

Ld	dV(+) Max	dV(-) Max	dV-21 RD	dV-31 RD
1.	*	*	0.004	0.009
2.	*	*	0.005	0.013
3.	*	*	0.018	0.045
4.	*	*	-0.025	-0.056
5.	*	*	0.043	0.107

6.	*	*	0.062	0.143
7.	*	*	0.043	0.112
8.	*	*	0.043	0.112
9.	*	*	0.068	0.175
10.	*	*	0.062	0.162

Ld	Vn Max	Vn-1 Read	Vn-2 Read	Vn-3 Read
1.	*	0.000	0.000	0.000
2.	*	0.000	0.000	0.000
3.	*	0.001	0.001	0.001
4.	*	0.005	0.005	0.005
5.	*	0.001	0.000	0.000
6.	*	0.000	0.000	0.000
7.	*	0.005	0.005	0.005
8.	*	0.009	0.008	0.008
9.	*	0.005	0.005	0.005
10.	*	0.003	0.003	0.003

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 SEQ.12: Combine Regulation Test (L/L) ----- PASS

Vin Port-1 = 2    Vin Port-2 = 2    Vin Port-3 = 2  
 Vin-1 = 90.000    Vin-2 = 90.000    Vin-3 = 90.000  
 Fac = 47.0    Fac-2 = 47.0    Fac-3 = 47.0  
 Delay Time = 1.000    Meas. Time = 1.000

	Load Name	MODE	Ifs	Vfs	Meas.	Vdc Filter	Noise Filter	Von
1.	5V	I	50	10	UUT	300	20M	3.500
2.	3.3V	I	50	10	UUT	300	20M	2.100
3.	PG	I	50	10	UUT	300	20M	0.000
4.	-12V	I	20	100	UUT	300	20M	-8.000
5.	5VS	I	50	10	UUT	300	20M	3.500
6.	12V	I	50	100	UUT	300	20M	8.000
7.	12V	I	50	100	UUT	300	20M	8.000
8.	12V	I	50	100	UUT	300	20M	8.000
9.	12V	I	50	100	UUT	300	20M	8.000
10.	12V	I	50	100	UUT	300	20M	8.000

Ld	BITS-1	BITS-2	BITS-3	SLEW Rate	I/R-1	I/R-2	I/R-3
1.	0000	0000	0000	0.010	12.000	8.000	4.000
2.	0000	0000	0000	0.010	7.200	4.800	2.400
3.	0000	0000	0000	0.010	0.000	0.000	0.000
4.	0000	0000	0000	0.010	0.300	0.300	0.300
5.	0000	0000	0000	0.010	1.200	0.800	0.500
6.	0000	0000	0000	0.010	12.600	8.400	4.200
7.	0000	0000	0000	0.010	0.000	0.000	0.000
8.	0000	0000	0000	0.010	0.000	0.000	0.000
9.	0000	0000	0000	0.010	0.000	0.000	0.000
10.	0000	0000	0000	0.010	0.000	0.000	0.000

Ld	Vdc Max	Vdc Min	Vdc-1 RD	Vdc-2 RD	Vdc-3 RD
1.	5.250	4.750	5.061	5.063	5.065
2.	3.470	3.130	3.347	3.351	3.355
3.	3.460	2.400	3.279	3.290	3.301
4.	-13.200	-11.400	-12.050	-12.037	-12.025
5.	5.250	4.750	5.086	5.110	5.131
6.	12.600	11.400	12.056	12.112	12.150
7.	12.600	11.400	12.156	12.175	12.193
8.	12.600	11.400	12.181	12.200	12.212
9.	12.600	11.400	12.187	12.200	12.200
10.	12.600	11.400	12.187	12.200	12.206

Ld	Vpp Max	Vpp Min	Vpp-1 RD	Vpp-2 RD	Vpp-3 RD
1.	0.050	*	0.007	0.007	0.006
2.	0.050	*	0.004	0.005	0.005
3.	*	*	0.041	0.037	0.035
4.	0.120	*	0.006	0.006	0.006
5.	0.050	*	0.008	0.008	0.007
6.	0.120	*	0.031	0.028	0.028
7.	*	*	0.061	0.059	0.059
8.	*	*	0.024	0.023	0.022
9.	*	*	0.080	0.076	0.074
10.	*	*	0.063	0.060	0.059

Ld	dV(+) Max	dV(-) Max	dV-21 RD	dV-31 RD
1.	*	*	0.001	0.003

2.	*	*	0.004	0.008
3.	*	*	0.011	0.021
4.	*	*	-0.012	-0.025
5.	*	*	0.023	0.045
6.	*	*	0.056	0.093
7.	*	*	0.018	0.037
8.	*	*	0.018	0.031
9.	*	*	0.012	0.012
10.	*	*	0.012	0.018

Ld	Vn Max	Vn-1 Read	Vn-2 Read	Vn-3 Read
1.	*	0.000	0.000	0.000
2.	*	0.000	0.000	0.000
3.	*	0.001	0.001	0.001
4.	*	0.005	0.005	0.005
5.	*	0.000	0.000	0.000
6.	*	0.000	0.000	0.000
7.	*	0.005	0.005	0.004
8.	*	0.008	0.008	0.008
9.	*	0.005	0.005	0.005
10.	*	0.003	0.003	0.003

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 SEQ.13: Combine Regulation Test (Peak Load(Load3+5V/10A)) ----- PASS

Vin Port-1 = 2    Vin Port-2 = 2    Vin Port-3 = 2  
 Vin-1 = 115.000    Vin-2 = 115.000    Vin-3 = 115.000  
 Fac = 60.0    Fac-2 = 60.0    Fac-3 = 60.0  
 Delay Time = 1.000    Meas. Time = 1.000

	Load Name	MODE	Ifs	Vfs	Meas.	Vdc Filter	Noise Filter	Von
1.	5V	I	50	10	UUT	300	20M	3.500
2.	3.3V	I	50	10	UUT	300	20M	2.100
3.	PG	I	50	10	UUT	300	20M	0.000
4.	-12V	I	20	100	UUT	300	20M	-8.000
5.	5VS	I	50	10	UUT	300	20M	3.500
6.	12V	I	50	100	UUT	300	20M	8.000
7.	12V	I	50	100	UUT	300	20M	8.000

8.	12V	I	50	100	UUT	300	20M	8.000
9.	12V	I	50	100	UUT	300	20M	8.000
10.	12V	I	50	100	UUT	300	20M	8.000

Ld	BITS-1	BITS-2	BITS-3	SLEW Rate	I/R-1	I/R-2	I/R-3
1.	0000	0000	0000	0.010	42.000	0.500	0.500
2.	0000	0000	0000	0.010	0.500	31.200	0.500
3.	0000	0000	0000	0.010	10.000	0.000	0.000
4.	0000	0000	0000	0.010	0.000	0.000	0.000
5.	0000	0000	0000	0.010	0.500	0.500	0.500
6.	0000	0000	0000	0.010	0.500	0.500	13.400
7.	0000	0000	0000	0.010	0.000	0.000	13.400
8.	0000	0000	0000	0.010	0.000	0.000	13.400
9.	0000	0000	0000	0.010	0.000	0.000	13.400
10.	0000	0000	0000	0.010	0.000	0.000	13.400

Ld	Vdc Max	Vdc Min	Vdc-1 RD	Vdc-2 RD	Vdc-3 RD
1.	5.250	4.750	5.090	5.036	5.037
2.	3.470	3.130	3.308	3.410	3.331
3.	3.460	2.400	3.260	3.280	3.278
4.	-13.200	-11.400	-12.081	-12.056	-12.075
5.	5.250	4.750	5.088	5.110	5.100
6.	12.600	11.400	12.112	12.150	11.950
7.	12.600	11.400	12.137	12.168	12.000
8.	12.600	11.400	12.162	12.193	12.000
9.	12.600	11.400	12.181	12.193	11.743
10.	12.600	11.400	12.181	12.200	11.781

Ld	Vpp Max	Vpp Min	Vpp-1 RD	Vpp-2 RD	Vpp-3 RD
1.	*	*	0.013	0.009	0.006
2.	*	*	0.005	0.007	0.004
3.	*	*	0.038	0.123	0.035
4.	*	*	0.002	0.002	0.002
5.	*	*	0.007	0.008	0.008
6.	*	*	0.016	0.019	0.018
7.	*	*	0.026	0.030	0.027
8.	*	*	0.015	0.017	0.017
9.	*	*	0.053	0.098	0.036

10. \* \* 0.039 0.057 0.033

Ld	dV(+) Max	dV(-) Max	dV-21 RD	dV-31 RD
1.	*	*	-0.053	-0.052
2.	*	*	0.102	0.023
3.	*	*	0.020	0.017
4.	*	*	-0.025	-0.006
5.	*	*	0.021	0.011
6.	*	*	0.037	-0.162
7.	*	*	0.031	-0.137
8.	*	*	0.031	-0.162
9.	*	*	0.012	-0.437
10.	*	*	0.018	-0.400

Ld	Vn Max	Vn-1 Read	Vn-2 Read	Vn-3 Read
1.	*	0.000	0.000	0.000
2.	*	0.000	0.000	0.000
3.	*	0.001	0.001	0.001
4.	*	0.005	0.005	0.005
5.	*	0.000	0.000	0.000
6.	*	0.000	0.000	0.000
7.	*	0.003	0.003	0.004
8.	*	0.008	0.008	0.008
9.	*	0.003	0.003	0.003
10.	*	0.003	0.002	0.003

-----  
 SEQ.14: OLP Test (12V OCP) ----- PASS

Vin = 115.000 Fin = 60.0 Test on LOAD : 6  
 Delay Time = 1.000 Step Time = 1.000 UUT OFF Time = 0.000  
 I/R Start = 0.000 I/R End = 20.000 I/R Step = 2.000  
 I/R Recovery = 1.000 Volp = 6.000 Vrec = \*

Load Name	MODE	Ifs	Vfs	Meas.	BITS	Von	Rise	I/R	
1.	5V	I	50	10	UUT	0000	3.500	0.010	0.500
2.	3.3V	I	50	10	UUT	0000	2.100	0.010	0.500
3.	PG	I	50	10	UUT	0000	0.000	0.010	0.000

4.	-12V	I	20	100	UUT	0000	-8.000	0.010	0.000
5.	5VS	I	50	10	UUT	0000	3.500	0.010	0.500
6.	12V	I	50	100	UUT	0000	8.000	0.010	0.000
7.	12V	I	50	100	UUT	0000	8.000	0.010	19.000
8.	12V	I	50	100	UUT	0000	8.000	0.010	19.000
9.	12V	I	50	100	UUT	0000	8.000	0.010	19.000
10.	12V	I	50	100	UUT	0000	8.000	0.010	19.000

	Max	Min	Reading
Trip Point	19.000	4.000	14.000
Trip Time	*	*	61.603
Recovery Time	*	*	-----

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 SEQ.15: Extended Measurement Test (BUFF) ----- PASS

Vin = 0.000 Fin = 60.0 Delay Time = 1.000

Load Name	MODE	I <sub>fs</sub>	V <sub>fs</sub>	Meas.	V <sub>on</sub>	BITS	Slew Rate	I/R	
1.	5V	I	50	10	UUT	0.000	0000	0.010	40.000
2.	3.3V	I	50	10	UUT	0.000	0000	0.010	24.000
3.	PG	I	50	10	UUT	0.000	0000	0.010	0.000
4.	-12V	I	20	100	UUT	0.000	0000	0.010	0.300
5.	5VS	I	50	10	UUT	0.000	0000	0.010	4.000
6.	12V	I	50	100	UUT	0.000	0000	0.010	7.600
7.	12V	I	50	100	UUT	0.000	0000	0.010	7.600
8.	12V	I	50	100	UUT	0.000	0000	0.010	7.600
9.	12V	I	50	100	UUT	0.000	0000	0.010	7.600
10.	12V	I	50	100	UUT	0.000	0000	0.010	7.600

Ld	Vdc Max	Vdc Min	Vdc Read
1.	*	*	0.000
2.	*	*	0.001
3.	*	*	0.000
4.	*	*	-0.012
5.	*	*	5.028
6.	*	*	0.000
7.	*	*	0.000

8. \* \* 0.006  
 9. \* \* 0.006  
 10. \* \* 0.006

Relay status: Pre value-1 = 00 Pre value-2 = 00  
 Relay status: Post value-1 = 00 Post value-2 = 00  
 TTL status : Pre value-1 = 0000 Pre value-2 = 0008  
 TTL status : Post value-1 = 0000 Post value-2 = 0008  
 Change state delay: For relay = 0.000 For TTL = 0.000

Test No.	Test Name	Port	Meas. Type	Spec. Max	Spec. Min	Meas. Read
1.		*	DC	*	*	-----
2.		*	DC	*	*	-----
3.		*	DC	*	*	-----
4.		*	DC	*	*	-----
5.		*	DC	*	*	-----
6.		*	DC	*	*	-----
7.		*	DC	*	*	-----
8.		*	DC	*	*	-----
9.		*	DC	*	*	-----
10.		*	DC	*	*	-----

-----  
 SEQ.16: OLP Test (5V OCP(LOAD3+5V/10A)) ----- PASS

Vin = 115.000 Fin = 60.0 Test on LOAD : 1  
 Delay Time = 1.000 Step Time = 0.500 UUT OFF Time = 0.000  
 I/R Start = 33.000 I/R End = 50.000 I/R Step = 0.500  
 I/R Recovery = 1.000 Volp = 2.000 Vrec = \*

Load Name	MODE	Ifs	Vfs	Meas.	BITS	Von	Rise	I/R	
1.	5V	I	50	10	UUT	0000	3.500	0.010	33.000
2.	3.3V	I	50	10	UUT	0000	2.100	0.010	0.500
3.	PG	I	50	10	UUT	0000	0.000	0.010	10.000
4.	-12V	I	20	100	UUT	0000	-8.000	0.010	0.000
5.	5VS	I	50	10	UUT	0000	3.500	0.010	0.500
6.	12V	I	50	100	UUT	0000	8.000	0.010	0.500
7.	12V	I	50	100	UUT	0000	8.000	0.010	0.000

8.	12V	I	50	100	UUT	0000	8.000	0.010	0.000
9.	12V	I	50	100	UUT	0000	8.000	0.010	0.000
10.	12V	I	50	100	UUT	0000	8.000	0.010	0.000

	Max	Min	Reading
Trip Point	50.000	34.000	43.000
Trip Time	*	*	465.378
Recovery Time	*	*	-----

-----  
 SEQ.17: Extended Measurement Test (BUFF) ----- PASS

Vin = 0.000 Fin = 60.0 Delay Time = 1.000

	Load Name	MODE	I <sub>fs</sub>	V <sub>fs</sub>	Meas.	V <sub>on</sub>	BITS	Slew Rate	I/R
1.	5V	I	50	10	UUT	0.000	0000	0.010	40.000
2.	3.3V	I	50	10	UUT	0.000	0000	0.010	24.000
3.	PG	I	50	10	UUT	0.000	0000	0.010	0.000
4.	-12V	I	20	100	UUT	0.000	0000	0.010	0.300
5.	5VS	I	50	10	UUT	0.000	0000	0.010	4.000
6.	12V	I	50	100	UUT	0.000	0000	0.010	7.600
7.	12V	I	50	100	UUT	0.000	0000	0.010	7.600
8.	12V	I	50	100	UUT	0.000	0000	0.010	7.600
9.	12V	I	50	100	UUT	0.000	0000	0.010	7.600
10.	12V	I	50	100	UUT	0.000	0000	0.010	7.600

Ld	Vdc Max	Vdc Min	Vdc Read
1.	*	*	0.000
2.	*	*	0.001
3.	*	*	0.000
4.	*	*	-0.012
5.	*	*	5.028
6.	*	*	0.000
7.	*	*	0.000
8.	*	*	0.012
9.	*	*	0.006
10.	*	*	0.006

Relay status: Pre value-1 = 00 Pre value-2 = 00  
 Relay status: Post value-1 = 00 Post value-2 = 00  
 TTL status : Pre value-1 = 0000 Pre value-2 = 0008  
 TTL status : Post value-1 = 0000 Post value-2 = 0008  
 Change state delay: For relay = 0.000 For TTL = 0.000

Test No.	Test Name	Port	Meas.	Type	Spec. Max	Spec. Min	Meas. Read
1.		*		DC	*	*	-----
2.		*		DC	*	*	-----
3.		*		DC	*	*	-----
4.		*		DC	*	*	-----
5.		*		DC	*	*	-----
6.		*		DC	*	*	-----
7.		*		DC	*	*	-----
8.		*		DC	*	*	-----
9.		*		DC	*	*	-----
10.		*		DC	*	*	-----

-----  
 SEQ.18: OLP Test (3.3V OCP) ----- PASS

Vin = 115.000 Fin = 60.0 Test on LOAD : 2  
 Delay Time = 1.000 Step Time = 0.500 UUT OFF Time = 0.000  
 I/R Start = 24.000 I/R End = 38.000 I/R Step = 0.500  
 I/R Recovery = 1.000 Volp = 2.000 Vrec = \*

Load Name	MODE	Ifs	Vfs	Meas.	BITS	Von	Rise	I/R	
1.	5V	I	50	10	UUT	0000	3.500	0.010	0.500
2.	3.3V	I	50	10	UUT	0000	2.100	0.010	24.000
3.	PG	I	50	10	UUT	0000	0.000	0.010	0.000
4.	-12V	I	20	100	UUT	0000	-8.000	0.010	0.000
5.	5VS	I	50	10	UUT	0000	3.500	0.010	0.500
6.	12V	I	50	100	UUT	0000	8.000	0.010	0.500
7.	12V	I	50	100	UUT	0000	8.000	0.010	0.000
8.	12V	I	50	100	UUT	0000	8.000	0.010	0.000
9.	12V	I	50	100	UUT	0000	8.000	0.010	0.000
10.	12V	I	50	100	UUT	0000	8.000	0.010	0.000

	Max	Min	Reading
Trip Point	36.000	26.400	33.000
Trip Time	*	*	42.154
Recovery Time	*	*	-----

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SEQ.19: Extended Measurement Test (BUFF) ----- PASS

Vin = 0.000 Fin = 60.0 Delay Time = 1.000

	Load Name	MODE	I <sub>fs</sub>	V <sub>fs</sub>	Meas.	V <sub>on</sub>	BITS	Slew Rate	I/R
1.	5V	I	50	10	UUT	0.000	0000	0.010	40.000
2.	3.3V	I	50	10	UUT	0.000	0000	0.010	24.000
3.	PG	I	50	10	UUT	0.000	0000	0.010	0.000
4.	-12V	I	20	100	UUT	0.000	0000	0.010	0.300
5.	5VS	I	50	10	UUT	0.000	0000	0.010	4.000
6.	12V	I	50	100	UUT	0.000	0000	0.010	7.600
7.	12V	I	50	100	UUT	0.000	0000	0.010	7.600
8.	12V	I	50	100	UUT	0.000	0000	0.010	7.600
9.	12V	I	50	100	UUT	0.000	0000	0.010	7.600
10.	12V	I	50	100	UUT	0.000	0000	0.010	7.600

Ld	Vdc Max	Vdc Min	Vdc Read
1.	*	*	0.000
2.	*	*	0.001
3.	*	*	0.000
4.	*	*	-0.012
5.	*	*	5.028
6.	*	*	0.000
7.	*	*	0.000
8.	*	*	0.012
9.	*	*	0.006
10.	*	*	0.006

Relay status:	Pre value-1 =	00	Pre value-2 =	00
Relay status:	Post value-1 =	00	Post value-2 =	00
TTL status :	Pre value-1 =	0000	Pre value-2 =	0008
TTL status :	Post value-1 =	0000	Post value-2 =	0008

Change state delay: For relay = 0.000 For TTL = 0.000

Test No.	Test Name	Port	Meas. Type	Spec. Max	Spec. Min	Meas. Read
1.		*	DC	*	*	-----
2.		*	DC	*	*	-----
3.		*	DC	*	*	-----
4.		*	DC	*	*	-----
5.		*	DC	*	*	-----
6.		*	DC	*	*	-----
7.		*	DC	*	*	-----
8.		*	DC	*	*	-----
9.		*	DC	*	*	-----
10.		*	DC	*	*	-----

-----  
 SEQ.20: OLP Test (5VS OCP) ----- PASS

Vin = 115.000 Fin = 60.0 Test on LOAD : 5  
 Delay Time = 1.000 Step Time = 0.500 UUT OFF Time = 0.000  
 I/R Start = 4.000 I/R End = 8.000 I/R Step = 0.100  
 I/R Recovery = 1.000 Volp = 2.000 Vrec = \*

Load Name	MODE	Ifs	Vfs	Meas.	BITS	Von	Rise	I/R	
1.	5V	I	50	10	UUT	0000	3.500	0.010	0.500
2.	3.3V	I	50	10	UUT	0000	2.100	0.010	0.500
3.	PG	I	50	10	UUT	0000	0.000	0.010	0.000
4.	-12V	I	20	100	UUT	0000	-8.000	0.010	0.000
5.	5VS	I	50	10	UUT	0000	3.500	0.010	4.000
6.	12V	I	50	100	UUT	0000	8.000	0.010	0.500
7.	12V	I	50	100	UUT	0000	8.000	0.010	0.000
8.	12V	I	50	100	UUT	0000	8.000	0.010	0.000
9.	12V	I	50	100	UUT	0000	8.000	0.010	0.000
10.	12V	I	50	100	UUT	0000	8.000	0.010	0.000

	Max	Min	Reading
Trip Point	6.000	4.400	5.400
Trip Time	*	*	20.195
Recovery Time	*	*	-----

-----  
SEQ.21: Extended Measurement Test (BUFF) ----- PASS

Vin = 0.000 Fin = 60.0 Delay Time = 1.000

Load Name	MODE	I <sub>fs</sub>	V <sub>fs</sub>	Meas.	V <sub>on</sub>	BITS	Slew Rate	I/R	
1.	5V	I	50	10	UUT	0.000	0000	0.010	40.000
2.	3.3V	I	50	10	UUT	0.000	0000	0.010	24.000
3.	PG	I	50	10	UUT	0.000	0000	0.010	0.000
4.	-12V	I	20	100	UUT	0.000	0000	0.010	0.300
5.	5VS	I	50	10	UUT	0.000	0000	0.010	4.000
6.	12V	I	50	100	UUT	0.000	0000	0.010	7.600
7.	12V	I	50	100	UUT	0.000	0000	0.010	7.600
8.	12V	I	50	100	UUT	0.000	0000	0.010	7.600
9.	12V	I	50	100	UUT	0.000	0000	0.010	7.600
10.	12V	I	50	100	UUT	0.000	0000	0.010	7.600

Ld	Vdc Max	Vdc Min	Vdc Read
1.	*	*	0.000
2.	*	*	0.000
3.	*	*	0.000
4.	*	*	0.000
5.	*	*	0.000
6.	*	*	0.000
7.	*	*	0.000
8.	*	*	0.006
9.	*	*	0.006
10.	*	*	0.006

Relay status: Pre value-1 = 00 Pre value-2 = 00  
Relay status: Post value-1 = 00 Post value-2 = 00  
TTL status : Pre value-1 = 0000 Pre value-2 = 0008  
TTL status : Post value-1 = 0000 Post value-2 = 0008  
Change state delay: For relay = 0.000 For TTL = 0.000

Test No.	Test Name	Port	Meas. Type	Spec. Max	Spec. Min	Meas. Read
1.		*	DC	*	*	-----

2.	*	DC	*	*	-----
3.	*	DC	*	*	-----
4.	*	DC	*	*	-----
5.	*	DC	*	*	-----
6.	*	DC	*	*	-----
7.	*	DC	*	*	-----
8.	*	DC	*	*	-----
9.	*	DC	*	*	-----
10.	*	DC	*	*	-----

-----  
 SEQ.22: Dynamic Test (MIN LOAD&50HZ) ----- PASS

Vin = 115.000 Fin = 60.0 Delay Time = 3.000 Meas. Time = 1.000

Load Name	MODE	I <sub>fs</sub>	V <sub>fs</sub>	Meas.	Noise Filter	V <sub>on</sub>	BITS
1.	5V	I	50	10	UUT	20M	3.500 0000
2.	3.3V	I	50	10	UUT	20M	2.100 0000
3.	PG	I	50	10	UUT	20M	0.000 0000
4.	-12V	I	20	100	UUT	20M	-8.000 0000
5.	5VS	I	50	10	UUT	20M	3.500 0000
6.	12V	I	50	100	UUT	20M	8.000 0000
7.	12V	I	50	100	UUT	20M	8.000 0000
8.	12V	I	50	100	UUT	20M	8.000 0000
9.	12V	I	50	100	UUT	20M	8.000 0000
10.	12V	I	50	100	UUT	20M	8.000 0000

Ld	Period-1	Period-2	Rise	Fall	Vpp Max	Vpp Min	Vpp Read
1.	1.000	9.000	0.500	0.500	*	*	0.110
2.	1.000	9.000	0.500	0.500	*	*	0.192
3.	1.000	9.000	0.500	0.500	*	*	0.079
4.	1.000	9.000	0.500	0.500	*	*	0.062
5.	1.000	9.000	0.500	0.500	*	*	0.136
6.	1.000	9.000	0.500	0.500	*	*	0.350
7.	1.000	9.000	0.500	0.500	*	*	0.214
8.	1.000	9.000	0.500	0.500	*	*	0.317
9.	1.000	9.000	0.500	0.500	*	*	0.599
10.	1.000	9.000	0.500	0.500	*	*	0.719

Ld	I/R-1	Reading	I/R-2	Reading	dV Max	dV Read
1.	0.500	0.490	12.500	12.500	*	0.013
2.	0.500	0.503	7.700	7.703	*	0.013
3.	0.000	0.018	0.000	0.015	*	0.003
4.	0.000	0.006	0.000	0.006	*	0.006
5.	0.500	0.506	1.500	1.506	*	0.068
6.	0.100	0.103	8.100	8.103	*	0.118
7.	0.100	0.112	8.100	8.115	*	0.068
8.	0.100	0.100	8.100	8.103	*	0.025
9.	0.100	0.115	8.100	8.106	*	0.218
10.	0.100	0.106	8.100	8.093	*	0.181

Ld	Vs Max	Vs Min	Vs-1 Rd	Vs-2 Rd	Vn Max	Vn Read
1.	5.250	4.750	5.037	5.050	*	0.007
2.	3.470	3.130	3.331	3.345	*	0.012
3.	3.460	2.400	3.271	3.275	*	0.006
4.	-13.200	-11.400	-12.106	-12.100	*	0.013
5.	5.250	4.750	5.106	5.037	*	0.013
6.	12.600	11.400	12.156	12.037	*	0.036
7.	12.600	11.400	12.181	12.112	*	0.033
8.	12.600	11.400	12.168	12.143	*	0.039
9.	12.600	11.400	12.193	11.975	*	0.073
10.	12.600	11.400	12.156	11.975	*	0.066

-----  
 SEQ.23: Dynamic Test (MIN LOAD&5KHZ) ----- PASS

Vin = 115.000 Fin = 60.0 Delay Time = 3.000 Meas. Time = 1.000

Load Name	MODE	Ifs	Vfs	Meas.	Noise Filter	Von	BITS
1.	5V	I	50	10	UUT	20M	3.500 0000
2.	3.3V	I	50	10	UUT	20M	2.100 0000
3.	PG	I	50	10	UUT	20M	0.000 0000
4.	-12V	I	20	100	UUT	20M	-8.000 0000
5.	5VS	I	50	10	UUT	20M	3.500 0000
6.	12V	I	50	100	UUT	20M	8.000 0000
7.	12V	I	50	100	UUT	20M	8.000 0000

8.	12V	I	50	100	UUT	20M	8.000	0000
9.	12V	I	50	100	UUT	20M	8.000	0000
10.	12V	I	50	100	UUT	20M	8.000	0000

Ld	Period-1	Period-2	Rise	Fall	Vpp Max	Vpp Min	Vpp Read
1.	0.020	0.180	0.500	0.500	*	*	0.136
2.	0.020	0.180	0.500	0.500	*	*	0.146
3.	0.020	0.180	0.500	0.500	*	*	0.095
4.	0.020	0.180	0.500	0.500	*	*	0.090
5.	0.020	0.180	0.500	0.500	*	*	0.182
6.	0.020	0.180	0.500	0.500	*	*	0.296
7.	0.020	0.180	0.500	0.500	*	*	0.176
8.	0.020	0.180	0.500	0.500	*	*	0.235
9.	0.020	0.180	0.500	0.500	*	*	0.594
10.	0.020	0.180	0.500	0.500	*	*	0.704

Ld	I/R-1	Reading	I/R-2	Reading	dV Max	dV Read
1.	0.500	4.643	12.500	12.500	*	0.005
2.	0.500	0.834	7.700	7.700	*	0.053
3.	0.000	0.018	0.000	0.015	*	0.013
4.	0.000	0.006	0.000	0.006	*	0.050
5.	0.500	0.506	1.500	1.509	*	0.028
6.	0.100	0.784	8.100	8.100	*	0.212
7.	0.100	0.765	8.100	8.109	*	0.125
8.	0.100	1.025	8.100	8.103	*	0.106
9.	0.100	1.253	8.100	8.103	*	0.443
10.	0.100	0.928	8.100	8.084	*	0.393

Ld	Vs Max	Vs Min	Vs-1 Rd	Vs-2 Rd	Vn Max	Vn Read
1.	5.250	4.750	5.052	5.057	*	0.018
2.	3.470	3.130	3.423	3.369	*	0.035
3.	3.460	2.400	3.289	3.303	*	0.015
4.	-13.200	-11.400	-12.037	-12.087	*	0.030
5.	5.250	4.750	5.150	5.121	*	0.035
6.	12.600	11.400	12.268	12.056	*	0.070
7.	12.600	11.400	12.206	12.081	*	0.043
8.	12.600	11.400	12.256	12.150	*	0.058
9.	12.600	11.400	12.331	11.887	*	0.106

10. 12.600 11.400 12.337 11.943 \* 0.129

-----  
SEQ.24: Set Up Function (0+1(115VAC)) ----- PASS

Vin\_Port (1-4) = 2 Vin type = AC  
ON Phase (mS) = 0.000 OFF Phase = 0.000  
Setup off(Sec) = 0.100 PAUSE function= Y  
Display Message= 0+1

Relay status: Pre value-1 = 00 Pre value-2 = 00  
TTL status : Pre value-1 = 0000 Pre value-2 = 0008  
Change state delay: For relay = 0.000 For TTL = 0  
Ext. device GPIB address = \* GPIB EOS byte = 1  
Message for ext. device = V10

	Load Name	MODE	Ifs	Vfs	Meas	BITS
1.	5V	I	50	10	UUT	0000
2.	3.3V	I	50	10	UUT	0000
3.	PG	I	50	10	UUT	0000
4.	-12V	I	20	100	UUT	0000
5.	5VS	I	50	10	UUT	0000
6.	12V	I	50	100	UUT	0000
7.	12V	I	50	100	UUT	0000
8.	12V	I	50	100	UUT	0000
9.	12V	I	50	100	UUT	0000
10.	12V	I	20	100	UUT	0000

-----  
SEQ.25: Turn On & Sequence Test (AC ON 100% LOAD&115VAC) ----- PASS

Vin Port = 2 Vin Type = AC  
ON Phase delay = 0.000 OFF Phase delay = 0.000  
Vin = 115.000 Fin = 60.0  
UUT OFF time = 1.000

	Load Name	MODE	Ifs	Vfs	Meas.	Von	BITS	Rise	I/R
1.	5V	I	50	10	UUT	3.500	0000	0.010	40.000

2.	3.3V	I	50	10	UUT	2.100	0000	0.010	24.000
3.	PG	I	50	10	UUT	0.000	0000	0.010	0.000
4.	-12V	I	20	100	UUT	-8.000	0000	0.010	0.300
5.	5VS	I	50	10	UUT	3.500	0000	0.010	4.000
6.	12V	I	50	100	UUT	8.000	0000	0.010	8.400
7.	12V	I	50	100	UUT	8.000	0000	0.010	8.400
8.	12V	I	50	100	UUT	8.000	0000	0.010	8.400
9.	12V	I	50	100	UUT	8.000	0000	0.010	8.400
10.	12V	I	50	100	UUT	8.000	0000	0.010	8.400

Ld	START TRIGG NO.	START TRIGG LEVEL	END TRIGG NO.	END TRIGG LEVEL	Va	Vb	Vos Check	Vos Reading
1.	1	H	7	H	4.750	5.500	Y	< 5.500
2.	1	H	7	H	3.130	3.630	Y	< 3.630
3.	1	H	7	H	2.400	3.460	N	-----
4.	1	H	7	H	-11.400	-13.200	Y	< -13.200
5.	1	H	7	H	4.650	5.500	Y	< 5.500
6.	1	H	7	H	11.400	13.200	Y	< 13.200
7.	1	H	7	H	11.400	13.200	N	-----
8.	1	H	7	H	11.400	13.200	N	-----
9.	1	H	1	H	11.400	13.200	N	-----
10.	1	H	1	H	11.400	13.200	N	-----

Ld	Ton Max	Ton Min	Ton Read	Tsb Min	Tsb Read
1.	2500.000	1.000	788.822	*	-----
2.	2500.000	1.000	806.788	*	-----
3.	*	*	969.049	*	> 1.024
4.	2500.000	1.000	772.859	*	-----
5.	1500.000	1.000	105.244	*	-----
6.	2500.000	1.000	757.772	*	-----
7.	*	*	757.881	*	> 1.024
8.	*	*	757.951	*	> 1.024
9.	*	*	0.000	*	-----
10.	*	*	0.000	*	-----

Ref Ton from LOAD: \*

Max                      Min    Reading/+      Reading/-

Iinruch	*		12.046	3.671
Tds	*	*	0.000	
Td1	*	*	969.049	
Td1s	*		969.049	

Ld	Tons	Source	LOAD No.	Td Max	Td Min	Td Read
1.		5		1000.000	50.000	683.578
2.		3		-500.000	-100.000	-162.261
3.		1		500.000	100.000	180.227
4.		*		*	*	-----
5.		1		-1000.000	-50.000	-683.578
6.		3		-500.000	-100.000	-211.277
7.		5		1000.000	50.000	652.637
8.		*		*	*	-----
9.		*		*	*	-----
10.		*		*	*	-----

-----  
 SEQ.26: Hold Up & Sequence Test (AC OFF 80% LOAD&115VAC) ----- PASS

Vin = 115.000 Fin = 60.0 Delay Time = 1.000 UUT OFF Time = 1.000

	Load Name	MODE	Ifs	Vfs	Meas.	Von	BITS	Rise	I/R
1.	5V	I	50	10	UUT	3.500	0000	0.010	32.000
2.	3.3V	I	50	10	UUT	2.100	0000	0.010	19.200
3.	PG	I	50	10	UUT	0.000	0000	0.010	0.000
4.	-12V	I	20	100	UUT	-8.000	0000	0.010	0.300
5.	5VS	I	50	10	UUT	3.500	0000	0.010	3.200
6.	12V	I	50	100	UUT	8.000	0000	0.010	6.720
7.	12V	I	50	100	UUT	8.000	0000	0.010	6.720
8.	12V	I	50	100	UUT	8.000	0000	0.010	6.720
9.	12V	I	50	100	UUT	8.000	0000	0.010	6.720
10.	12V	I	50	100	UUT	8.000	0000	0.010	6.720

Ld	START TRIGG NO.	START TRIGG LEVEL	END TRIGG NO.	END TRIGG LEVEL	Va	Vb
1.	1	L	7	L	4.750	5.250

2.	1	L	7	L	3.130	3.470
3.	1	L	7	L	2.400	3.460
4.	1	L	7	L	-11.400	-13.200
5.	1	L	7	L	4.750	5.250
6.	1	L	7	L	11.400	12.600
7.	1	L	7	L	11.400	12.600
8.	1	L	7	L	11.400	12.600
9.	1	H	1	H	11.400	12.600
10.	1	H	1	H	11.400	12.600

Ld	Thd Max	Thd Min	Thd Read	Tsb Min	Tsb Read
1.	*	12.000	23.894	*	> 1.024
2.	*	12.000	23.835	*	> 1.024
3.	*	11.000	21.465	*	> 1.024
4.	*	12.000	24.919	*	> 1.024
5.	*	70.000	863.803	*	> 1.024
6.	*	12.000	23.586	*	> 1.024
7.	*	*	23.579	*	> 1.024
8.	*	*	23.577	*	> 1.024
9.	*	*	0.000	*	-----
10.	*	*	0.000	*	-----

Ref Ton from LOAD: \*

	Max	Min	Reading
Tds	*	*	0.000
Td1	*	*	863.803
Td1s	*		863.803

Ld	Thds Source	LOAD No.	Td Max	Td Min	Td Read
1.		*	200.000	1.000	-----
2.		*	200.000	1.000	-----
3.		*	-200.000	-1.000	-----
4.		*	*	*	-----
5.		*	*	*	-----
6.		*	200.000	1.000	-----
7.		*	*	*	-----
8.		*	*	*	-----
9.		*	*	*	-----

10. \* \* \* -----

-----  
SEQ.27: Set Up Function (0+1(230VAC)) ----- PASS

Vin\_Port (1-4) = 2 Vin type = AC  
ON Phase (mS) = 0.000 OFF Phase = 0.000  
Setup off(Sec) = 0.100 PAUSE function= N  
Display Message= PLEASE PRESS ENTER

Relay status: Pre value-1 = 00 Pre value-2 = 00  
TTL status : Pre value-1 = 0000 Pre value-2 = 0008  
Change state delay: For relay = 0.000 For TTL = 0.000  
Ext. device GPIB address = \* GPIB EOS byte = 1  
Message for ext. device = V10

	Load Name	MODE	Ifs	Vfs	Meas	BITS
1.	5V	I	50	10	UUT	0000
2.	3.3V	I	50	10	UUT	0000
3.	PG	I	50	10	UUT	0000
4.	-12V	I	20	100	UUT	0000
5.	5VS	I	50	10	UUT	0000
6.	12V	I	50	100	UUT	0000
7.	12V	I	50	100	UUT	0000
8.	12V	I	50	100	UUT	0000
9.	12V	I	50	100	UUT	0000
10.	12V	I	50	100	UUT	0000

-----  
SEQ.28: Input/Output Test (230V&20% Load) ----- PASS

Vin = 230.000 Fin = 50.0 Delay Time = 3.000 Meas. Time = 1.000

	Load Name	MODE	Ifs	Vfs	Meas.	BITS	Vdc Filter	Noise Filter	Von
1.	5V	I	50	10	UUT	0000	300	20M	3.500
2.	3.3V	I	50	10	UUT	0000	300	20M	2.100
3.	PG	I	50	10	UUT	0000	300	20M	0.000
4.	-12V	I	20	100	UUT	0000	300	20M	-8.000

5.	5VS	I	50	10	UUT	0000	300	20M	3.500
6.	12V	I	50	100	UUT	0000	300	20M	8.000
7.	12V	I	50	100	UUT	0000	300	20M	8.000
8.	12V	I	50	100	UUT	0000	300	20M	8.000
9.	12V	I	50	100	UUT	0000	300	20M	8.000
10.	12V	I	50	100	UUT	0000	300	300	8.000

	Max	Min	Reading		Max	Min	Reading
Iinrms	*	*	0.78000	Iinpk+	*	*	1.34000
Pin	*	*	174.8430	Iinpk-			1.30600
Pdc	*	*	156.477	Pf	*	*	0.983
Eff	98.000	80.000	89.496	Vin	*	*	227.937

Ld	RISE	I/R	Idc Max	Idc Min	Idc Read	Vn Max	Vn Read
1.	0.010	8.000	8.200	7.800	8.000	*	0.000
2.	0.010	4.800	5.000	4.600	4.787	*	0.000
3.	0.010	0.000	*	*	0.012	*	0.002
4.	0.010	0.300	*	*	0.300	*	0.005
5.	0.010	0.800	1.000	0.600	0.793	*	0.001
6.	0.010	7.600	7.800	7.400	7.590	*	0.000
7.	0.010	0.000	*	*	0.000	*	0.003
8.	0.010	0.000	*	*	0.018	*	0.009
9.	0.010	0.000	*	*	0.006	*	0.004
10.	0.010	0.000	*	*	0.006	*	0.003

Ld	Vdc Max	Vdc Min	Vdc Read	Vpp Max	Vpp Min	Vpp Read
1.	5.250	4.750	5.065	0.050	*	0.006
2.	3.470	3.130	3.353	0.050	*	0.006
3.	3.460	2.400	3.293	*	*	0.040
4.	-13.200	-11.400	-12.037	0.120	*	0.005
5.	5.250	4.750	5.111	0.050	*	0.010
6.	12.600	11.400	12.100	0.120	*	0.024
7.	12.600	11.400	12.162	*	*	0.048
8.	12.600	11.400	12.187	*	*	0.021
9.	12.600	11.400	12.181	*	*	0.067
10.	12.600	11.400	12.181	*	*	0.048

-----

SEQ.29: Set Up Function (1+0) ----- PASS

Vin\_Port (1-4) = 2 Vin type = AC  
ON Phase (mS) = 0.000 OFF Phase = 0.000  
Setup off(Sec) = 0.100 PAUSE function= Y  
Display Message= 1+0

Relay status: Pre value-1 = 00 Pre value-2 = 00  
TTL status : Pre value-1 = 0000 Pre value-2 = 0008  
Change state delay: For relay = 0.000 For TTL = 0  
Ext. device GPIB address = \* GPIB EOS byte = 1  
Message for ext. device = V10

	Load Name	MODE	Ifs	Vfs	Meas	BITS
1.	5V	I	50	10	UUT	0000
2.	3.3V	I	50	10	UUT	0000
3.	PG	I	50	10	UUT	0000
4.	-12V	I	20	100	UUT	0000
5.	5VS	I	50	10	UUT	0000
6.	12V	I	50	100	UUT	0000
7.	12V	I	50	100	UUT	0000
8.	12V	I	50	100	UUT	0000
9.	12V	I	50	100	UUT	0000
10.	12V	I	20	100	UUT	0000

-----  
SEQ.30: Input/Output Test (230V&20% Load) ----- PASS

Vin = 230.000 Fin = 50.0 Delay Time = 3.000 Meas. Time = 1.000

	Load Name	MODE	Ifs	Vfs	Meas.	BITS	Vdc Filter	Noise Filter	Von
1.	5V	I	50	10	UUT	0000	300	20M	3.500
2.	3.3V	I	50	10	UUT	0000	300	20M	2.100
3.	PG	I	50	10	UUT	0000	300	20M	0.000
4.	-12V	I	20	100	UUT	0000	300	20M	-8.000
5.	5VS	I	50	10	UUT	0000	300	20M	3.500
6.	12V	I	50	100	UUT	0000	300	20M	8.000
7.	12V	I	50	100	UUT	0000	300	20M	8.000

8.	12V	I	50	100	UUT	0000	300	20M	8.000
9.	12V	I	50	100	UUT	0000	300	20M	8.000
10.	12V	I	50	100	UUT	0000	300	300	8.000

	Max	Min	Reading		Max	Min	Reading
Iinrms	*	*	0.79800	Iinpk+	*	*	1.31600
Pin	*	*	174.7650	Iinpk-			1.29600
Pdc	*	*	156.305	Pf	*	*	0.960
Eff	98.000	80.000	89.437	Vin	*	*	227.906

Ld	RISE	I/R	Idc Max	Idc Min	Idc Read	Vn Max	Vn Read
1.	0.010	8.000	8.200	7.800	8.000	*	0.000
2.	0.010	4.800	5.000	4.600	4.787	*	0.000
3.	0.010	0.000	*	*	0.012	*	0.001
4.	0.010	0.300	*	*	0.296	*	0.005
5.	0.010	0.800	1.000	0.600	0.796	*	0.001
6.	0.010	7.600	7.800	7.400	7.590	*	0.001
7.	0.010	0.000	*	*	0.000	*	0.004
8.	0.010	0.000	*	*	0.018	*	0.009
9.	0.010	0.000	*	*	0.006	*	0.005
10.	0.010	0.000	*	*	0.003	*	0.003

Ld	Vdc Max	Vdc Min	Vdc Read	Vpp Max	Vpp Min	Vpp Read
1.	5.250	4.750	5.065	0.050	*	0.006
2.	3.470	3.130	3.353	0.050	*	0.006
3.	3.460	2.400	3.293	*	*	0.038
4.	-13.200	-11.400	-12.037	0.120	*	0.006
5.	5.250	4.750	5.109	0.050	*	0.011
6.	12.600	11.400	12.087	0.120	*	0.027
7.	12.600	11.400	12.150	*	*	0.058
8.	12.600	11.400	12.175	*	*	0.021
9.	12.600	11.400	12.168	*	*	0.075
10.	12.600	11.400	12.175	*	*	0.055

-----  
 SEQ.31: Set Up Function (1+1) ----- PASS

Vin\_Port (1-4) = 2 Vin type = AC

ON Phase (mS) = 0.000 OFF Phase = 0.000  
 Setup off(Sec) = 0.100 PAUSE function= Y  
 Display Message= 1+1

Relay status: Pre value-1 = 00 Pre value-2 = 00  
 TTL status : Pre value-1 = 0000 Pre value-2 = 0008  
 Change state delay: For relay = 0.000 For TTL = 0  
 Ext. device GPIB address = \* GPIB EOS byte = 1  
 Message for ext. device = V10

	Load Name	MODE	Ifs	Vfs	Meas	BITS
1.	5V	I	50	10	UUT	0000
2.	3.3V	I	50	10	UUT	0000
3.	PG	I	50	10	UUT	0000
4.	-12V	I	20	100	UUT	0000
5.	5VS	I	50	10	UUT	0000
6.	12V	I	50	100	UUT	0000
7.	12V	I	50	100	UUT	0000
8.	12V	I	50	100	UUT	0000
9.	12V	I	50	100	UUT	0000
10.	12V	I	20	100	UUT	0000

-----  
 SEQ.32: Input/Output Test (230V&&50% Load) ----- PASS

Vin = 230.000 Fin = 50.0 Delay Time = 3.000 Meas. Time = 1.000

	Load Name	MODE	Ifs	Vfs	Meas.	BITS	Vdc Filter	Noise Filter	Von
1.	5V	I	50	10	UUT	0000	300	20M	3.500
2.	3.3V	I	50	10	UUT	0000	300	20M	2.100
3.	PG	I	50	10	UUT	0000	300	20M	0.000
4.	-12V	I	20	100	UUT	0000	300	20M	-8.000
5.	5VS	I	50	10	UUT	0000	300	20M	3.500
6.	12V	I	50	100	UUT	0000	300	20M	8.000
7.	12V	I	50	100	UUT	0000	300	20M	8.000
8.	12V	I	50	100	UUT	0000	300	20M	8.000
9.	12V	I	50	100	UUT	0000	300	20M	8.000
10.	12V	I	50	100	UUT	0000	300	20M	8.000

	Max	Min	Reading		Max	Min	Reading
Iinrms	*	*	1.90600	Iinpk+	*	*	3.00200
Pin	*	*	422.5000	Iinpk-			3.00800
Pdc	*	*	384.514	Pf	*	*	0.974
Eff	98.000	80.000	91.009	Vin	*	*	227.531

Ld	RISE	I/R	Idc Max	Idc Min	Idc Read	Vn Max	Vn Read
1.	0.010	20.000	20.200	19.800	20.009	*	0.000
2.	0.010	12.000	12.200	11.800	11.984	*	0.000
3.	0.010	0.000	*	*	0.012	*	0.002
4.	0.010	0.300	*	*	0.296	*	0.005
5.	0.010	2.000	2.200	1.800	1.993	*	0.000
6.	0.010	9.500	9.700	9.300	9.490	*	0.000
7.	0.010	9.500	9.700	9.300	9.503	*	0.004
8.	0.010	0.000	*	*	0.021	*	0.009
9.	0.010	0.000	*	*	0.006	*	0.005
10.	0.010	0.000	*	*	0.006	*	0.003

Ld	Vdc Max	Vdc Min	Vdc Read	Vpp Max	Vpp Min	Vpp Read
1.	5.250	4.750	5.060	0.050	*	0.008
2.	3.470	3.130	3.343	0.050	*	0.005
3.	3.460	2.400	3.262	*	*	0.060
4.	-13.200	-11.400	-12.068	0.120	*	0.006
5.	5.250	4.750	5.041	0.050	*	0.008
6.	12.600	11.400	12.043	0.120	*	0.030
7.	12.600	11.400	12.087	*	*	0.061
8.	12.600	11.400	12.143	*	*	0.024
9.	12.600	11.400	12.162	*	*	0.088
10.	12.600	11.400	12.168	*	*	0.061

-----  
 SEQ.33: Combine Regulation Test (H/H) ----- PASS

Vin Port-1 = 2    Vin Port-2 = 2    Vin Port-3 = 2  
 Vin-1 = 264.000    Vin-2 = 264.000    Vin-3 = 264.000  
 Fac = 63.0    Fac-2 = 63.0    Fac-3 = 63.0  
 Delay Time = 1.000    Meas. Time = 1.000

Load Name	MODE	Ifs	Vfs	Meas.	Vdc Filter	Noise Filter	Von	
1.	5V	I	50	10	UUT	300	20M	3.500
2.	3.3V	I	50	10	UUT	300	20M	2.100
3.	PG	I	50	10	UUT	300	20M	0.000
4.	-12V	I	20	100	UUT	300	20M	-8.000
5.	5VS	I	50	10	UUT	300	20M	3.500
6.	12V	I	50	100	UUT	300	20M	8.000
7.	12V	I	50	100	UUT	300	20M	8.000
8.	12V	I	50	100	UUT	300	20M	8.000
9.	12V	I	50	100	UUT	300	20M	8.000
10.	12V	I	50	100	UUT	300	20M	8.000

Ld	BITS-1	BITS-2	BITS-3	SLEW Rate	I/R-1	I/R-2	I/R-3
1.	0000	0000	0000	0.010	40.000	32.000	20.000
2.	0000	0000	0000	0.010	24.000	19.200	12.000
3.	0000	0000	0000	0.010	0.000	0.000	0.000
4.	0000	0000	0000	0.010	0.300	0.300	0.300
5.	0000	0000	0000	0.010	4.000	3.200	2.000
6.	0000	0000	0000	0.010	7.600	6.080	9.500
7.	0000	0000	0000	0.010	7.600	6.080	9.500
8.	0000	0000	0000	0.010	7.600	6.080	0.000
9.	0000	0000	0000	0.010	7.600	6.080	0.000
10.	0000	0000	0000	0.010	7.600	6.080	0.000

Ld	Vdc Max	Vdc Min	Vdc-1 RD	Vdc-2 RD	Vdc-3 RD
1.	5.250	4.750	5.059	5.063	5.060
2.	3.470	3.130	3.337	3.342	3.344
3.	3.460	2.400	3.224	3.242	3.261
4.	-13.200	-11.400	-12.118	-12.093	-12.075
5.	5.250	4.650	4.945	4.988	5.042
6.	12.600	11.400	11.950	12.000	12.037
7.	12.600	11.400	12.006	12.050	12.093
8.	12.600	11.400	12.018	12.062	12.143
9.	12.600	11.400	11.900	11.968	12.162
10.	12.600	11.400	11.925	11.987	12.168

Ld	Vpp Max	Vpp Min	Vpp-1 RD	Vpp-2 RD	Vpp-3 RD
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1.	0.050	*	0.014	0.009	0.007
2.	0.050	*	0.007	0.007	0.005
3.	*	*	0.104	0.086	0.057
4.	0.120	*	0.006	0.006	0.006
5.	0.050	*	0.011	0.010	0.009
6.	0.120	*	0.033	0.032	0.030
7.	*	*	0.062	0.061	0.060
8.	*	*	0.026	0.025	0.024
9.	*	*	0.114	0.105	0.088
10.	*	*	0.071	0.066	0.062

Ld	dV(+) Max	dV(-) Max	dV-21 RD	dV-31 RD
1.	*	*	0.003	0.001
2.	*	*	0.005	0.006
3.	*	*	0.018	0.037
4.	*	*	-0.025	-0.043
5.	*	*	0.043	0.096
6.	*	*	0.050	0.087
7.	*	*	0.043	0.087
8.	*	*	0.043	0.125
9.	*	*	0.068	0.262
10.	*	*	0.062	0.243

Ld	Vn Max	Vn-1 Read	Vn-2 Read	Vn-3 Read
1.	*	0.000	0.000	0.000
2.	*	0.000	0.000	0.000
3.	*	0.002	0.002	0.001
4.	*	0.005	0.005	0.005
5.	*	0.001	0.000	0.000
6.	*	0.000	0.000	0.000
7.	*	0.005	0.005	0.005
8.	*	0.009	0.008	0.008
9.	*	0.005	0.005	0.005
10.	*	0.003	0.003	0.003

-----  
 SEQ.34: Combine Regulation Test (H/L) ----- PASS

Vin Port-1 = 2    Vin Port-2 = 2    Vin Port-3 = 2  
 Vin-1 = 264.000    Vin-2 = 264.000    Vin-3 = 264.000  
 Fac = 63.0    Fac-2 = 63.0    Fac-3 = 63.0  
 Delay Time = 1.000    Meas. Time = 1.000

	Load Name	MODE	I <sub>fs</sub>	V <sub>fs</sub>	Meas.	Vdc Filter	Noise Filter	Von
1.	5V	I	50	10	UUT	300	20M	3.500
2.	3.3V	I	50	10	UUT	300	20M	2.100
3.	PG	I	50	10	UUT	300	20M	0.000
4.	-12V	I	20	100	UUT	300	20M	-8.000
5.	5VS	I	50	10	UUT	300	20M	3.500
6.	12V	I	50	100	UUT	300	20M	8.000
7.	12V	I	50	100	UUT	300	20M	8.000
8.	12V	I	50	100	UUT	300	20M	8.000
9.	12V	I	50	100	UUT	300	20M	8.000
10.	12V	I	50	100	UUT	300	20M	8.000

Ld	BITS-1	BITS-2	BITS-3	SLEW Rate	I/R-1	I/R-2	I/R-3
1.	0000	0000	0000	0.010	12.000	8.000	4.000
2.	0000	0000	0000	0.010	7.200	4.800	2.400
3.	0000	0000	0000	0.010	0.000	0.000	0.000
4.	0000	0000	0000	0.010	0.300	0.300	0.300
5.	0000	0000	0000	0.010	1.200	0.800	0.500
6.	0000	0000	0000	0.010	11.400	7.600	3.800
7.	0000	0000	0000	0.010	0.000	0.000	0.000
8.	0000	0000	0000	0.010	0.000	0.000	0.000
9.	0000	0000	0000	0.010	0.000	0.000	0.000
10.	0000	0000	0000	0.010	0.000	0.000	0.000

Ld	Vdc Max	Vdc Min	Vdc-1 RD	Vdc-2 RD	Vdc-3 RD
1.	5.250	4.750	5.062	5.065	5.066
2.	3.470	3.130	3.350	3.354	3.358
3.	3.460	2.400	3.281	3.292	3.302
4.	-13.200	-11.400	-12.050	-12.037	-12.018
5.	5.250	4.750	5.087	5.111	5.132
6.	12.600	11.400	12.068	12.118	12.162
7.	12.600	11.400	12.156	12.175	12.187
8.	12.600	11.400	12.181	12.200	12.212

9.	12.600	11.400	12.187	12.193	12.206
10.	12.600	11.400	12.187	12.200	12.206

Ld	Vpp Max	Vpp Min	Vpp-1 RD	Vpp-2 RD	Vpp-3 RD
1.	0.050	*	0.006	0.007	0.006
2.	0.050	*	0.005	0.005	0.005
3.	*	*	0.042	0.039	0.040
4.	0.120	*	0.006	0.006	0.006
5.	0.050	*	0.008	0.007	0.007
6.	0.120	*	0.030	0.028	0.026
7.	*	*	0.059	0.058	0.057
8.	*	*	0.023	0.022	0.021
9.	*	*	0.078	0.076	0.074
10.	*	*	0.059	0.057	0.057

Ld	dV(+) Max	dV(-) Max	dV-21 RD	dV-31 RD
1.	*	*	0.002	0.003
2.	*	*	0.003	0.007
3.	*	*	0.010	0.020
4.	*	*	-0.012	-0.031
5.	*	*	0.023	0.045
6.	*	*	0.050	0.093
7.	*	*	0.018	0.031
8.	*	*	0.018	0.031
9.	*	*	0.006	0.018
10.	*	*	0.012	0.018

Ld	Vn Max	Vn-1 Read	Vn-2 Read	Vn-3 Read
1.	*	0.000	0.000	0.000
2.	*	0.000	0.000	0.000
3.	*	0.001	0.001	0.001
4.	*	0.005	0.005	0.005
5.	*	0.000	0.000	0.000
6.	*	0.000	0.000	0.000
7.	*	0.005	0.005	0.005
8.	*	0.008	0.008	0.008
9.	*	0.005	0.004	0.005
10.	*	0.003	0.003	0.003

