



# TEST REPORT

MODEL NAME : UP150S12WQ

1. DESIGN VERIFY TEST
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**1. DESIGN VERIFY TEST**

**1-1. INPUT FUNCTION TEST**

TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
VOLTAGE RANGE	90~277VAC	I/P: testing O/P:full load Ta:25 °C	test ok	P
FREQUENCY RANGE	47~63Hz no damage osc	I/P:90~277VAC O/P:full~min. load Ta:25 °C	test ok	P
EFFICIENCY	84% typ.	I/P:220VAC O/P:full load Ta:25 °C	85%	P
AC CURRENT	2.7A/115VAC typ. 1.8A/230VAC typ.	I/P:115VAC I/P:230VAC O/P:full load Ta:25 °C	2.05A/115VAC 1.11A/230VAC	P
INRUSH CURRENT	30A typ. cold start	I/P:230VAC O/P:full load Ta:25 °C	25A	P
LEAKAGE CURRENT	2.5mA max.	I/P:230VAC O/P:min. load Ta:25 °C	0.62mA	P

**1-2. OUTPUT FUNCTION TEST**

TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
RIPPLE&NOISE	170mVp-p max.	I/P:115VAC I/P:230VAC O/P:full load Ta:25 °C	48mV p-p/115VAC 44mV p-p/230VAC	P
VOLTAGE TOLERANCE	12V± 3%	I/P:200VAC/240VAC O/P:full/min. load Ta:25 °C	± 1.16%	P
LINE REGULATION	12V± 1%	I/P:200~240VAC O/P:full load Ta:25 °C	±0%	P
LOAD REGULATION	12V± 2%	I/P:220VAC O/P:full~min. load Ta:25 °C	± 1.16%	P

<b>SETUP TIME</b>	300ms/115VAC max. 300ms/230VAC max.	I/P:115VAC I/P:230VAC O/P:full load Ta:25 °C	700ms/115VAC 750ms/230VAC	<b>P</b>
<b>RISE TIME</b>	100ms/115VAC max. 100ms/230VAC max.	I/P:115VAC I/P:230VAC O/P:full load Ta:25	56ms/115VAC 56ms/230VAC	<b>P</b>
<b>HOLD UP TIME</b>	10ms/115VAC typ. 60ms/230VAC typ.	I/P:115VAC I/P:230VAC O/P:full load Ta:25	17.6ms/115VAC 63.2ms/230VAC	<b>P</b>

**1-3. PROTECTION FUNCTION TEST**

TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
<b>SHORT PROTECTION</b>	short every output 1 hour no damage	I/P:277VAC O/P:full load Ta:25 °C	no damage, recovers automatically after fault removed	<b>P</b>
<b>OVER LOAD PROTECTION</b>	110% min.	I/P:115VAC I/P:230VAC O/P:testing Ta:25 °C	141%/115VAC 140%/230VAC recovers automatically after fault removed	<b>P</b>
<b>OVER VOLTAGE PROTECTION</b>	115~140%	I/P:115VAC I/P:230VAC O/P:min. load Ta:25 °C	115%/115VAC 115%/230VAC recovers automatically after fault removed	<b>P</b>
<b>OVER TEMP. PROTECTION</b>	temp. sensor:105±10 °C no damage	I/P:100VAC O/P:full load	O.T.P active, recovers automatically after fault removed	<b>P</b>

**2. SAFETY TEST**

TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
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<b>WITHSTAND VOLTAGE</b>	I/P-O/P:3KVAC/1min<10mA I/P-F/G:1.5KVAC/1min<10mA O/P-F/G:0.5KVAC/1min<10mA	I/P-O/P:3KVAC/1min I/P-F/G:1.5KVAC/1min O/P-F/G:0.5KVAC/1min Ta:25℃	I/P-O/P:3.9mA I/P-F/G:3.3mA O/P-F/G:2.2mA no damage	<b>P</b>
<b>ISOLATION RESISTANCE</b>	I/O-O/P:500VDC>100MΩ I/O-F/G:500VDC>100MΩ O/P-F/G:500VDC>100MΩ	I/P-O/P:500VDC I/P-F/G:500VDC O/P-F/G:500VDC Ta:25℃	I/P-O/P:∞ I/P-F/G:∞ O/P-F/G:∞ no damage	<b>P</b>

### 3. RELIABILITY TEST

TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
<b>LOW TEMP. TURN ON TEST</b>	turn on after 2hour	I/P:220VAC O/P:full load Ta:-40℃	test ok	<b>P</b>
<b>STORAGE TEMP. TEST</b>	no damage	1.thermal shock temp.: -40~+75℃ 2.test time low & high temp.:30min/each 3.total cycle:5cycle 4.input/output condition:static	test ok	<b>P</b>
<b>THERMAL SHOCK TEST</b>	no damage	1.thermal shock temp.: -20~+50℃ 2.test time low & high temp.:30min/each 3.total cycle:10cycle 4.input/output condition: 220VAC 75% load, AC on/off test (turn on 58sec,turn off 2sec)	test ok	<b>P</b>
<b>VIBRATION TEST</b>	no damage	1.CATON&1SET 1.wave form:sine wave 2.frequency:10~500Hz 3.sweep time:10min./sweep cycle 4.acceleration:2G 5.test time:60min. in each(X,Y,Z) 6.Ta:25℃	test ok	<b>P</b>