



TEST REPORT

MODEL NAME : UPF60S12CQH

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1. DESIGN VERIFY TEST

1-1. INPUT FUNCTION TEST

TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
VOLTAGE RANGE	90~305VAC	I/P: testing O/P:full load Ta:25 °C	test ok	P
FREQUENCY RANGE	47~63Hz no damage osc	I/P:90~305VAC O/P:full~min. load Ta:25 °C	test ok	P
POWER FACTOR	0.95 min.	I/P:115VAC I/P:230VAC O/P:full load	PF=0.99/115VAC PF=0.97/230VAC	P
EFFICIENCY	84% typ.	I/P:230VAC O/P:full load Ta:25 °C	84.9%	P
AC CURRENT	0.8A/115VAC typ. 0.4A/230VAC typ.	I/P:115VAC I/P:230VAC O/P:full load Ta:25 °C	0.73A/115VAC 0.32A/230VAC	P
INRUSH CURRENT	40A typ. cold start	I/P:230VAC O/P:full load Ta:25 °C	44.6A	P
LEAKAGE CURRENT	2.5mA max.	I/P:230VAC O/P:min. load Ta:25 °C	1.2mA	P

1-2. OUTPUT FUNCTION TEST

TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
VOLTAGE Tolerance	12V \pm 3%	I/P:230VAC O/P:CV mode Ta:25 °C No variable resistance	test ok	P
RIPPLE&NOISE	150mVp-p max.	I/P:230VAC O/P:full load Ta:25 °C	110mV p.p	P
LINE REGULATION	12V \pm 1%	I/P:90~305VAC O/P:full load Ta:25 °C	\pm 0.1%	

LOAD REGULATION	12V±2%	I/P:230VAC O/P:full load Ta:25 °C	±1.58%	
SETUP TIME	3000ms/115VAC max. 3000ms/230VAC max.	I/P:115VAC I/P:230VAC O/P:full load Ta:25 °C	808ms/115VAC 292ms/230VAC	P
RISE TIME	100ms/115VAC max. 100ms/230VAC max.	I/P:115VAC I/P:230VAC O/P:full load Ta:25	16.2ms/115VAC 8.2ms/230VAC	P
HOLD UP TIME	50ms/115VAC typ. 50ms/230VAC typ.	I/P:115VAC I/P:230VAC O/P:full load Ta:25	22.6ms/115VAC 62.4ms/230VAC	P

1-3. PROTECTION FUNCTION TEST

TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
SHORT PROTECTION	short every output 1 hour no damage	I/P:305VAC O/P:full load Ta:25 °C	no damage, recovers automatically after fault removed	P
OVER LOAD PROTECTION	110% min	I/P:230VAC O/P:testing Ta:25 °C	130%/115VAC 130%/230VAC recovers automatically after fault removed	P
OVER VOLTAGE PROTECTION	115~140%	I/P:115VAC I/P:230VAC O/P:min. load Ta:25 °C	118%/115VAC 118%/230VAC recovers automatically after fault removed	P
OVER TEMP. PROTECTION	temp. sensor: 100±10 °C damage	no I/P:230VAC O/P:full load	O.T.P active, automatically after fault removed	P

2. SAFETY & EMC TEST

TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC/1min<10mA I/P-F/G:2KVAC/1min<10mA O/P-F/G:1.5KVAC/1min<10mA	I/P-O/P:3.75KVAC/1min I/P-F/G:2KVAC/1min O/P-F/G:1.5KVAC/1min Ta:25°C	I/P-O/P:3.8mA I/P-F/G:2.9mA O/P-F/G:2.4mA no damage	P
ISOLATION RESISTANCE	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°C	I/P-O/P: ∞ I/P-F/G: ∞ O/P-F/G: ∞ no damage	P
SURGE	IEC61000-4-5 industry L-N:4KV L,N-PE:6KV	I/P:230VAC/50Hz O/P:full load Ta:25°C	criteria A	P

3. RELIABILITY TEST

TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
LOW TEMP. TURN ON TEST	turn on after 2hour	I/P:230VAC O/P:full load Ta:-40°C	test ok	P
STORAGE TEMP. TEST	no damage	1.thermal shock temp.: -40~+80°C 2.test time low & high temp.:30min/each 3.total cycle:5cycle 4.input/output condition:static	test ok	P
HIGH VOLT. HIGH TEMP. HIGH HUMI. TEST	no damage after 12hour	I/P:305VAC O/P:full load Ta:70°C HUMI.:95%RH	test ok	P
THERMAL SHOCK TEST	no damage	1.thermal shock temp.: -40~+70°C 2.test time low & high temp.:30min/each 3.total cycle:10cycle 4.input/output condition: 230VAC full load, AC on/off test (turn on 58sec,turn off 2sec)	test ok	P

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VIBRATION TEST	no damage	1.CATON&1SET 1.wave form:sine wave 2.frequency:10~500Hz 3.sweep time:12min./sweep cycle 4.acceleration:5G 5.test time:72min. in each(X,Y,Z) 6.Ta:25 °C	test ok	P
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