



Test Report: MSP-1600-36

1600W AC/DC High Reliable Multi-Industries Enclosed Type Power Supply

■ DESIGN VERIFY TEST

Output Function Test

Input Function Test

Protection Function Test

Control Function Test

Component Stress Test

■ SAFETY & E.M.C. TEST

Safety Test

E.M.C. Test

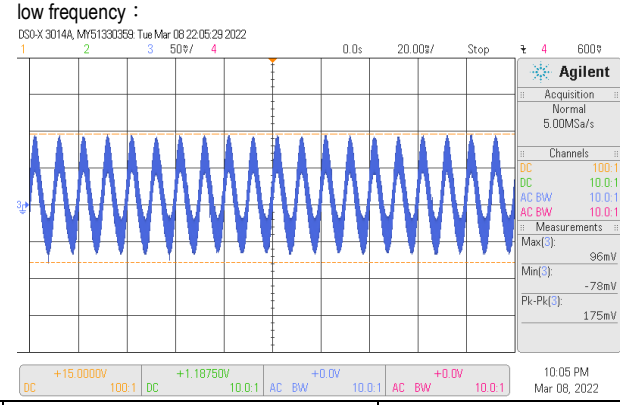
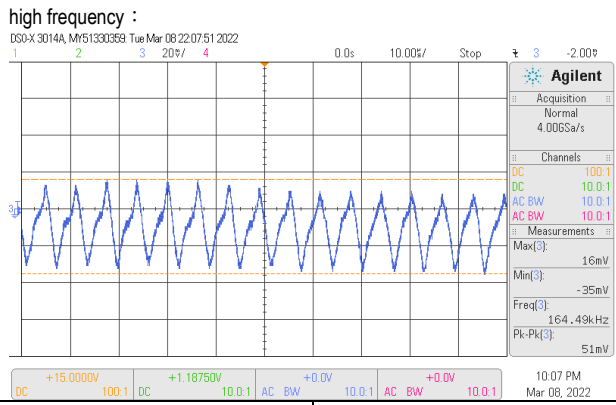
■ RELIABILITY TEST

ENVIRONMENT TEST

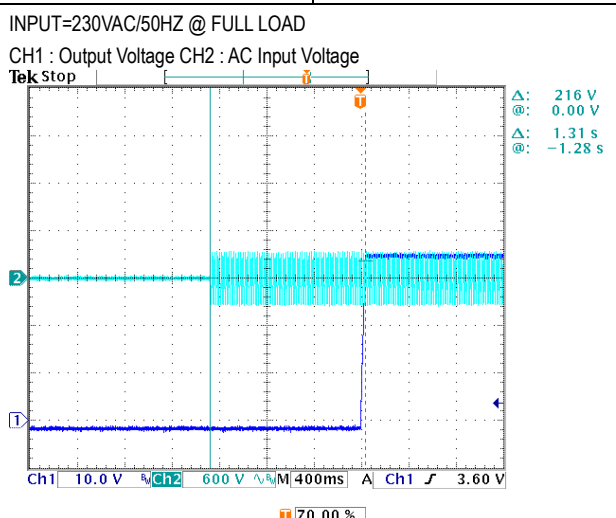
DESIGN VERIFY TEST

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	OUTPUT VOLTAGE ADJUST RANGE	CH1: 35.5 V~ 42V	I/P : 230 VAC I/P : 115 VAC O/P : MIN LOAD Ta : 25°C	34.125V~43.08V/230VAC 34.135V~43.08V/115VAC
2	OUTPUT VOLTAGE(Max) TOLERANCE	V1: 1%~-1%	I/P: 180VAC /264VAC O/P:FULL/ MIN. LOAD Ta:25°C	V1:-0.02%~-0.02%
3	LINE REGULATION (Max)	V1: 0.5%~-0.5%	I/P: 180VAC~ 264VAC O/P:FULL LOAD Ta:25°C	V1:-0.02%~-0.02%
4	LOAD REGULATION(Max)	V1: 0.5%~-0.5%	I/P: 230VAC O/P:FULL -MIN LOAD Ta:25°C	V1: 0%~0.02%
5	OVER/UNDERSHOOT TEST	< ±5%	I/P: 230VAC O/P:FULL LOAD Ta:25°C	<5%
6	RIPPLE & NOISE(Max)	V1: 250 mVp-p	I/P:230VAC O/P:FULL LOAD Ta:25°C	V1:175 mVp-p

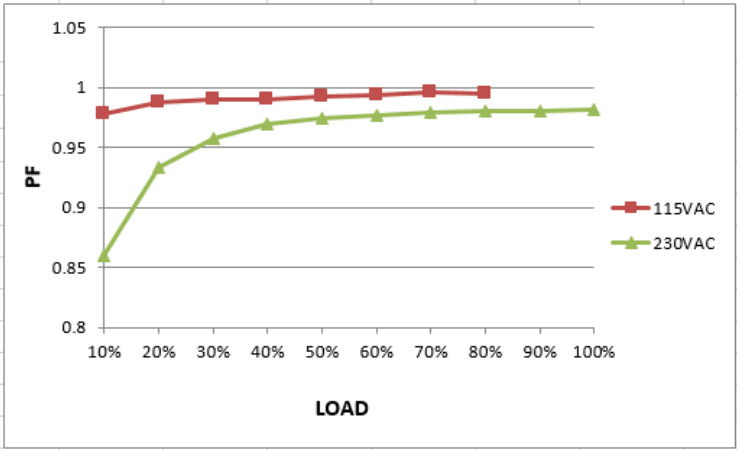


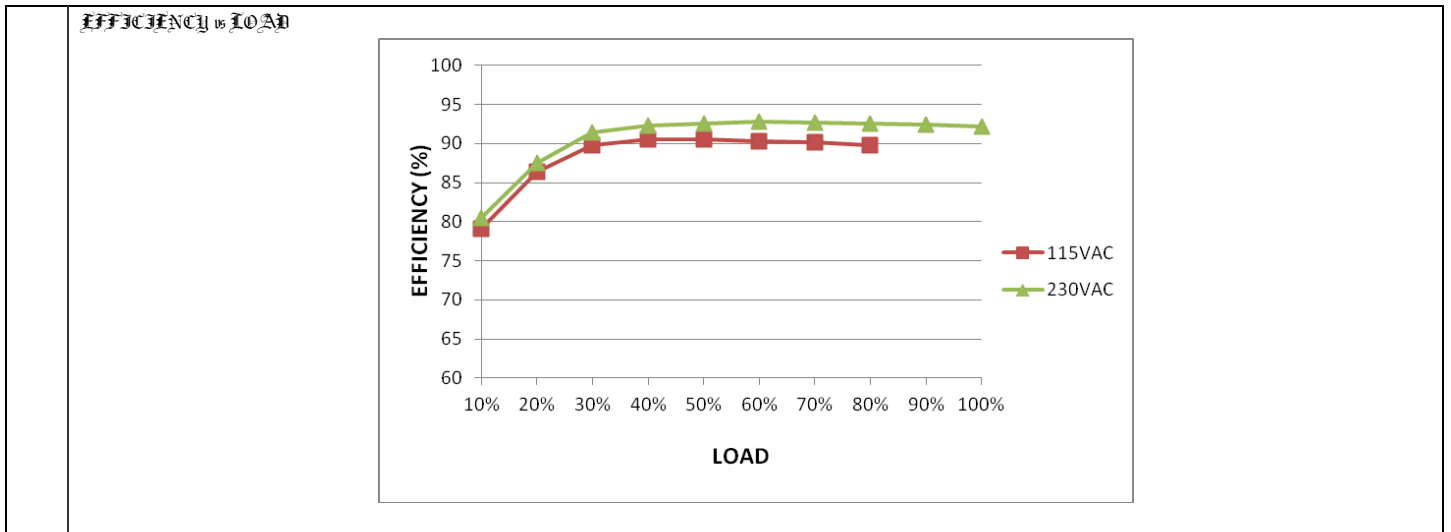
7	SET UP TIME(Max)	230VAC/1500ms	I/P : 230 VAC O/P : FULL LOAD Ta : 25°C	230VAC/ 1312 ms
---	------------------	---------------	---	-----------------



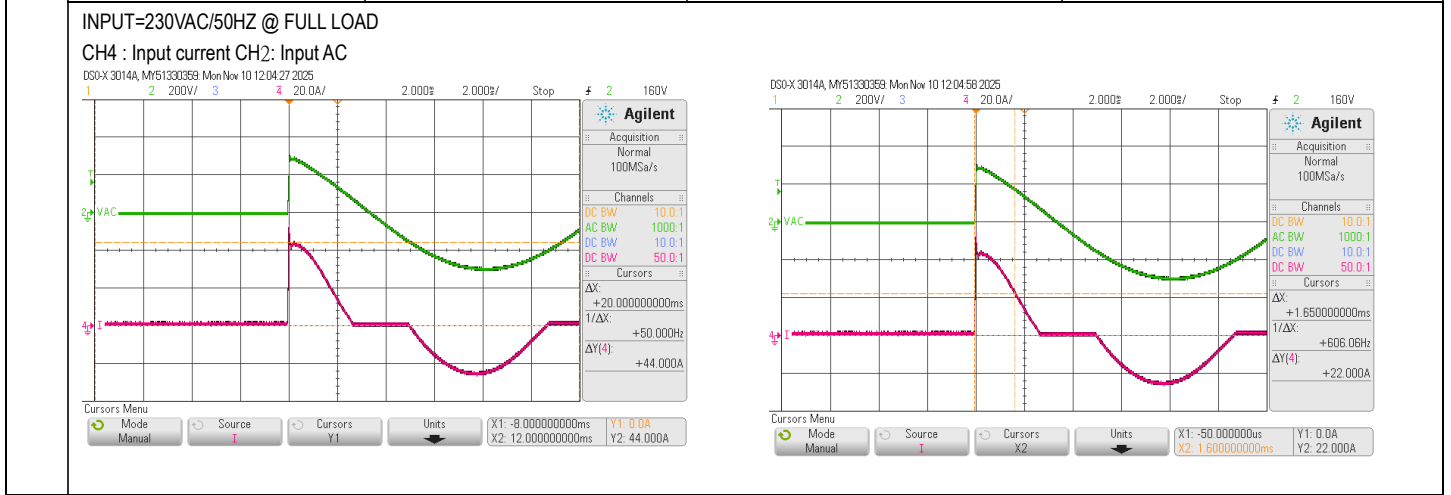
<p>8</p>	<p>RISE TIME (Max)</p> <p>230VAC/60ms</p>	<p>I/P : 230 VAC O/P : FULL LOAD Ta : 25°C</p>	<p>230VAC/34.4ms</p>
<p>INPUT=230VAC/50HZ @ FULL LOAD</p> <p>CH1 : Output Voltage</p> <p> Δ: 400mV Δ: 30.0 V Δ: 34.4ms Δ: -400μs </p>			
<p>9</p>	<p>HOLD UP TIME (Typ.)</p> <p>230VAC/10ms /FULL LOAD 230VAC/16ms /70% LOAD</p>	<p>I/P : 230 VAC O/P : FULL LOAD /70% LOAD Ta : 25°C</p>	<p>230VAC/ 12.8 ms /FULL LOAD 230VAC/ 20.2 ms /70% LOAD</p>
<p>INPUT=230VAC/50HZ @ FULL LOAD</p> <p>CH1 : Output Voltage CH2 : AC Input Voltage</p> <p> Δ: 228 V Δ: -224 V Δ: 12.8ms Δ: -38.2ms </p> <p>INPUT=230VAC/50HZ @70% LOAD</p> <p>CH1 : Output Voltage CH2 : AC Input Voltage</p> <p> Δ: 20.2ms Δ: -32.7500V </p>			
<p>10</p>	<p>DYNAMIC LOAD</p> <p>V1: 3600 mVp-p</p>	<p>I/P: 230VAC O/P: (1)FULL /50% LOAD 50%DUTY / 120HZ (2)FULL /50% LOAD 50%DUTY / 1KHZ Ta:25°C</p>	<p>571mVp-p 503mVp-p</p>
<p>FULL /50% LOAD 50%DUTY / 120HZ</p> <p> Pk-Pk(C): 571mV Max(C): 277mV Min(C): -293mV </p> <p>FULL /50% LOAD 50%DUTY / 1KHZ</p> <p> Pk-Pk(C): 503mV Max(C): 241mV Min(C): -261mV </p>			

INPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT																																	
1	INPUT VOLTAGE RANGE	85V~264VAC 250VDC~ 400VDC	(1) I/P:TESTING O/P:FULL LOAD (2) I/P:DC TESTING(L:+ N:-) O/P: FULL / 50% LOAD (3) I/P:DC TESTING(L:- N:+) O/P: FULL / 50% LOAD (PLEASE CHECK DERATING CURVE) Ta:25°C	(1) 78V~267V (2) 149.2Vdc~403Vdc/FULL LOAD 106.1Vdc~403Vdc/50% LOAD (3) 149.5Vdc~403Vdc/FULL LOAD 105.6Vdc~403Vdc/50% LOAD																																	
			I/P: LOW-LINE-3V=82 V HIGH-LINE+15%=300 V O/P:FULL/MIN LOAD (PLEASE CHECK DERATING CURVE) ON: 30 Sec OFF: 30 Sec 10MIN (POWER ON/OFF NO DAMAGE)	TEST: OK																																	
2	INPUT FREQUENCY RANGE	47HZ ~63 HZ NO DAMAGE	I/P: 85 VAC ~264 VAC O/P:FULL~MIN LOAD Ta:25°C	TEST: OK																																	
3	INPUT CURRENT (Typ.)	230V/ 8.5 A 115V/ 15 A	I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD (PLEASE CHECK DERATING CURVE) Ta : 25°C	I =7.88A/ 230VAC I =12.45A/ 115VAC																																	
4	LEAKAGE CURRENT	< 500uA / 264 VAC / Earth < 100uA / 264 VAC/ Touch	I/P : 230 VAC O/P : Min LOAD Ta : 25°C	Earth L-FG : 416.5uA N-FG : 416.5uA Touch V+ - FG : 66.3 uA V- -FG : 66.3 uA																																	
5	POWER FACTOR (Typ.)	0.97 / 230VAC	I/P : 230 VAC O/P : FULL LOAD Ta : 25°C	PF=0.978/230VAC																																	
<p>PF vs LOAD</p>  <table border="1"> <caption>PF vs LOAD Data</caption> <thead> <tr> <th>LOAD (%)</th> <th>115VAC PF</th> <th>230VAC PF</th> </tr> </thead> <tbody> <tr><td>10%</td><td>0.98</td><td>0.86</td></tr> <tr><td>20%</td><td>0.99</td><td>0.94</td></tr> <tr><td>30%</td><td>0.99</td><td>0.96</td></tr> <tr><td>40%</td><td>0.99</td><td>0.97</td></tr> <tr><td>50%</td><td>0.99</td><td>0.975</td></tr> <tr><td>60%</td><td>0.99</td><td>0.978</td></tr> <tr><td>70%</td><td>0.99</td><td>0.98</td></tr> <tr><td>80%</td><td>0.99</td><td>0.98</td></tr> <tr><td>90%</td><td>0.99</td><td>0.98</td></tr> <tr><td>100%</td><td>0.99</td><td>0.98</td></tr> </tbody> </table>					LOAD (%)	115VAC PF	230VAC PF	10%	0.98	0.86	20%	0.99	0.94	30%	0.99	0.96	40%	0.99	0.97	50%	0.99	0.975	60%	0.99	0.978	70%	0.99	0.98	80%	0.99	0.98	90%	0.99	0.98	100%	0.99	0.98
LOAD (%)	115VAC PF	230VAC PF																																			
10%	0.98	0.86																																			
20%	0.99	0.94																																			
30%	0.99	0.96																																			
40%	0.99	0.97																																			
50%	0.99	0.975																																			
60%	0.99	0.978																																			
70%	0.99	0.98																																			
80%	0.99	0.98																																			
90%	0.99	0.98																																			
100%	0.99	0.98																																			
6	EFFICIENCY(Typ.)	91%	I/P:230 VAC O/P:FULL LOAD Ta:25°C	91.06%																																	



7	INRUSH CURRENT(Typ.)	230V/60A COLD START	I/P : 230 VAC O/P : FULL LOAD Ta : 25°C	I=44A/ 230VAC T50= 1650 us/230V
---	----------------------	------------------------	---	------------------------------------

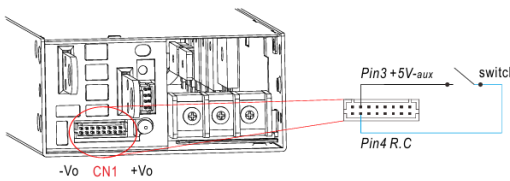


PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	OVER LOAD PROTECTION	105%~115% PROTECTION TYPE : Constant current limiting, unit will shut down o/p voltage after 5 sec. re-power on to recover	I/P: 264VAC I/P: 230VAC I/P: 180VAC I/P: 85VAC O/P: TESTING Ta: 25°C	109%/ 264VAC 109%/ 230VAC 119%/180VAC 65%/ 85VAC PROTECTION TYPE : Constant current limiting, unit will shut down o/p voltage after 5 sec. re-power on to recover
2	OVER VOLTAGE PROTECTION	47.2 V~ 56.3 V PROTECTION TYPE : Shut down o/p voltage, re-power on to recover	I/P: 264VAC I/P: 230VAC I/P: 85VAC O/P: MIN LOAD Ta: 25°C	51.3V/ 264VAC 51.3V/ 230VAC 51.3V/ 85VAC PROTECTION TYPE : Shut down o/p voltage, re-power on to recover
3	OVER TEMPERATURE PROTECTION	NO DAMAGE PROTECTION TYPE : Shut down o/p voltage, recovers automatically after temperature goes	I/P: 264VAC I/P: 180VAC O/P: FULL LOAD	O.T.P. Active PROTECTION TYPE : Shut down o/p voltage, recovers automatically after temperature goes down

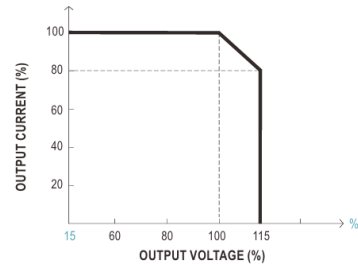
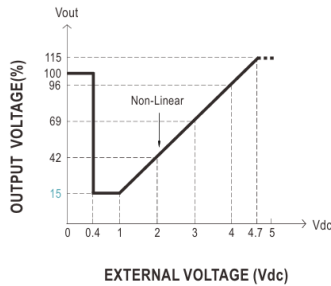
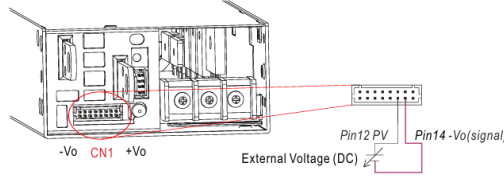
		down		
4	SHORT PROTECTION	<p>SHORT EVERY OUTPUT 1 HOUR NO DAMAGE</p> <p>PROTECTION TYPE : Constant current limiting, unit will shut down o/p voltage after 5 sec. re-power on to recover</p>	<p>I/P: 264VAC I/P: 85VAC O/P: FULL LOAD Ta:25°C</p>	<p>NO DAMAGE</p> <p>PROTECTION TYPE : Constant current limiting, unit will shut down o/p voltage after 5 sec. re-power on to recover</p>

CONTROL FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT															
1	AUXILIARY POWER (AUX)	12V±10%@0.8A ripple:250mVp-p	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	11.32V/ 0.8 A /150 mVp-p															
2	REMOTE ON/OFF CONTROL	<p>※ The power supply can be turned ON/OFF individually or along with other units by using the "Remote Control" function.</p>  <p>I/P: 230 VAC O/P:FULL LOAD Ta:25°C</p> <p>Test Result :</p> <table border="1" data-bbox="470 1220 1077 1332"> <thead> <tr> <th>Between Remote ON-OFF and +5V-AUX</th> <th>Power Supply Status</th> </tr> </thead> <tbody> <tr> <td>SW SHORT</td> <td>ON</td> </tr> <tr> <td>SW OPEN</td> <td>OFF</td> </tr> </tbody> </table>	Between Remote ON-OFF and +5V-AUX	Power Supply Status	SW SHORT	ON	SW OPEN	OFF	<p>Pin3 +5V-aux → switch Pin4 R.C.</p> <table border="1" data-bbox="1045 974 1492 1075"> <thead> <tr> <th>PSU Vo Status</th> <th>Between +5V-aux(Pin 3) and R.C(Pin 4)</th> </tr> </thead> <tbody> <tr> <td>Power ON</td> <td>Switch Short</td> </tr> <tr> <td>Power OFF</td> <td>Switch Open</td> </tr> </tbody> </table>	PSU Vo Status	Between +5V-aux(Pin 3) and R.C(Pin 4)	Power ON	Switch Short	Power OFF	Switch Open				
Between Remote ON-OFF and +5V-AUX	Power Supply Status																		
SW SHORT	ON																		
SW OPEN	OFF																		
PSU Vo Status	Between +5V-aux(Pin 3) and R.C(Pin 4)																		
Power ON	Switch Short																		
Power OFF	Switch Open																		
3	REMOTE SENSE	S+ / S- Compensate voltage drop on the load wiring up to 0.5V.	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	0.5V															
4	ALARM SIGNAL	<p>1. DC OK SIGNAL High (3.5 ~ 5.5V) : When the $V_{out} \leq 77\% \pm 5\%$. Low (-0.5 ~ 0.5V) : When $V_{out} \geq 80\% \pm 5\%$. The maximum sourcing current is 10mA and only for output. (Note.2) I/P: 230 VAC O/P:FULL LOAD Ta:25°C</p> <p>Test Result :</p> <table border="1" data-bbox="526 1713 1093 1825"> <thead> <tr> <th>Vout</th> <th>DC OK SIGNAL</th> </tr> </thead> <tbody> <tr> <td>$V_{out} \leq 72\%$</td> <td>5V</td> </tr> <tr> <td>$V_{out} \geq 85\%$</td> <td>-0.09V</td> </tr> </tbody> </table> <p>2. T-ALARM</p> <table border="1" data-bbox="534 1870 1125 1960"> <thead> <tr> <th>P.S.U STATUS</th> <th>Vo</th> <th>T-ALARM</th> </tr> </thead> <tbody> <tr> <td>NORMAL</td> <td>100%±2%</td> <td>-0.5 ~0.5V</td> </tr> <tr> <td>OTP OR FAN LOCK</td> <td>0V</td> <td>3.5-5.5V</td> </tr> </tbody> </table> <p>I/P: 230 VAC O/P:FULL LOAD Ta:25°C</p> <p>Test Result :</p>	Vout	DC OK SIGNAL	$V_{out} \leq 72\%$	5V	$V_{out} \geq 85\%$	-0.09V	P.S.U STATUS	Vo	T-ALARM	NORMAL	100%±2%	-0.5 ~0.5V	OTP OR FAN LOCK	0V	3.5-5.5V		
Vout	DC OK SIGNAL																		
$V_{out} \leq 72\%$	5V																		
$V_{out} \geq 85\%$	-0.09V																		
P.S.U STATUS	Vo	T-ALARM																	
NORMAL	100%±2%	-0.5 ~0.5V																	
OTP OR FAN LOCK	0V	3.5-5.5V																	

P.S.U STATUS	T-ALARM
NORMAL	0.01 V
OTP OR FAN LOCK	5.38V

5 OUTPUT VOLTAGE PROGRAMMABLE(PV)



⊙ The rated current should change with the Output Voltage Programming accordingly.
 ⊙ For Remote Sense / Local Sense, please refer to "Voltage Drop Compensation" section.

I/P: 230 VAC
 O/P: FULL LOAD
 Ta: 25°C
 Test Result :

MODEL \ PV	<0.4V	1V	2V	3V	4V	4.7V
SPEC	36V±5%	5.4V±5%	15.12V±5%	24.84V±5%	34.56V±5%	41.4V±5%
Vout	35.97	5.36	14.91	24.54	34.09	40.34

6 FAN NOISE (Typ.)

10% load @39 dB
 70% load @39 dB
 Built-in intelligent fan speed control
 detect by PSU'S internal temperature

I/P : 230 VAC
 O/P : TESTING
 Ta : 25°C

10% load: 38.43 dB
 70% load: 38.82 dB

COMPONENT STRESS TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	PWM Transistor (D to S) or (C to E) Peak Voltage	Q901 Rated 40A/650V	I/P: High-Line +3V = 267V AC ON/OFF VDS: O/P: (1) Full Load (2) Output Short (3) Dynamic Load Full Load/ Min. Load 90% Duty/1KHz (4) Dynamic Load Full Load/	VDS: (1) 489V (2) 513V (3) 497V (4) 505V (5) 501V

			<p>Min. Load 90%Duty/3KHz (5)Dynamic Load Full Load/ Min. Load 90%Duty/5KHz (6)Dynamic Load 100% Load/ Min. Load 50%Duty/120Hz (7)0%→400% Load. Ta:25°C</p>	<p>(6)497V (7)509V</p>
2	P.F.C Transistor (D to S) or (C to E) Peak Voltage	Q52 Rated 52A/ 600V	<p>I/P:High-Line +3V =267 V AC ON/OFF O/P: (1)Full Load (2)Output Short (3)Dynamic Load Full Load/ Min. Load 90%Duty/1KHz (4)Dynamic Load Full Load/ Min. Load 90%Duty/3KHz (5)Dynamic Load Full Load/ Min. Load 90%Duty/5KHz (6)Dynamic Load 100% Load/ Min. Load 50%Duty/120Hz (7)0%→400% Load. Ta:25°C</p>	<p>VDS: (1)457V (2) 408V (3)440 V (4)444 V (5)457 V (6)428V (7)412V</p>
3	Diode Peak Voltage	Q101 Rated 65A/200V	<p>I/P:High-Line +3V =267 V AC ON/OFF O/P: (1)Full Load (2)Output Short (3)Dynamic Load Full Load/ Min. Load 90%Duty/1KHz (4)Dynamic Load Full Load/ Min. Load 90%Duty/3KHz (5)Dynamic Load Full Load/ Min. Load 90%Duty/5KHz (6)Dynamic Load 100% Load/ Min. Load 50%Duty/120Hz (7)0%→400% Load. (8).NO LOAD Ta:25°C</p>	<p>Q101: VDS: (1)172V (2)172V (3)188V (4)172V (5)174V (6)182V (7)182V (8)160V</p>
4	Input Capacitor Voltage	C5 Rated: 680μ/400 V	<p>I/P:High-Line +3V =267 V O/P: (1)Full Load Ta:25°C</p>	<p>(1)389V</p>
5	Control IC Voltage Test	<p>PWM IC U901 Rated 6.5 V~24V</p> <p>PFC IC U51 Rated 4.5V~ 15V</p>	<p>I/P:High-Line +3V =267 V AC ON/OFF O/P(1)FULL LOAD (2) Output Short (3)O.L.P (4)O.V.P. Ta:25°C</p>	<p>(1) 14.4V (2) 15.0V (3) 14.8V (4) 13.2V</p> <p>(1)13.6V (2)13.4V (3)13.4V (4)13.4V</p>

SAFETY TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
----	-----------	---------------	----------------	--------

1	WITHSTAND VOLTAGE	I/P-O/P: 4.2KVAC/min I/P-FG : 2.1KVAC/min O/P-FG:1.5KVAC/min	I/P-O/P: 4.62 KVAC/min I/P-FG: 2.52 KVAC/min O/P-FG:1.8 KVAC/min Ta:25°C	I/P-O/P:5.57mA I/P-FG:4.21mA O/P-FG:7.36mA NO DAMAGE
2	ISOLATION RESISTANCE	I/P-O/P:500VDC>100MΩ I/P-FG: 500VDC>100MΩ O/P-FG:500VDC>100MΩ	I/P-O/P: 500 VDC I/P-FG: 500 VDC O/P-FG: 500 VDC Ta:25°C	I/P-O/P: 20.1GΩ I/P-FG: 15.9GΩ O/P-FG:27.4 GΩ NO DAMAGE
3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100 mΩ	40A / 2min Ta:25°C	17 mΩ

E.M.C TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	HARMONIC	EN61000-3-2 CLASS A	I/P:230VAC/50HZ O/P:100% LOAD Ta:25°C	PASS
2	CONDUCTION	EN/EN55032(CISPR32) CLASS B	I/P : 230 VAC (50HZ) O/P : FULL/50% LOAD Ta : 25°C	PASS Test by certified Lab
3	RADIATION	EN/EN55032(CISPR32) CLASS B	I/P : 230 VAC (50HZ) O/P : FULL LOAD Ta : 25°C	PASS Test by certified Lab
4	E.S.D	EN61000-4-2 INDUSTRY AIR : 15KV / Contact : 8KV	I/P : 230 VAC/50HZ O/P : FULL LOAD Ta : 25°C	CRITERIA A
5	E.F.T	EN61000-4-4 INDUSTRY INPUT : 2KV	I/P : 230 VAC/50HZ O/P : FULL LOAD Ta : 25°C	CRITERIA A
6	SURGE	IEC61000-4-5 INDUSTRY L-N : 2KV L,N-PE : 4KV	I/P : 230 VAC/50HZ O/P : FULL LOAD Ta : 25°C	CRITERIA A
7	Test by certified Lab & Test Report Prepare Any contradictions of the test results, please refer to the latest EMC test report			

RELIABILITY TEST

ENVIRONMENT TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	TEMPERATURE RISE TEST	MODEL : MSP-1600-24 1. ROOM AMBIENT BURN-IN : 2 HRS I/P : 230VAC O/P : FULL LOAD Ta= 25°C 2. HIGH AMBIENT BURN-IN : 2 HRS I/P : 230VAC O/P : FULL LOAD Ta= 50°C		

		NO	Position	ROOM AMBIENT Ta= 25°C	HIGH AMBIENT Ta= 50°C
		1	LF2	38.1°C	56.6°C
		2	BD1	66.2°C	75.4°C
		3	RY1	34.9°C	55.8°C
		4	L1	71.4°C	79.3°C
		5	T52	60.4°C	70.7°C
		6	Q901	93.1°C	98.7°C
		7	Q904	82.8°C	88.7°C
		8	Q51	87.0°C	94.2°C
		9	Q52	82.5°C	92.0°C
		10	D50	92.0°C	101.2°C
		11	T1-1	104.9°C	103.5°C
		12	T1-2	90.3°C	88.2°C
		13	T1-coil	88.4°C	86.8°C
		14	Q101	126.2°C	120.5°C
		15	Q103	123.0°C	122.0°C
		16	Q104	116.0°C	115.9°C
		17	T301	75.7°C	80.6°C
		18	L900	91.9°C	94.6°C
		19	RG301	101.9°C	98.5°C
		20	C305	91.3°C	90.6°C
		21	U201	47.1°C	62.0°C
		22	C321	82.4°C	86.4°C
		23	C355	87.1°C	88.2°C
		24	U82	95.2°C	97.6°C
		25	D321	82.3°C	90.3°C
		26	D81	88.4°C	92.4°C
		27	U671	33.4°C	54.1°C
		28	C5	51.8°C	64.4°C
		29	L100	77.3°C	85.9°C
		30	C102	38.4°C	56.0°C
		31	C104	45.1°C	60.0°C
		32	RTH21	81.7°C	87.7°C
		33	RTH9	59.2°C	70.7°C
2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR (MIN)		I/P : 230 VAC O/P : 109% LOAD Ta : 25°C	TEST : OK
3	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOUR		I/P : 230VAC/180VAC O/P : 100 % LOAD Ta= -40°C	TEST : OK
4	HIGH HUMIDITY HIGH TEMPERATURE HIGH VOLTAGE TURN ON TEST	AFTER 12 HOURS IN CHAMBER ON CONTROL 50 °C NO DAMAGE		I/P : 272 VAC O/P : FULL LOAD Ta= 50 °C HUMIDITY= 95 %R.H	TEST : OK
5	TEMPERATURE COEFFICIENT	± 0.03 %/°C(0~50°C)		I/P : 230 VAC O/P : FULL LOAD	± 0.002 %/°C(0~50°C)



6	STORAGE TEMPERATURE TEST	-40~85°C	1. Thermal shock Temperature : -45°C~ +90°C 2. Temperature change rate : 25°C / MIN 3. Dwell time low and high temperature : 30 MIN/EACH 4. Total test cycle : 10 CYCLE 5. Input/Output condition : STATIC
7	THERMAL SHOCK TEST	-40~50°C	1. Thermal shock Temperature : -45°C~ +55°C 2. Temperature change rate : 25°C / MIN 3. Dwell time low and high temperature : 30 MIN/EACH 4. Total test cycle : 16 CYCLE 5. Input/Output condition : 15cycle : 230V/ FULL LOAD AC ON 3sec/AC OFF 1sec TEST 1cycle : 230V/ FULL LOAD Burn In Test
8	VIBRATION TEST	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes	(1) Waveform : Sine Wave (2) Frequency : 10~500Hz (3) Sweep Time : 10min/sweep cycle (4) Acceleration : 3G (5) Test Time : 180min in each axis (X.Y.Z) (6) Ta : 25°C
9	CAPACITOR LIFE CYCLE	SUPPOSE C104 IS THE MOST CRITICAL COMPONENT (1) I/P : 230VAC O/P : FULL LOAD Ta= 25 °C LIFE TIME (2) I/P : 230VAC O/P : FULL LOAD Ta= 50 °C LIFE TIME (3) I/P : 230VAC O/P : 75% LOAD Ta= 50 °C LIFE TIME (4) I/P : 230VAC O/P : 50% LOAD Ta= 50 °C LIFE TIME	(1) 715036HRS (2) 254562HRS (3) 305878HRS (4) 335385HRS
10	MTBF	Conducted by Parts Stress Analysis Prediction 653.8K hrs min. Telcordia SR-332 (Bellcore) ; 65.3K hrs min. MIL-HDBK-217F (25°C)	
11	Ongoing Reliability Test	I/P : 230VAC O/P : FULL LOAD TA=50°C Demonstration Mean Time Between Failure : 50,000 hours	

TEST RESULT	TESTER	REVIEW	APPROVAL
PASS	DANIEL GAO	SANFORD SU	ERIS WU

2020.10.1 TAG-QA-009