



Test Report: UHP-200A-4.2

200W Single Output with PFC Function

■ DESIGN VERIFY TEST

Output Function Test

Input Function Test

Protection Function Test

Component Stress Test

■ SAFETY & E.M.C. TEST

Safety Test

E.M.C. Test

■ RELIABILITY TEST

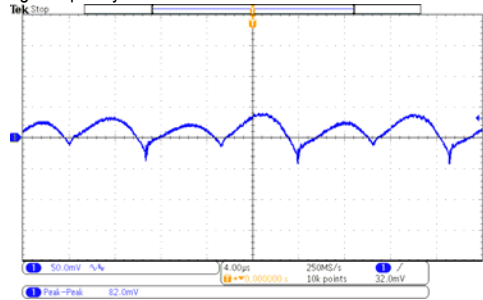
Environment Test

DESIGN VERIFY TEST

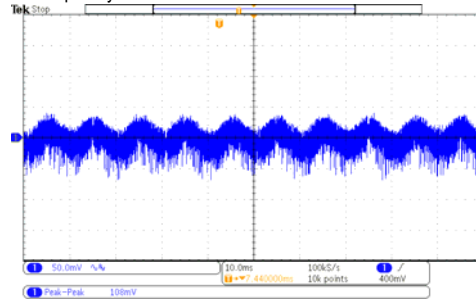
OUTPUT FUNCTION TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT |
|----|-----------------------------|---|---|--------------|
| 1 | OUTPUT VOLTAGE ADJUST RANGE | 4.0V~4.4V | I/P: 230VAC O/P: NO LOAD Ta: 25°C | 3.8 V~ 4.5 V |
| 2 | OUTPUT VOLTAGE TOLERANCE | -4%~+4% | I/P: 100VAC / 264VAC O/P: FULL / NO LOAD Ta: 25°C | -1.4%~ 1.19% |
| 3 | LINE REGULATION | -0.5%~+0.5% | I/P: 180VAC ~ 264VAC O/P: FULL LOAD Ta: 25°C | 0%~ 0% |
| 4 | LOAD REGULATION | -2.5%~+2.5% | I/P: 230VAC O/P: FULL ~NO LOAD Ta: 25°C | -0.23%~ 0 % |
| 5 | DC OK | PSU Turns on: DC ok PSU turns off: DC fail | I/P: 230VAC O/P: FULL LOAD Ta: 25°C | OK |
| 6 | OVER/UNDERSHOOT TEST | <± 10 % | I/P: 230VAC O/P: FULL LOAD Ta: 25°C | <± 2.899% |
| 7 | RIPPLE & NOISE (Max) | 200mVp-p | I/P: 230VAC O/P: FULL LOAD Ta: 25°C | 108mVp-p |

high frequency :



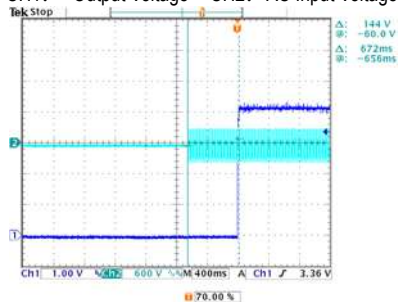
low frequency :



| | | | | |
|---|------------------|----------------------------------|---|-----------------------------------|
| 8 | SET UP TIME(Max) | 230VAC/ 2000ms 115VAC/ 3000ms | I/P: 230 VAC I/P: 115 VAC O/P: FULL LOAD/80% LOAD Ta: 25°C | 230VAC/ 672 ms 115VAC/ 1448 ms |
|---|------------------|----------------------------------|---|-----------------------------------|

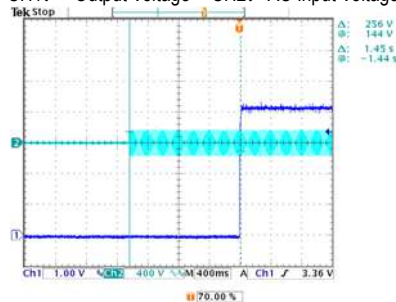
INPUT=230VAC/50HZ @ FULL LOAD

CH1: Output Voltage CH2: AC Input Voltage



INPUT=115VAC/60HZ @ 80% LOAD

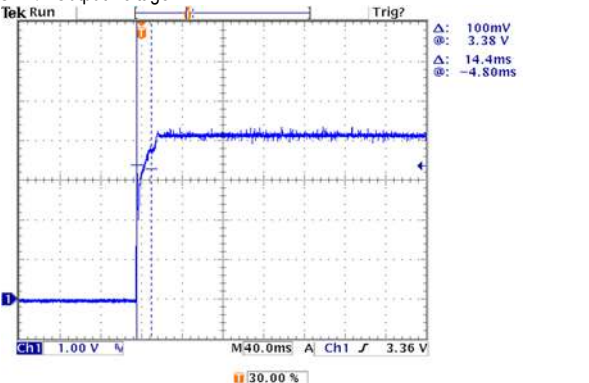
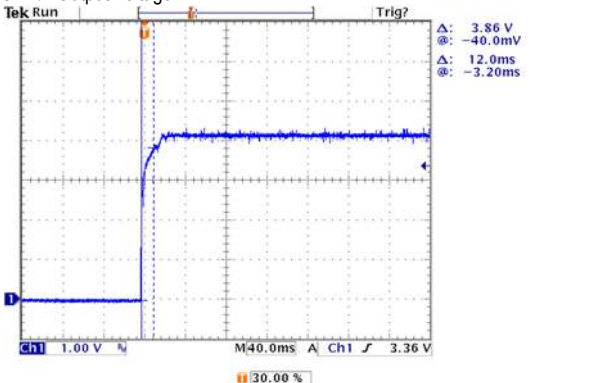
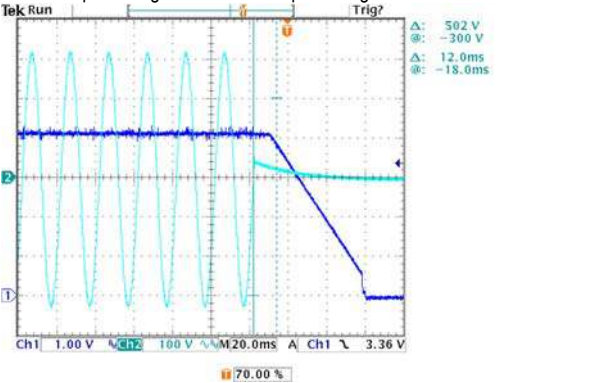
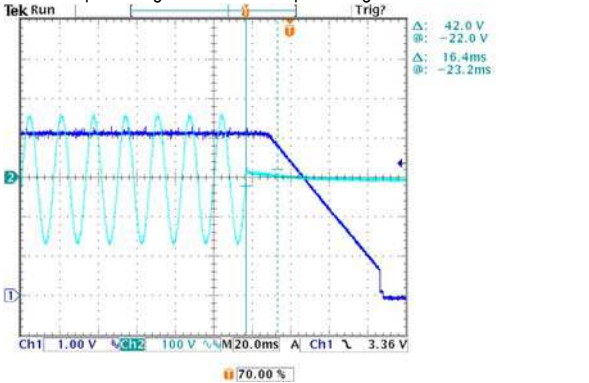
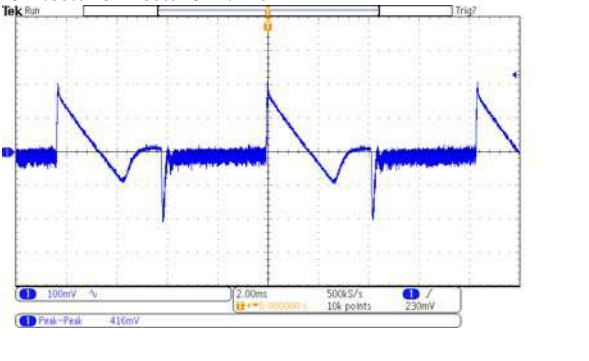
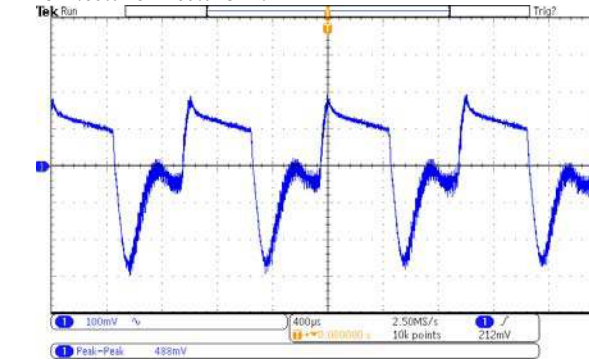
CH1: Output Voltage CH2: AC Input Voltage





200W Single Output with PFC Function

UHP-200A series

| | | | |
|---|--|---|--|
| <p>9</p> <p>RISE TIME (Max)</p> | <p>230VAC/ 200ms 115VAC/ 200ms</p> | <p>I/P: 230 VAC I/P: 115 VAC O/P: FULL LOAD/80% LOAD Ta: 25°C</p> | <p>230VAC/ 14.4 ms 115VAC/ 12.0 ms</p> |
| <p>INPUT=230VAC/50HZ @ FULL LOAD</p> <p>CH1: Output Voltage</p>  <p>INPUT=115VAC/60HZ @ 80% LOAD</p> <p>CH1: Output Voltage</p>  | | | |
| <p>10</p> <p>HOLD UP TIME(Typ)</p> | <p>230VAC/ 10ms 115VAC/ 10ms</p> | <p>I/P: 230 VAC I/P: 115 VAC O/P: FULL LOAD/80% LOAD Ta: 25°C</p> | <p>230VAC/ 12 ms 115VAC/ 16.4ms</p> |
| <p>INPUT=230VAC/50HZ @ FULL LOAD</p> <p>CH1: Output Voltage CH2: AC Input Voltage</p>  <p>INPUT=115VAC/60HZ @ 80% LOAD</p> <p>CH1: Output Voltage CH2: AC Input Voltage</p>  | | | |
| <p>11</p> <p>DYNAMIC LOAD</p> | <p>V1: 840 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>(1) 416mVp-p (2) 488mVp-p</p> |
| <p>FULL /50% LOAD 50%DUTY / 120HZ</p>  <p>FULL /50% LOAD 50%DUTY / 1KHZ</p>  | | | |



INPUT FUNCTION TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT |
|---|-----------------------|------------------------------|---|--|
| 1 | INPUT VOLTAGE RANGE | 100VAC~264VAC | I/P: TESTING O/P: FULL LOAD Ta: 25°C | 97 V~ 264V |
| | | | I/P: LOW-LINE-3V=97 V HIGH-LINE+15%=300 V O/P: FULL/NO LOAD 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: 100 VAC ~264 VAC O/P: FULL~NO LOAD Ta: 25°C | TEST: OK |
| 3 | AC CURRENT | 3.0A/115VAC 2.0A/230VAC | I/P: 115 VAC I/P: 230 VAC O/P: 80% LOAD/FULL LOAD Ta: 25°C | I = 1.69 A/ 115VAC I = 0.84 A/ 230VAC |
| 4 | LEAKAGE CURRENT | < 1.0mA / 240VAC | I/P: 264 VAC O/P: NO LOAD Ta: 25°C | L-FG: 0.234 mA N-FG: 0.343 mA |
| 5 | INRUSH CURRENT(Typ) | 230V/85A COLD START | I/P: 230 VAC O/P: FULL LOAD Ta: 25°C | I = 73.8 A/ 230VAC |
| INPUT=230VAC/50HZ @ FULL LOAD CH2: Input current CH1: AC Input Voltage | | | | |
| 6 | EFFICIENCY(Typ) | 88% | I/P: 230VAC O/P: FULL LOAD Ta: 25°C | 89.49 % |
| 7 | POWER FACTOR | 0.97/ 115VAC 0.95/ 230VAC | I/P: 115 VAC I/P: 230 VAC O/P: 80% LOAD/FULL LOAD Ta: 25°C | PF= 0.996 / 115VAC PF= 0.981 / 230VAC |



PROTECTION FUNCTION TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT |
|----|-----------------------------|---|---|--|
| 1 | OVER CURRENT PROTECTION | 110~140% | I/P: 180VAC I/P: 230VAC I/P: 264VAC O/P: TESTING Ta: 25°C | 131 %/ 180VAC 131 %/ 230VAC 131 %/ 264VAC Hiccup mode, recovers automatically after fault condition is removed |
| 2 | OVER VOLTAGE PROTECTION | 4.6V~6V | I/P: 100VAC I/P: 230VAC I/P: 264VAC O/P: NO LOAD Ta: 25°C | 5.45 V/ 100VAC 5.28 V/ 230VAC 5.25 V/ 264VAC Hiccup mode, recovers automatically after fault condition is removed |
| 3 | OVER TEMPERATURE PROTECTION | NO DAMAGE | I/P: 180VAC I/P: 230VAC I/P: 264VAC O/P: FULL LOAD | O.T.P. Active Shut down o/p voltage, recovers automatically after fault condition is removed |
| 4 | SHORT PROTECTION | SHORT EVERY OUTPUT 1 HOUR NO DAMAGE | I/P: 100VAC I/P: 264VAC O/P: FULL LOAD Ta: 25°C | NO DAMAGE Hiccup mode, recovers automatically after fault condition is removed |

COMPONENT STRESS TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT |
|----|----------------------|------------------------|--|--|
| 1 | PWM Power Transistor | Q2 Rated 500V/7A | I/P: High-Line +3V =267V O/P: (1) FULL LOAD Turn on (2) Output Short (3) FULL LOAD continue Ta: 25°C | (1) 420 V (2) 410 V (3) 408 V |
| 2 | O/P Diode (MOSFET) | Q100 Rated 30V/100A | I/P: High-Line +3V =267V O/P: (1) FULL LOAD Turn on (2) Output Short (3) FULL LOAD continue Ta: 25°C | (1) 14.7 V (2) 6.56 V (3) 13.2 V |
| 3 | Input Capacitor | C5 Rated 100u/ 450V | I/P: High-Line +3V =267 V O/P: (1) FULL LOAD input on/off (2) NO LOAD input on /Off (3) FULL LOAD /NO LOAD Change Ta: 25°C | (1) 390 V (2) 380 V (3) 386 V |
| 4 | Control IC | U2 Rated 25V (MAX.) | I/P: High-Line +3V =267 V O/P: ((1) FULL LOAD (2) Output Short (3) O.L.P (4) O.V.P (5) Low Line No Load Vo(min) Ta: 25°C | (1) 15.6 V (2) 15.7 V (3) 15.7 V (4) 15.5 V (5) 14.5 V |
| 5 | PFC Power Transistor | Q 1 Rated 710V/15A | I/P: High-Line +3V =267V O/P: (1) FULL LOAD Turn on (2) Output Short (3) FULL LOAD continue Ta: 25°C | (1) 416 V (2) 392 V (3) 410 V |

SAFETY TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT |
|----|----------------------|---|---|--|
| 1 | WITHSTAND VOLTAGE | I/P-O/P: 3.0 KVAC/min I/P-FG: 2.0 KVAC/min O/P-FG: 0.5 KVAC/min | I/P-O/P: 3.6 KVAC/min I/P-FG: 2.4 KVAC/min O/P-FG: 0.6 KVAC/min Ta: 25°C | I/P-O/P: 2.345 mA I/P-FG: 2.435 mA O/P-FG: 2.254 mA 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/70%RH | I/P-O/P: >9999 MΩ I/P-FG: >9999 MΩ O/P-FG: >9999 MΩ |
| 3 | GROUNDING CONTINUITY | FG(PE) TO CHASSIS OR TRACE < 100 mΩ | 40A / 2min Ta: 25°C | 9 mΩ |

E.M.C TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT |
|----|---|---|--|-------------------------------|
| 1 | HARMONIC | EN61000-3-2 CLASS B | I/P: 230VAC/50HZ O/P: FULL/50% LOAD Ta: 25°C | PASS |
| 2 | CONDUCTION | EN55022 | I/P: 230 VAC (50HZ) O/P: FULL LOAD Ta: 25°C | PASS Test by certified Lab |
| 3 | RADIATION | EN55022 | I/P: 230 VAC (50HZ) O/P: FULL LOAD Ta: 25°C | PASS Test by certified Lab |
| 4 | E.S.D | EN61000-4-2 LIGHT INDUSTRY AIR: 8KV Contact: 4KV | I/P: 230 VAC/50HZ O/P: FULL LOAD Ta: 25°C | CRITERIA A |
| 5 | E.F.T | EN61000-4-4 LIGHT INDUSTRY INPUT: 1KV | I/P: 230VAC/50HZ O/P: FULL LOAD Ta: 25°C | CRITERIA A |
| 6 | SURGE | EN61000-4-5 INDUSTRY L-N: 2KV L,N-PE: 4KV | I/P: 230VAC/50HZ O/P: FULL LOAD Ta: 25°C | CRITERIA A |
| 7 | Test by certified Lab & Test Report Prepare | | | |

RELIABILITY TEST

ENVIRONMENT TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----|---|---|--|---|----|----------|-------------------------|-------------------------|---|-----|--------|--------|---|------|--------|--------|---|------|--------|--------|---|-----|--------|--------|---|----|--------|--------|---|----|--------|---------|---|-----|--------|--------|---|----|--------|--------|---|----|--------|--------|----|----|--------|--------|----|----|--------|--------|----|----|--------|---------|----|----|--------|--------|----|----|--------|--------|----|-----|--------|--------|----|------|--------|--------|----|------|--------|--------|----|------|--------|--------|----|------|--------|--------|----|------|--------|--------|----|------|--------|--------|----|------|--------|--------|----|------|--------|--------|----|------|--------|--------|
| 1 | TEMPERATURE RISE TEST | MODEL: UHP-200A-4.2 1. ROOM AMBIENT BURN-IN: 2 HRS I/P: 230VAC O/P: FULL LOAD Ta=35.0 °C 2. HIGH AMBIENT BURN-IN: 2 HRS I/P: 230VAC O/P: FULL LOAD Ta=50.6 °C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | <table border="1"> <thead> <tr> <th>NO</th> <th>Position</th> <th>ROOM AMBIENT Ta=35.0 °C</th> <th>HIGH AMBIENT Ta=50.6 °C</th> </tr> </thead> <tbody> <tr><td>1</td><td>LF1</td><td>67.4°C</td><td>83.2°C</td></tr> <tr><td>2</td><td>RTH1</td><td>73.9°C</td><td>88.4°C</td></tr> <tr><td>3</td><td>ZNR1</td><td>58.8°C</td><td>74.0°C</td></tr> <tr><td>4</td><td>BD1</td><td>71.6°C</td><td>88.6°C</td></tr> <tr><td>5</td><td>C6</td><td>76.3°C</td><td>89.1°C</td></tr> <tr><td>6</td><td>L1</td><td>89.0°C</td><td>104.8°C</td></tr> <tr><td>7</td><td>C10</td><td>69.5°C</td><td>86.2°C</td></tr> <tr><td>8</td><td>C5</td><td>78.7°C</td><td>93.5°C</td></tr> <tr><td>9</td><td>C7</td><td>76.5°C</td><td>90.8°C</td></tr> <tr><td>10</td><td>U1</td><td>64.6°C</td><td>81.4°C</td></tr> <tr><td>11</td><td>U2</td><td>80.0°C</td><td>96.0°C</td></tr> <tr><td>12</td><td>Q2</td><td>90.0°C</td><td>106.8°C</td></tr> <tr><td>13</td><td>D1</td><td>80.5°C</td><td>97.7°C</td></tr> <tr><td>14</td><td>T1</td><td>83.1°C</td><td>99.0°C</td></tr> <tr><td>15</td><td>C40</td><td>66.8°C</td><td>80.5°C</td></tr> <tr><td>16</td><td>U101</td><td>64.5°C</td><td>80.1°C</td></tr> <tr><td>17</td><td>Q103</td><td>71.3°C</td><td>86.8°C</td></tr> <tr><td>18</td><td>Q102</td><td>77.4°C</td><td>93.9°C</td></tr> <tr><td>19</td><td>Q100</td><td>85.6°C</td><td>98.9°C</td></tr> <tr><td>20</td><td>Q101</td><td>83.8°C</td><td>97.9°C</td></tr> <tr><td>21</td><td>C102</td><td>79.9°C</td><td>95.9°C</td></tr> <tr><td>22</td><td>C104</td><td>80.8°C</td><td>96.0°C</td></tr> <tr><td>23</td><td>C105</td><td>79.5°C</td><td>95.7°C</td></tr> <tr><td>24</td><td>TSW1</td><td>64.5°C</td><td>80.5°C</td></tr> </tbody> </table> | NO | Position | ROOM AMBIENT Ta=35.0 °C | HIGH AMBIENT Ta=50.6 °C | 1 | LF1 | 67.4°C | 83.2°C | 2 | RTH1 | 73.9°C | 88.4°C | 3 | ZNR1 | 58.8°C | 74.0°C | 4 | BD1 | 71.6°C | 88.6°C | 5 | C6 | 76.3°C | 89.1°C | 6 | L1 | 89.0°C | 104.8°C | 7 | C10 | 69.5°C | 86.2°C | 8 | C5 | 78.7°C | 93.5°C | 9 | C7 | 76.5°C | 90.8°C | 10 | U1 | 64.6°C | 81.4°C | 11 | U2 | 80.0°C | 96.0°C | 12 | Q2 | 90.0°C | 106.8°C | 13 | D1 | 80.5°C | 97.7°C | 14 | T1 | 83.1°C | 99.0°C | 15 | C40 | 66.8°C | 80.5°C | 16 | U101 | 64.5°C | 80.1°C | 17 | Q103 | 71.3°C | 86.8°C | 18 | Q102 | 77.4°C | 93.9°C | 19 | Q100 | 85.6°C | 98.9°C | 20 | Q101 | 83.8°C | 97.9°C | 21 | C102 | 79.9°C | 95.9°C | 22 | C104 | 80.8°C | 96.0°C | 23 | C105 | 79.5°C | 95.7°C | 24 | TSW1 | 64.5°C | 80.5°C |
| NO | Position | ROOM AMBIENT Ta=35.0 °C | HIGH AMBIENT Ta=50.6 °C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | LF1 | 67.4°C | 83.2°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | RTH1 | 73.9°C | 88.4°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | ZNR1 | 58.8°C | 74.0°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | BD1 | 71.6°C | 88.6°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | C6 | 76.3°C | 89.1°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | L1 | 89.0°C | 104.8°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | C10 | 69.5°C | 86.2°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | C5 | 78.7°C | 93.5°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | C7 | 76.5°C | 90.8°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | U1 | 64.6°C | 81.4°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | U2 | 80.0°C | 96.0°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | Q2 | 90.0°C | 106.8°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | D1 | 80.5°C | 97.7°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | T1 | 83.1°C | 99.0°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | C40 | 66.8°C | 80.5°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | U101 | 64.5°C | 80.1°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | Q103 | 71.3°C | 86.8°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | Q102 | 77.4°C | 93.9°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | Q100 | 85.6°C | 98.9°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | Q101 | 83.8°C | 97.9°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | C102 | 79.9°C | 95.9°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | C104 | 80.8°C | 96.0°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23 | C105 | 79.5°C | 95.7°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | TSW1 | 64.5°C | 80.5°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | LOW TEMPERATURE TURN ON TEST | TURN ON AFTER 2 HOUR | I/P: 264VAC/100VAC O/P: FULL LOAD/70% LOAD Ta= -35°C | TEST: OK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | HIGH HUMIDITY HIGH TEMPERATURE HIGH VOLTAGE TURN ON TEST | AFTER 12 HOURS IN CHAMBER ON CONTROL 50°C NO DAMAGE | I/P: 264VAC O/P: FULL LOAD Ta=50°C HUMIDITY= 95%R.H | TEST: OK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | TEMPERATURE COEFFICIENT | ±0.03 %/°C (0~50°C) | I/P: 230 VAC O/P: FULL LOAD | ±0.02 %/°C (0~50°C) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



200W Single Output with PFC Function

UHP-200A series

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|---|--------------------------|---|--|
| 5 | STORAGE TEMPERATURE TEST | 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: 5 CYCLE 5. Input/Output condition: STATIC | TEST: OK |
| 6 | THERMAL SHOCK TEST | 1. Thermal shock Temperature: -35°C~+55°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: 230VAC/FULL LOAD AC ON/OFF TEST AC on 3 sec/AC off 1 sec TEST | TEST: OK |
| 7 | VIBRATION TEST | 1 Carton & 1 Set (1) Waveform: Sine Wave (2) Frequency: 10~500Hz (3) Sweep Time: 10min/sweep cycle (4) Acceleration: 5G (5) Test Time: 60min in each axes (X.Y.Z) (6) Ta: 25°C | TEST: OK |
| 8 | CAPACITOR LIFE CYCLE | UHP-200A-4.2: SUPPOSE C105 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) 276077 HRS (2) 28578 HRS (3) 229631 HRS (4) 1137706 HRS |
| 9 | MTBF | Conducted by Parts Stress Analysis Prediction 204K hrs min. MIL-HDBK-217F (25°C) | |

| TEST RESULT | TESTER | REVIEW | APPROVAL |
|-------------|----------------|--------|----------|
| PASS | EDISION/ZHUOKB | SKY | LIUWY |