



Test Report: IRC3

Power Inverter Remote Control

■ DESIGN VERIFY TEST

Output Function Test

Function Test

Component Stress Test

■ RELIABILITY TEST

ENVIRONMENT TEST

■ DESIGN VERIFY TEST

OUTPUT FUNCTION TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT | VERDICT |
|----|----------------|---|--|---|---------|
| 1 | DIGITAL METER | DISPLAY THE BATTERY LEVEL | INVETTER : I/P:HI→LOW LINE O/P:NO LOAD Ta:25°C | OK | P |
| | | OUTPUT LOAD LEVEL | INVETTER : I/P: DC SOURCE O/P: 0%→100% LOAD Ta:25°C | OK | P |
| 2 | CONTROL OUTPUT | REMOTE ON/OFF | INVETTER : I/P: DC SOURCE O/P: 100% LOAD Ta:25°C | OK | P |
| 3 | LED INDICATOR | REMOTE TURN ON:LED GREEN REMOTE TURN OFF: LED ORANGE ABNORMAL:LED RED SAVING MODE : LED ORANGE FLASH | INVETTER : I/P: DC SOURCE O/P: TESTING Ta:25°C | REMOTE TURN ON:LED GREEN REMOTE TURN OFF: LED ORANGE ABNORMAL:LED RED SAVING MODE : LED ORANGE FLASH | P |

FUNCTION TEST


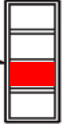

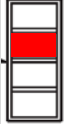


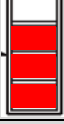


| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT | VERDICT |
|----|----------------------|--|---|--------|---------|
| 1 | POWER SAVING CONTROL | Power saving enable / disable activation | INVETTER : I/P: DC SOURCE O/P: TESTING Ta:25°C | OK | P |
| 2 | SUITABLE SERIES | TN-1500 TN-3000 | | | P |

COMPONENT STRESS TEST


| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT | VERDICT |
|----|-------------------|--|--|---|---------|
| 1 | REGULATOR Voltage | RG1 Rated L7805CV : Vin=7V-25V Vout=4.8V-5.2V V | INVETTER : I/P: TESTING O/P: (1)FULL LOAD (2)NO LOAD (3)FULL LOAD (4)NO LOAD Ta:25°C | (1) Vin : 11.1 V (2) Vin : 11.18 V (3) Vout: 5.01 V (4) Vout :5.01 V | P |

LED INDICATOR


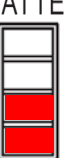


1. Abnormal status indicator (flash)

| | LED LOAD | status | LED LOAD | status | LED LOAD | status |
|----------------|--|-------------------------------------|--|--|--|--------------------------------|
| TEST CONDITION |  | Output over load 105% |  | Output over load 115% |  | Output over load 150% |
| RESULT | OK | | OK | | OK | |
| TEST CONDITION |  | Over temperature |  | AC output fail |  | AC output fail (short circuit) |
| RESULT | OK | | OK | | OK | |
| TEST CONDITION |  | Battery input under or over voltage |  | Battery bad or Battery notch (For TN-3000) |  | Fan lock (For TN-3000) |
| RESULT | OK | | OK | | OK | |

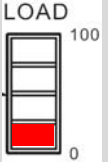
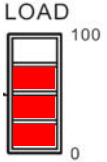
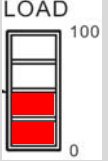
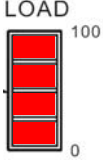
2. Remote off status indicator

| | LOAD LED | status |
|----------------|---|---------------------|
| TEST CONDITION |  FLASH | Remote off shutdown |
| RESULT | OK | |



3. Battery voltage level

| | LOAD LED | status | LOAD LED | status | LOAD LED | status | LOAD LED | status |
|----------------|--|--------|--|-------------|--|---------|--|----------|
| TEST CONDITION |  100 0 | <25% |  100 0 | 25%~ 50% |  100 0 | 50%~75% |  100 0 | 75%~100% |
| RESULT | OK | | OK | | OK | | OK | |



4. LOAD percentage

| Load light test | | | | | |
|--|----------------------------|--------|---|-------------------------|--------|
| Load LED | Loading range | RESULT | Load LED | Loading range | RESULT |
|  | Min. load ~ 25%±5% LOAD | OK |  | 50%±5% ~ 75%±5% LOAD | OK |
|  | 25%±5% ~ 50%±5% LOAD | OK |  | 75%±5% ~ Max. load | OK |

5. Solar charger test :

| status | Panel indication | RESULT |
|--------|---|--------|
| ON | SOLAR CHARGE  | OK |
| OFF | SOLAR CHARGE  | OK |

6.Ac charger test :

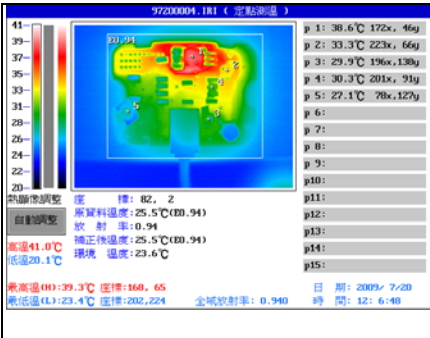
| status | Panel indication | RESULT |
|--------|---|--------|
| ON |  | OK |
| OFF |  | OK |

7. Saving mode setting

| TEST CONDITION | Indicator :GREEN | Saving Mode Enable | Indicator :RED | Saving Mode Disenable |
|----------------|------------------|--------------------|----------------|-----------------------|
| RESULT | OK | | OK | |

RELIABILITY TEST

ENVIRONMENT TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT | VERDICT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----|---|--|--|---|----------|----------|------|---------------------------|-----------------------------|---------------|--------|--------------------|--------|------------------|--------|----|--------------|------------------|--------|---|------|---------------|--------|--------|----|------------------|---------------|--------|--------|---|------|-----------|--------|--------|---|
| 1. | THERMO TRACER TEST (ROOM AMBIENT) | MODEL:IRC3  | <table border="1"> <thead> <tr> <th></th> <th>Position</th> <th>P/N</th> <th>Temp</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>RG1</td> <td>L7805CV 1A/5V</td> <td>38.6°C</td> </tr> <tr> <td>2</td> <td>C5</td> <td>220u/16V 8Kh ZLH</td> <td>33.3°C</td> </tr> <tr> <td>3</td> <td>C4</td> <td>220u/16V 8Kh ZLH</td> <td>29.9°C</td> </tr> <tr> <td>4</td> <td>LED3</td> <td>103SRDT</td> <td>30.3°C</td> </tr> <tr> <td>5</td> <td>C1</td> <td>10u/50V 10KH YXM</td> <td>27.1°C</td> </tr> <tr> <td>6</td> <td>TA</td> <td></td> <td>26°C</td> </tr> </tbody> </table> | | Position | P/N | Temp | 1 | RG1 | L7805CV 1A/5V | 38.6°C | 2 | C5 | 220u/16V 8Kh ZLH | 33.3°C | 3 | C4 | 220u/16V 8Kh ZLH | 29.9°C | 4 | LED3 | 103SRDT | 30.3°C | 5 | C1 | 10u/50V 10KH YXM | 27.1°C | 6 | TA | | 26°C | | P | | |
| | Position | P/N | Temp | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | RG1 | L7805CV 1A/5V | 38.6°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | C5 | 220u/16V 8Kh ZLH | 33.3°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | C4 | 220u/16V 8Kh ZLH | 29.9°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | LED3 | 103SRDT | 30.3°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | C1 | 10u/50V 10KH YXM | 27.1°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | TA | | 26°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | TEMPERATURE RISE TEST | MODEL : IRC3 1. ROOM AMBIENT BURN-IN : 2 HRS I/P : TN-1500-224B 24VDC/FULL LOAD Ta= 25 °C 2. HIGH AMBIENT BURN-IN : 2 HRS I/P : TN-1500-224B 24VDC/FULL LOAD Ta= 69.5 °C | | <table border="1"> <thead> <tr> <th>NO</th> <th>Position</th> <th>P/N</th> <th>ROOM AMBIENT Ta= 25 °C</th> <th>HIGH AMBIENT Ta= 69.5 °C</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>RG1</td> <td>RG L7805CV 1.0A/5V</td> <td>34.9°C</td> <td>80.9°C</td> </tr> <tr> <td>2</td> <td>C1</td> <td>50V/10uF YXM</td> <td>25.5°C</td> <td>70.4°C</td> </tr> <tr> <td>3</td> <td>C4</td> <td>16V/220uF ZLH</td> <td>27.1°C</td> <td>72.2°C</td> </tr> <tr> <td>4</td> <td>C5</td> <td>16V/220uF ZLH</td> <td>29.5°C</td> <td>75.9°C</td> </tr> <tr> <td>5</td> <td>U1</td> <td>PIC16F723</td> <td>25.1°C</td> <td>69.5°C</td> </tr> </tbody> </table> | NO | Position | P/N | ROOM AMBIENT Ta= 25 °C | HIGH AMBIENT Ta= 69.5 °C | 1 | RG1 | RG L7805CV 1.0A/5V | 34.9°C | 80.9°C | 2 | C1 | 50V/10uF YXM | 25.5°C | 70.4°C | 3 | C4 | 16V/220uF ZLH | 27.1°C | 72.2°C | 4 | C5 | 16V/220uF ZLH | 29.5°C | 75.9°C | 5 | U1 | PIC16F723 | 25.1°C | 69.5°C | P |
| NO | Position | P/N | ROOM AMBIENT Ta= 25 °C | HIGH AMBIENT Ta= 69.5 °C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | RG1 | RG L7805CV 1.0A/5V | 34.9°C | 80.9°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | C1 | 50V/10uF YXM | 25.5°C | 70.4°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | C4 | 16V/220uF ZLH | 27.1°C | 72.2°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | C5 | 16V/220uF ZLH | 29.5°C | 75.9°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | U1 | PIC16F723 | 25.1°C | 69.5°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | LOW TEMPERATURE TURN ON TEST | TURN ON AFTER 2 HOUR | I/P : TN-1500-224B 24VDC/FULL LOAD Ta= -20 °C | TEST : OK | P | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | HIGH HUMIDITY HIGH TEMPERATURE HIGH VOLTAGE TURN ON TEST | AFTER 12 HOURS IN CHAMBER ON CONTROL 50 °C NO DAMAGE | I/P : TN-1500-224B 24VDC/FULL LOAD Ta= 50°C HUMIDITY= 95 %R.H | TEST : OK | P | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | | OK | P | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | THERMAL SHOCK TEST | 1. Thermal shock Temperature : -25°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 : I/P : TN-1500-224B 24VDC/FULL LOAD | | OK | P | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | | |
|---|----------------------|--|---------------------------------|---|
| 7 | VIBRATION TEST | 1 Carton & 1 Set (1) Waveform : Sine Wave (2) Frequency : 10-500Hz (3) Sweep Time : 12min/sweep cycle (4) Acceleration : 2G (5) Test Time : 60min in each axis (X.Y.Z) (6) Ta : 25°C | TEST : OK | P |
| 8 | CAPACITOR LIFE CYCLE | SUPPOSE C5 IS THE MOST CRITICAL COMPONENT (1) I/P : TN-1500-224B 24VDC/FULL LOAD Ta= 25°C LIFE TIME (2) I/P : TN-1500-224B 24VDC/FULL LOAD Ta= 50°C LIFE TIME | (1) 1573760HRS (2) 278204HRS | P |

| DATE | SAMPLE | TEST RESULT | TESTER | APPROVAL |
|------------|-----------|-------------|------------|---------------|
| 2009/12/29 | RD SAMPLE | PASS | SANFORD SU | VINCENT TSENG |
| 2010/3/4 | W1002B51 | PASS | SANFORD SU | VINCENT TSENG |

2009/08/04 A50-F023