



Test Report : DKM10C-15

10W 1"x1" Package DC-DC Regulated Converter

■ DESIGN VERIFY TEST

Output Function Test

Input Function Test

Protection Function Test

Control Function Test

■ SAFETY TEST

Safety Test

■ RELIABILITY TEST

Environment Test

DESIGN VERIFY TEST
OUTPUT FUNCTION TEST

| NO | TEST ITEM | SPECICATION | TEST CONDITION | RESULT | VERDICT |
|----|------------------|-----------------------|---|---|---------|
| 1 | VOLTAGE ACCURACY | -1.5 % ~ +1.5 % (Max) | I/P:48VDC O/P:FULL LOAD Ta:25°C | V1 -0.15 % V2 -0.13 % | P |
| 2 | RIPPLE & NOISE | 50 mVp-p (Max) | I/P:48VDC O/P:FULL LOAD Ta:25°C | V1 15.6 mV V2 16.0 mV | P |
| 3 | LINE REGULATION | -0.2% ~ +0.2% (Max) | I/P:36VDC~75VDC O/P:FULL LOAD Ta:25°C | V1 -0.002% ~ +0.001% V2 -0.002% ~ +0.001% | P |
| 4 | LOAD REGULATION | -1% ~ +1% (Max) | I/P:48VDC O/P:NO LOAD-FULL LOAD Ta:25°C | V1 -0.001% ~ +0.001% V2 -0.012 % ~ +0.012% | P |

INPUT FUNCTION TEST

| NO | TEST ITEM | SPECICATION | TEST CONDITION | RESULT | VERDICT |
|----|------------|---|--|---------------------------------------|---------|
| 1 | EFFICIENCY | 89 % (Typ) | I/P:48VDC O/P:FULL LOAD Ta:25°C | 89.3 % | P |
| 2 | DC CURRENT | 239 mA / FULL LOAD (Max) 15 mA / NO LOAD (Max) | I/P:48VDC O/P:NO / FULL LOAD Ta:25°C | 233 mA / FULL LOAD 10 mA / NO LOAD | P |

PROTECTION FUNCTION TEST

| NO | TEST ITEM | SPECICATION | TEST CONDITION | RESULT | VERDICT |
|----|-----------------------------|--|---|---|---------|
| 1 | OVER LOAD PROTECTION | 110%~140% LOAD (Typ) | I/P:48VDC O/P:TESTING Ta:25°C | 127% | P |
| 2 | INPUT UNDER VOLTAGE LOCKOUT | Power Up 34V (Typ) Power Down 32V (Typ) | I/P:TESTING O/P: 10% LOAD Ta:25°C | Vin turn off : 33.0V Vin turn on : 34.2V | P |
| 3 | SHORT PROTECTION | CONTINUOUS | I/P:75VDC O/P:FULL LOAD Ta:25°C | NO DAMAGE OK | P |

CONTROL FUNCTION TEST

| NO | TEST ITEM | SPECICATION | TEST CONDITION | RESULT | VERDICT |
|----|----------------|--|--------------------------------------|--------|---------|
| 1 | REMOTE CONTROL | Power on : R.C >5.5Vdc~75Vdc or open Power off : R.C <1.2Vdc or short | I/P:48VDC O/P:10% LOAD Ta:25°C | OK | P |

SAFETY TEST

SAFETY TEST

| NO | TEST ITEM | SPECICATION | TEST CONDITION | RESULT | VERDICT |
|----|----------------------|----------------------|---------------------------------|-------------------------------|---------|
| 1 | WITHSTAND VOLTAGE | I/P-O/P:1500 VDC/min | I/P-O/P:1500 VDC/min Ta:25°C | I/P-O/P: 0.002mA NO DAMAGE | P |
| 2 | ISOLATION RESISTANCE | I/P-O/P:500VDC>100MΩ | I/P-O/P:500 VDC Ta:25°C | I/P-O/P>100MΩ NO DAMAGE | P |

RELIABILITY TEST

ENVIRONMENT TEST

| NO | TEST ITEM | SPECICATION | TEST CONDITION | RESULT | VERDICT | | | | | | | | |
|----|------------------------------|--|---|-----------|----------|---|---|---|------|--------|--------|--|---|
| 1 | TEMPERATURE RISE TEST | 1. ROOM AMBIENT BURN-IN : 12HRS I/P:48VDC O/P:FULL LOAD Ta=25°C 2. HIGH AMBIENT BURN-IN : 12HRS I/P:48VDC O/P:FULL LOAD Ta=71°C | <table border="1" data-bbox="651 1146 1147 1243"> <thead> <tr> <th>NO</th> <th>Position</th> <th>1</th> <th>2</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>CASE</td> <td>33.0°C</td> <td>77.8°C</td> </tr> </tbody> </table> | NO | Position | 1 | 2 | 1 | CASE | 33.0°C | 77.8°C | | P |
| NO | Position | 1 | 2 | | | | | | | | | | |
| 1 | CASE | 33.0°C | 77.8°C | | | | | | | | | | |
| 2 | LOW TEMPERATURE TURN ON TEST | TURN ON AFTER 2 HOURS | I/P:48VDC O/P: FULL LOAD Ta= -40°C | TEST : OK | P | | | | | | | | |

OTHER

| NO | TEST ITEM | SPECICATION | TEST CONDITION | RESULT | VERDICT |
|----|-----------|--|----------------|--------|---------|
| 1 | MTBF | MIL-HDBK-217F,GB,25°C TOTAL FAILURE RATE : 0.730 M.T.B.F : 1,369,838 HRS | | | P |

| TEST RESULT | TESTER | APPROVAL |
|-------------|------------|--------------|
| PASS | ALROY WANG | VINCENT ZENG |