



# TEST REPORT: HVG-240-36

## 240W Constant Voltage + Constant Current LED Driver

### ■ 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

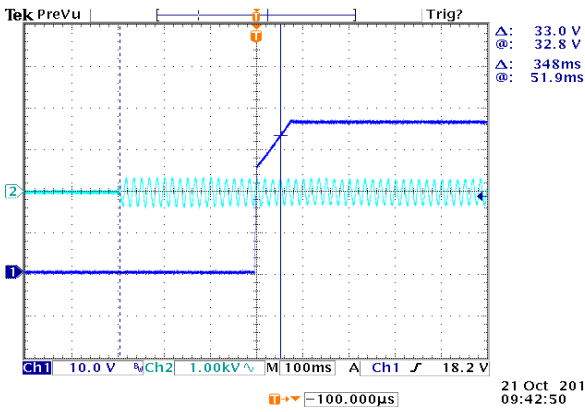
- ENVIRONMENT TEST

DESIGN VERIFY TEST  
OUTPUT FUNCTION TEST

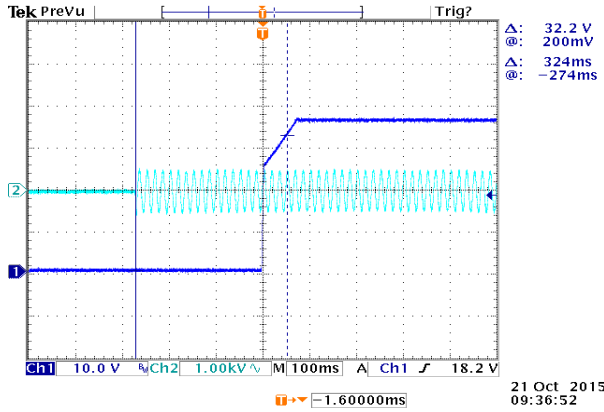
NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	OUTPUT VOLTAGE ADJUST RANGE	CH1: 33.50V ~ 38.50V	I/P : 347VAC O/P: MIN LOAD TA : 25°C	CH1: 31.98V ~ 39.95V
2	CONSTANT CURRENT REGION	CH1: 18V ~ 36V	I/P : 347VAC O/P: FULL LOAD TA : 25°C	CH1: 0.085V ~ 35.00V
3	CURRENT ADJ. RANGE	CH1: 3.3A ~ 6.7A	I/P : 347VAC I/P : 230VAC O/P: CV MIN& CV MAX-1V TA : 25°C	2.32A ~ 7.08A 347VAC-CV MAX-1V 2.28A ~ 7.04A 347VAC-CV MIN 2.35A ~ 7.07A 230VAC-CV MAX-1V 2.28A ~ 7.035A 347VAC-CV MIN
4	OUTPUT VOLTAGE TOLERANCE (Max)	V1 : 1.0% ~ -1.0%	I/P : 200VAC / 528VAC O/P: FULL / MINLOAD TA= 25°C	V1: 0.07% ~ -0.07%
5	LINE REGULATION (MAX.)	V1 : 0.5% ~ -0.5%	I/P : 200VAC / 528VAC O/P: FULL LOAD TA : 25°C	V1: 0.01% ~ -0.01%
6	LOAD REGULATION (MAX.)	V1 : 0.5% ~ -0.5%	I/P : 347VAC O/P: MIN LOAD ~ FULL LOAD TA : 25°C	V1: 0.03% ~ -0.11%
7	OVER/UNDERSHOOT TEST	< ±5%	I/P : 347VAC O/P: FULL LOAD TA : 25°C	TEST < ±5%
	RIPPLE & NOISE(Max)	V1 : 250 mVp-p	I/P : 347VAC O/P: FULL LOAD TA : 25°C	V1 : 38.1 mVp-p
8	<p>low frequency :</p>			
	SET UP TIME (MAX.)	347VAC : 500ms 230VAC : 500ms 480VAC : 500ms	I/P : 347VAC I/P : 230VAC I/P : 480VAC O/P: FULL LOAD TA : 25°C	347VAC: 324ms 230VAC 348ms 480VAC 326ms

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INPUT=230VAC/50HZ @ FULL LOAD  
CH1 : Output Voltage CH2 : AC Input Voltage



INPUT=347VAC/50HZ @ FULL LOAD  
CH1 : Output Voltage CH2 : AC Input Voltage



RISE TIME (MAX.)

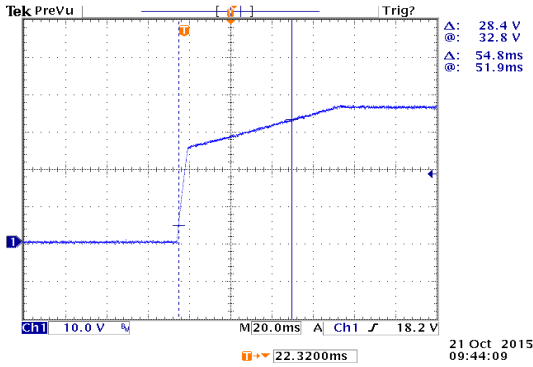
347VAC : 150ms  
230VAC : 150ms  
480VAC : 150ms

I/P : 347VAC  
I/P : 230VAC  
I/P : 480VAC  
O/P: FULL LOAD  
TA : 25°C

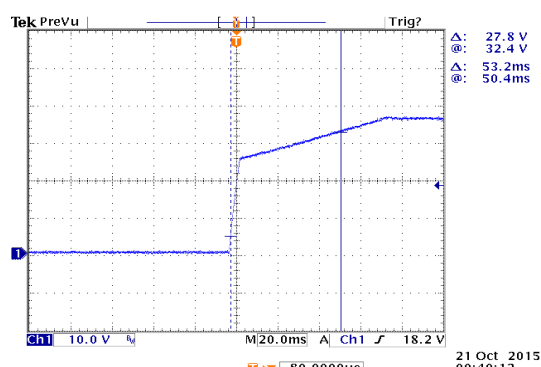
347VAC: 53.2ms  
230VAC: 54.8ms  
480VAC: 53ms

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INPUT=230VAC/50HZ @ FULL LOAD  
CH1 : Output Voltage



INPUT=347VAC/50HZ @ FULL LOAD  
CH1 : Output Voltage



HOLD UP TIME (TYP.)

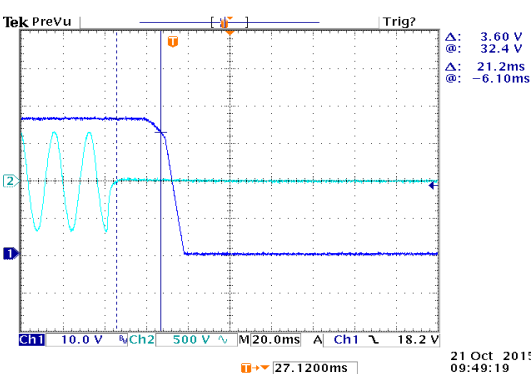
347VAC : 12ms  
480VAC : 12ms

I/P : 347VAC  
I/P : 480VAC  
O/P: FULL LOAD  
TA : 25°C

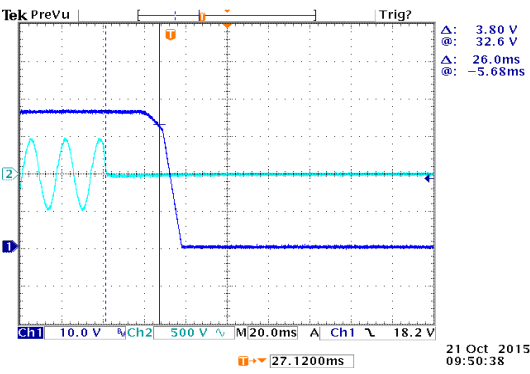
347VAC: 26.0ms  
480VAC: 21.2ms

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INPUT=480VAC/50HZ @ FULL LOAD  
CH1 : Output Voltage CH2 : AC Input Voltage



INPUT=347VAC/50HZ @ FULL LOAD  
CH1 : Output Voltage CH2 : AC Input Voltage



DYNAMIC LOAD

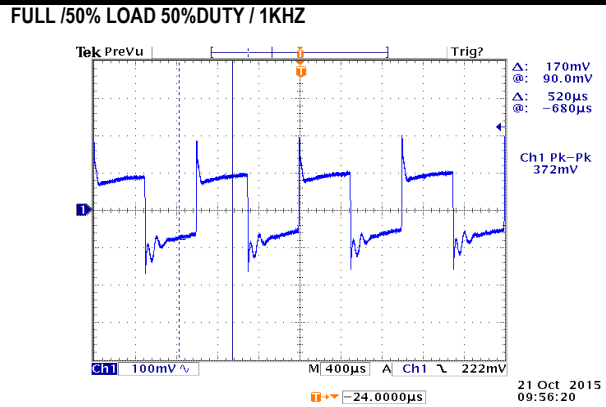
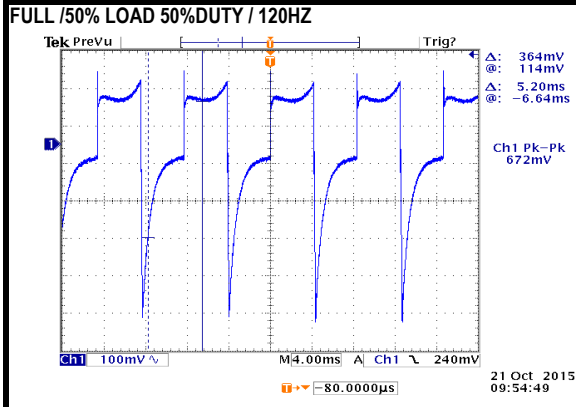
V1 : 3600 mVp-p

I/P : 347VAC  
O/P:  
(1)Full/Min load 50%duty/120HZ  
(2)Full/Min load 50%duty/1KHZ  
TA : 25°C

V1: (1). 672mv (2). 372mv

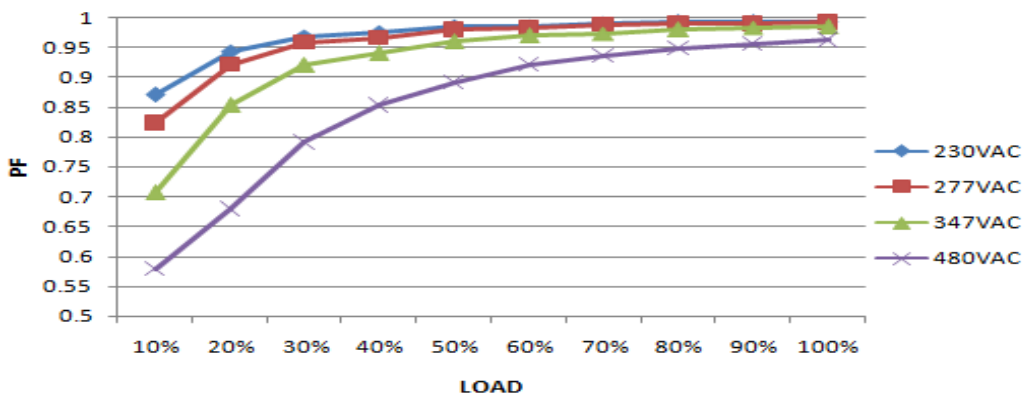
unit:mVp-p

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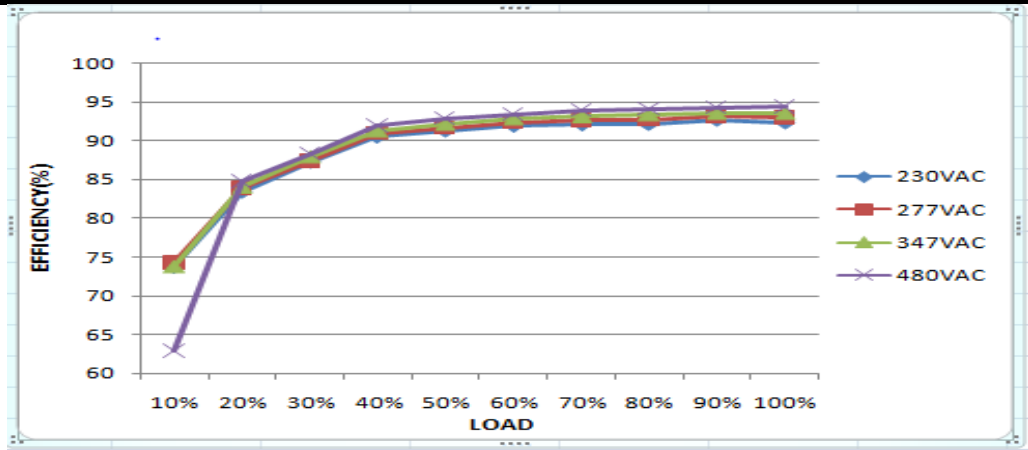


### INPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	INPUT VOLTAGE RANGE	180VAC ~ 528VAC	I/P : TESTING O/P : FULL LOAD Ta : 25°C	132.0VAC ~ 528VAC
			I/P : LOW-LINE = 197VAC HIGH-LINE = 538VAC O/P : FULL/MIN LOAD ON:30 Sec ; OFF:30 Sec 10MIN (POWER ON/OFF NO DAMAGE)	TEST : OK
2	INPUT FREQUENCY RANGE	47HZ ~ 63HZ NO DAMAGE	I/P : 200VAC ~ 528VAC O/P : FULL-MIN LOAD Ta : 25°C	TEST : OK
3	INPUT CURRENT (TYP.)	0.8 / 347VAC 0.6 / 480VAC	I/P : 347VAC I/P : 480VAC O/P : FULL LOAD TA : 25°C	I= 0.781 / 347VAC I= 0.564 / 480VAC
4	LEAKAGE CURRENT	< 0.75mA	I/P : 480VAC O/P : MIN LOAD TA : 25°C	L-FG: 0.19 mA N-FG: 0.165 mA
5	POWER FACTOR (TYP.)	0.95 / 347VAC	I/P : 347VAC	PF= 0.9818 / 347VAC
		0.93 / 480VAC	I/P : 480VAC	PF= 0.9486 / 480VAC
		0.97 / 277VAC	I/P : 277VAC	PF= 0.9901 / 277VAC
		0.98 / 230VAC	O/P : FULL LOAD TA : 25°C	PF= 0.9943 / 230VAC

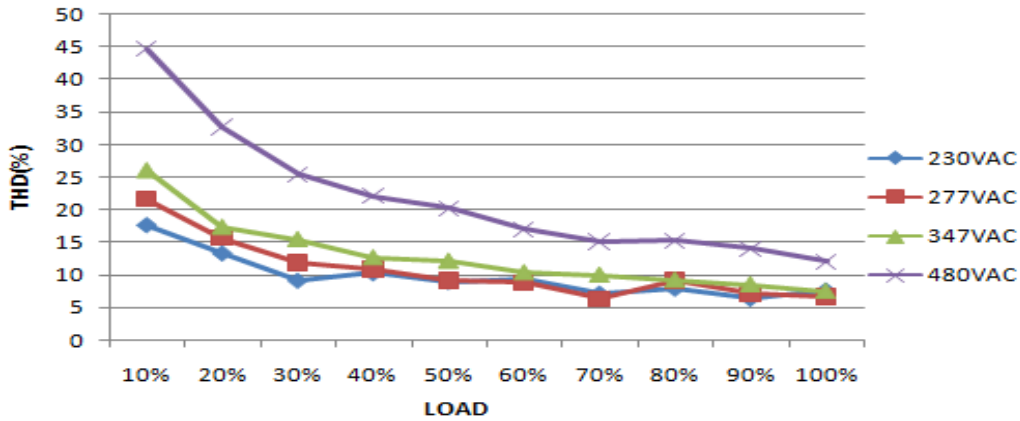


EFFICIENCY (TYP.)	93.0%	I/P : 347VAC O/P : FULL LOAD TA : 25°C	93.31 %
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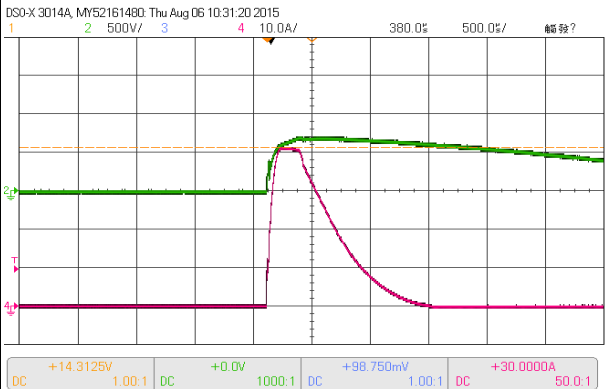
TOTAL HARMONIC DISTORTION	Total harmonic distortion will be lower than 20% when output loading is 50% or higher at 230VAC / 277VAC / 347VAC / 480VAC	I/P : 347VAC / 50% LOAD	THD : 15.55 / 347VAC
		I/P : 480VAC / 60% LOAD	THD : 16.4 / 480VAC
		TA : 25°C	



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INRUSH CURRENT (TYP.)	50A / 480VAC	I/P : 480VAC	I = 41.3 / 480VAC
	twidth= 532 us measured at 50% Ipeak COLD START	O/P : FULL LOAD TA : 25°C	T50= 540 us

INPUT=480VAC/60HZ @ FULL LOAD  
CH2 : Input current (1V=1A) CH4 : AC Input Voltage

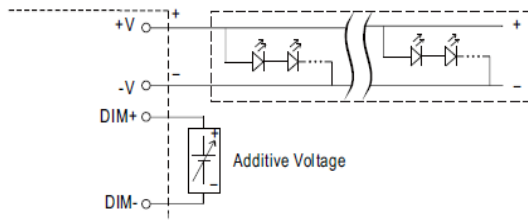


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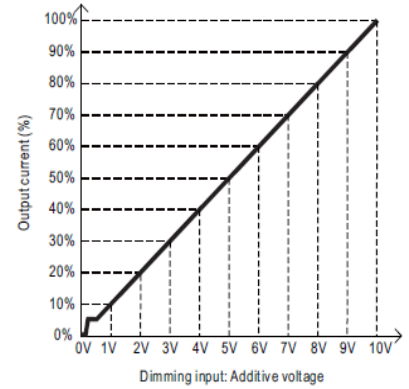
### ※ 3 in 1 dimming function (for B-Type)

- Output constant current level can be adjusted by applying one of the three methodologies between DIM+ and DIM-: 0 ~ 10VDC, or 10V PWM signal or resistance.
- Direct connecting to LEDs is suggested. It is not suitable to be used with additional drivers.
- Dimming source current from power supply: 100 $\mu$ A (typ.)

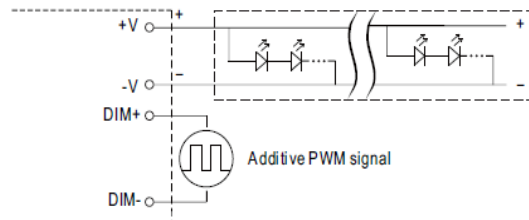
#### ○ Applying additive 0 ~ 10VDC



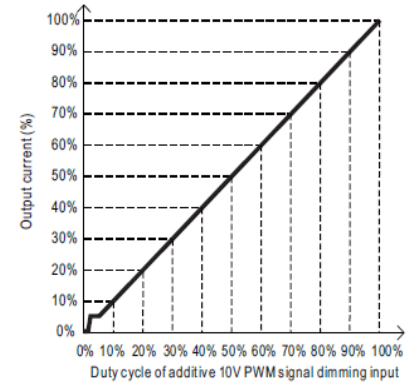
"DO NOT connect "DIM- to -V"



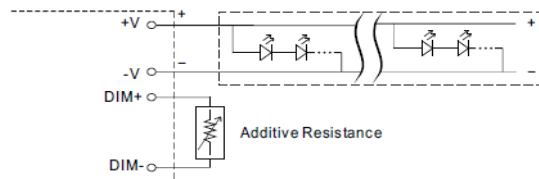
#### ○ Applying additive 10V PWM signal (frequency range 100Hz ~ 3KHz):



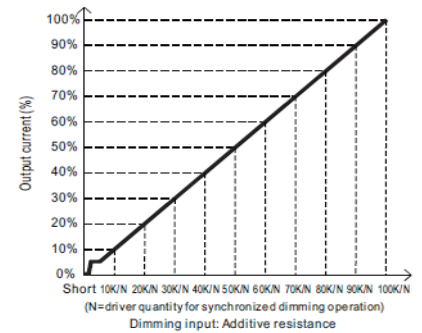
"DO NOT connect "DIM- to -V"



#### ○ Applying additive resistance:



"DO NOT connect "DIM- to -V"



Note : 1. Min. dimming level is about 5% and the output current is not defined when 0% < Iout < 5%.  
2. The output current could drop down to 0% when dimming input is about 0k  $\Omega$  or 0Vdc, or 10V PWM signal with 0% duty cycle.

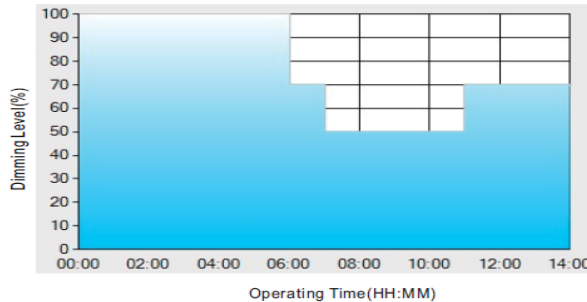
36V	R	SHORT	10K	20K	30K	40K	50K	60K	70K	80K	90K	100K	OPEN
	O/P CURRENT	0.00000A	0.804A	1.439A	2.070A	2.740A	3.364A	3.989A	4.625A	5.239A	5.869A	6.458A	6.932A
%	0.00%	12.00%	21.48%	30.90%	40.90%	50.21%	59.54%	69.03%	78.19%	87.60%	96.39%	103.46%	
36V	V	0V	1V	2V	3V	4V	5V	6V	7V	8V	9V	10V	OPEN
	O/P CURRENT	0.00000A	0.828A	1.487A	2.142A	2.808A	3.433A	4.109A	4.736A	5.427A	6.071A	6.719A	6.932A
%	0.00%	12.36%	22.19%	31.97%	41.91%	51.24%	61.33%	70.69%	81.00%	90.61%	100.28%	103.46%	
36V	PWM (100HZ)	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	OPEN
	O/P CURRENT	0.00000A	0.849A	1.492A	2.139A	2.821A	3.466A	4.109A	4.751A	5.398A	6.044A	6.685A	6.932A
%	0.00%	12.67%	22.27%	31.93%	42.10%	51.73%	61.33%	70.91%	80.57%	90.21%	99.78%	103.46%	

## DIMMING OPERATION (for Dxx-Type by User definition)

### ※ Smart timer dimming function (for Dxx-Type by User definition)

MEAN WELL Smart timer dimming primarily provides the adaptive proportion dimming profile for the output constant current level to perform up to 14 consecutive hours. 3 dimming profiles hereunder are defined accounting for the most frequently seen applications. If other options may be needed, please contact MEAN WELL for details.

Ex:  D01-Type: the profile recommended for residential lighting



Set up for D01-Type in Smart timer dimming software program:

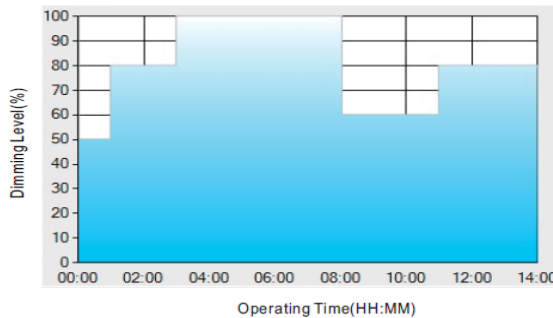
	T1	T2	T3	T4
TIME**	06:00	07:00	11:00	---
LEVEL**	100%	70%	50%	70%

\*\* : TIME matches Operating Time in the diagram whereas LEVEL matches Dimming Level.

Example: If a residential lighting application adopts D01-Type, when turning on the power supply at 6:00pm, for instance:

- [1] The power supply will switch to the constant current level at 100% starting from 6:00pm.
- [2] The power supply will switch to the constant current level at 70% in turn, starting from 0:00am, which is 06:00 after the power supply turns on.
- [3] The power supply will switch to the constant current level at 50% in turn, starting from 1:00am, which is 07:00 after the power supply turns on.
- [4] The power supply will switch to the constant current level at 70% in turn, starting from 5:00am, which is 11:00 after the power supply turns on. The constant current level remains till 8:00am, which is 14:00 after the power supply turns on.

Ex:  D02-Type: the profile recommended for street lighting



Set up for D02-Type in Smart timer dimming software program:

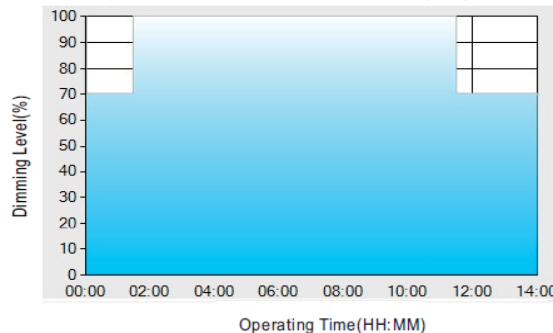
	T1	T2	T3	T4	T5
TIME**	01:00	03:00	8:00	11:00	---
LEVEL**	50%	80%	100%	60%	80%

\*\* : TIME matches Operating Time in the diagram whereas LEVEL matches Dimming Level.

Example: If a street lighting application adopts D02-Type, when turning on the power supply at 5:00pm, for instance:

- [1] The power supply will switch to the constant current level at 50% starting from 5:00pm.
- [2] The power supply will switch to the constant current level at 80% in turn, starting from 6:00pm, which is 01:00 after the power supply turns on.
- [3] The power supply will switch to the constant current level at 100% in turn, starting from 8:00pm, which is 03:00 after the power supply turns on.
- [4] The power supply will switch to the constant current level at 60% in turn, starting from 1:00am, which is 08:00 after the power supply turns on.
- [5] The power supply will switch to the constant current level at 80% in turn, starting from 4:00am, which is 11:00 after the power supply turns on. The constant current level remains till 6:30am, which is 14:00 after the power supply turns on.

Ex:  D03-Type: the profile recommended for tunnel lighting



Set up for D03-Type in Smart timer dimming software program:

	T1	T2	T3
TIME**	01:30	11:00	---
LEVEL**	70%	100%	70%

\*\* : TIME matches Operating Time in the diagram whereas LEVEL matches Dimming Level.

Example: If a tunnel lighting application adopts D03-Type, when turning on the power supply at 4:30pm, for instance:

- [1] The power supply will switch to the constant current level at 70% starting from 4:30pm.
- [2] The power supply will switch to the constant current level at 100% in turn, starting from 6:00pm, which is 01:30 after the power supply turns on.
- [3] The power supply will switch to the constant current level at 70% in turn, starting from 5:00am, which is 11:00 after the power supply turns on. The constant current level remains till 6:30am, which is 14:00 after the power supply turns on.

## PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	OVER LOAD PROTECTION	95% ~ 108%	I/P: 528VAC I/P: 180VAC O/P: TESTING TA: 25°C	102% /528VAC 102% /180 VAC Constant Current Limiting
2	OVER VOLTAGE PROTECTION	43.00V ~ 49.00V	I/P: 528VAC I/P: 180VAC O/P: MIN LOAD TA: 25°C	46.4V 528VAC 46V 180VAC Shut down Re- power ON
3	OVER TEMPERATURE PROTECTION	Shut down Re- power ON	I/P: 347VAC O/P: FULL LOAD	O.T.P. Active Shut down Re- power ON
4	SHORT PROTECTION	SHORT EVERY OUTPUT 1 HOUR NO DAMAGE	I/P: 528VAC O/P: FULL LOAD Ta: 25°C	NO DAMAGE Constant Current Limiting

## COMPONENT STRESS TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	PWM Power Transistor	Q901 Rated : 950V 9.0A	I/P : 531VAC  VDS : O/P : (1)Full Load Turn on (2) Output Short (3)Full load continue (4)Dynamic Load Full/Min Load 90%Duty/1KHz (5)Dynamic Load Full/Min Load 90%Duty/5KHz (6)Dynamic Load Full/Min Load 50%Duty/120Hz (7)0%→400% Load  Ta : 25°C	VIN: 531VAC VDS: (1). 859.0V (2). 839.0V (3). 811.0V (4). 931.0V (5). 940.0V (6). 891.0V (7). 915.0V
2	O/P Diode (MOSFET)	Q101 Rated : 100V 80.0A Q102 Rated : 100V 80.0A	I/P : 531VAC  VDS : O/P : (1)Full Load Turn on (2) Output Short (3)Full load continue (4)Dynamic Load Full/Min Load 90%Duty/1KHz (5)Dynamic Load Full/Min Load 90%Duty/5KHz (6)Dynamic Load Full/Min Load 50%Duty/120Hz (7)0%→400% Load (8) NO LOAD  Ta : 25°C	Q101 Q102 VDS : VDS : (1). 80.7V 82.3V (2). 14.9V 30.4V (3). 80.7V 81.1V (4). 82.3V 81.9V (5). 82.3V 82.7V (6). 80.7V 81.9V (7). 79.1V 80.3V (8). 78.3V 78.7V
3	Input Capacitor	C5 Rated : 82uf 450V	I/P : 531VAC O/P : (1)Full Load Turn on /Off (2)Min load Turn on /Off (3)Full Load /Min load Change  Ta : 25°C	(1). 406.0V (2). 438.0V (3). 418.0V
4	Control IC	U1 Rated : 20V (max) 10V (min)	I/P : 531VAC O/P : (1)Full Load  (2)Output Short Change (4)O.V.P (5)Low Line No Load Vo(min)  Ta : 25°C	U1 (1). 15.2V (2). 15.2V (3). 15.2V (4). 15.2V (5). 11.8V
5	PFC Power Transistor	Q1 Rated : 1050V 9.0A	I/P : 531VAC  VDS : O/P : (1)Full Load Turn on (2) Output Short (3)Full load continue (4)Dynamic Load Full/Min Load 90%Duty/1KHz (5)Dynamic Load Full/Min Load 90%Duty/5KHz (6)Dynamic Load Full/Min Load 50%Duty/120Hz (7)0%→400% Load	VIN: 531VAC VDS: (1). 867.0V (2). 996.0V (3). 859.0V (4). 859.0V (5). 859.0V (6). 899.0V (7). 891.0V



Ta : 25°C

**SAFETY & E.M.C. TEST**  
**SAFETY TEST**

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	WITHSTAND VOLTAGE	I/P-O/P : 3.75KVAC /min I/P-FG : 2.0KVAC /min O/P-FG : 1.5KVAC /min	I/P-O/P: 4.13KVAC /min I/P-FG: 2.40KVAC /min O/P-FG: 1.80KVAC /min Ta : 25°C	I/P-O/P: 1.96mA I/P-FG: 1.9mA O/P-FG: 1.0mA 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: 500VDC I/P-FG: 500VDC O/P-FG: 500VDC Ta : 25°C/70%RH	I/P-O/P: 8.0GΩ I/P-FG: 5.9GΩ O/P-FG: 15.4GΩ NO DAMAGE
3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100 mΩ	40 A / 2min Ta : 25°C/70%RH	26 mΩ

**E.M.C. TEST**

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	CONDUCTION	FCC Part 15 Subpart B	I/P : 440 VAC/60HZ O/P : FULL LOAD / 30% LOAD Ta : 25°C	PASS Test by certified Lab
2	RADIATION	FCC Part 15 Subpart B	I/P : 480 VAC/60HZ O/P : FULL LOAD / 10% LOAD Ta : 25°C	PASS Test by certified Lab
3	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
4	E.F.T	EN61000-4-4 LIGHT INDUSTRY INPUT : 1KV	I/P : 230 VAC/50HZ O/P : FULL LOAD Ta : 25°C	CRITERIA A
5	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
6	Test by certified Lab & Test Report Prepare. Any contradictions of the test results, please refer to the latest EMC test report.			

**RELIABILITY TEST**

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
		MODEL : HVG-240-24 1. ROOM AMBIENT BURN-IN : 3.0hrs IP: 230VAC O/P: 100% LOAD TA= 24.8°C 2. HIGH AMBIENT BURN-IN : 2.0hrs IP: 230VAC O/P: 100% LOAD TA= 59.2°C		

1	TEMPERATURE RISE TEST	<table border="1"> <thead> <tr> <th>CH.</th> <th>Position</th> <th>ROOM AMBIENT Ta= 24.8°C</th> <th>HIGH AMBIENT Ta= 59.2°C</th> </tr> </thead> <tbody> <tr><td>1</td><td>BD1</td><td>62.0°C</td><td>93.3°C</td></tr> <tr><td>2</td><td>Q1</td><td>62.5°C</td><td>94.5°C</td></tr> <tr><td>3</td><td>Q901</td><td>63.9°C</td><td>96.4°C</td></tr> <tr><td>4</td><td>L2</td><td>60.7°C</td><td>91.6°C</td></tr> <tr><td>5</td><td>C2</td><td>58.9°C</td><td>88.5°C</td></tr> <tr><td>6</td><td>C10</td><td>61.3°C</td><td>92.9°C</td></tr> <tr><td>7</td><td>L1</td><td>64.2°C</td><td>97.1°C</td></tr> <tr><td>8</td><td>ZNR2</td><td>76.4°C</td><td>103.3°C</td></tr> <tr><td>9</td><td>RTH3</td><td>58.8°C</td><td>90.5°C</td></tr> <tr><td>10</td><td>T1</td><td>68.5°C</td><td>103.7°C</td></tr> <tr><td>11</td><td>C46</td><td>62.0°C</td><td>93.8°C</td></tr> <tr><td>12</td><td>C54</td><td>60.6°C</td><td>92.1°C</td></tr> <tr><td>13</td><td>Q102</td><td>62.0°C</td><td>94.8°C</td></tr> <tr><td>14</td><td>C102</td><td>59.6°C</td><td>91.8°C</td></tr> <tr><td>15</td><td>C201</td><td>63.0°C</td><td>94.5°C</td></tr> <tr><td>16</td><td>C200</td><td>61.7°C</td><td>93.6°C</td></tr> <tr><td>17</td><td>U1</td><td>63.6°C</td><td>95.2°C</td></tr> <tr><td>20</td><td>C5</td><td>61.9°C</td><td>93.4°C</td></tr> </tbody> </table>				CH.	Position	ROOM AMBIENT Ta= 24.8°C	HIGH AMBIENT Ta= 59.2°C	1	BD1	62.0°C	93.3°C	2	Q1	62.5°C	94.5°C	3	Q901	63.9°C	96.4°C	4	L2	60.7°C	91.6°C	5	C2	58.9°C	88.5°C	6	C10	61.3°C	92.9°C	7	L1	64.2°C	97.1°C	8	ZNR2	76.4°C	103.3°C	9	RTH3	58.8°C	90.5°C	10	T1	68.5°C	103.7°C	11	C46	62.0°C	93.8°C	12	C54	60.6°C	92.1°C	13	Q102	62.0°C	94.8°C	14	C102	59.6°C	91.8°C	15	C201	63.0°C	94.5°C	16	C200	61.7°C	93.6°C	17	U1	63.6°C	95.2°C	20	C5	61.9°C	93.4°C
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2	LOW TEMPERATURE TURN ON TEST	NO DAMAGE 1 HOUR ( MIN )	I/P : 528VAC / 180VAC O/P : FULL LOAD Ta : -45.0°C	TEST : OK																																																																													
3	HIGH HUMIDITY HIGH TEMPERATURE HIGH VOLTAGE TEST	AFTER 12 HOURS IN CHAMBER ON CONTROL 60°C NO DAMAGE	I/P : 528VAC O/P : FULL LOAD Ta : 60°C HUMIDITY= 95.0% RH	TEST : OK																																																																													
4	TEMPERATURE COEFFICIENT	±0.03% /°C(0~60°C)	I/P : 347VAC O/P : FULL LOAD	±0.01% /°C(0~60°C)																																																																													
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 : -45°C ~ 65°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 : 230V Full Load AC ON/OFF te: turn on 3sec ; turn off 1sec @ 15cycle Full Load burn in@ 1cycle TEST : OK																																																																															
7	VIBRATION TEST	1 Carton & 1 Set (1) Waveform : Sine Wave (2) Frequency : 10~500Hz (4) Acceleration : 5G (5) Test Time : 72min in each axis (X.Y.Z) (6) Ta : 25°C TEST : OK																																																																															
8	CAPACITOR LIFE CYCLE	HVG-240-24 :SUPPOSE C102 IS THE MOST CRITICAL COMPONENT (1) I/P : 347VAC O/P : FULL LOAD Tc= 80°C LIFE TIME (1). 46672 HRS (2) I/P : 347VAC O/P : 75% LOAD Tc= 80°C LIFE TIME (2). 56952 HRS (3) I/P : 347VAC O/P : 50% LOAD Tc= 80°C LIFE TIME (3). 68401 HRS																																																																															
9	MTBF	Conducted by Parts Stress Analysis Prediction 114.5K hrs min. MIL-HDBK-217F (25°C)																																																																															
10	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	VINCENT ZENG