



■ Features

- Constant Current mode output with multiple levels selectable by dip switch
- Plastic housing with class II design
- Built-in active PFC function
- Standby power consumption <0.5W
- Functions: DALI interface(logarithm or linear dimming curve selectable), push dimming, synchronization up to 10units
- 3 years warranty

■ Applications

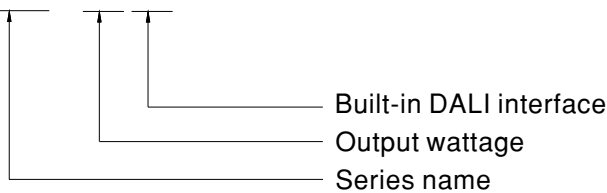
- LED indoor lighting
- LED office lighting
- LED architectural lighting
- LED panel lighting

■ Description

LCM-25DA series is a 25W AC/DC constant current mode output LED driver featuring the multiple levels selectable by dip switch and the DALI interface with the compliance to IEC62386-207. LCM-25DA operates from 180~277VAC and offers different current levels ranging between 350mA and 1050mA. Thanks to the efficiency up to 86%, with the fanless design, the entire series is able to operate for -30°C~+85°C case temperature under free air convection. In addition, LCM-25DA is equipped with push dimming and synchronization so as to provide the optimal design flexibility for LED lighting system.

■ Model Encoding

LCM - 25DA



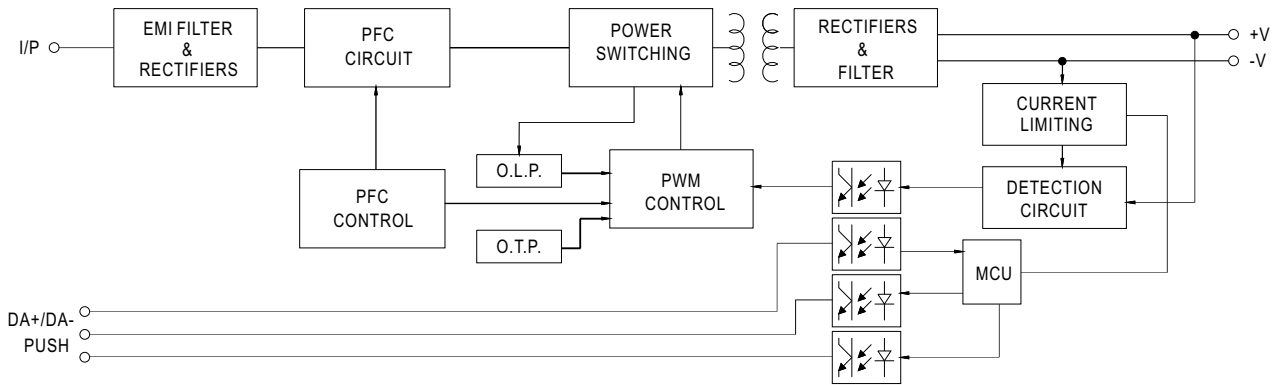


SPECIFICATION

| | | | | | | | |
|---|---|--|---------|--------------|----------------|---------|---------|
| MODEL | | LCM-25DA | | | | | |
| OUTPUT | CURRENT LEVEL | Current level selectable via DIP switch, please refer to "DIP SWITCH TABLE" section | | | | | |
| | | 350mA | 500mA | 600mA | 700mA(default) | 900mA | 1050mA |
| | RATED POWER | 18.9W | 25.2W | | | | |
| | DC VOLTAGE RANGE | 6 ~ 54V | 6 ~ 50V | 6 ~ 42V | 6 ~ 36V | 6 ~ 28V | 6 ~ 24V |
| | OPEN CIRCUIT VOLTAGE (max.) | 59V | | | 41V | | |
| | CURRENT RIPPLE | 5.0% max. @rated current | | | | | |
| | CURRENT TOLERANCE | ±5% | | | | | |
| | SETUP TIME Note.3 | 500ms / 230VAC | | | | | |
| INPUT | VOLTAGE RANGE Note.2 | 180 ~ 277VAC 254 ~ 392VDC (Please refer to "STATIC CHARACTERISTIC" section) | | | | | |
| | FREQUENCY RANGE | 47 ~ 63Hz | | | | | |
| | POWER FACTOR (Typ.) | PF ≥ 0.94/230VAC, PF ≥ 0.91/277VAC@full load (Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section) | | | | | |
| | TOTAL HARMONIC DISTORTION | THD < 20% (@load ≥ 50%/230VAC; @load ≥ 75%/277VAC) (Please refer to "TOTAL HARMONIC DISTORTION(THD)" section) | | | | | |
| | EFFICIENCY (Typ.) Note.4 | 86% | | | | | |
| | AC CURRENT (Typ.) | 0.17A/230VAC | | 0.15A/277VAC | | | |
| | INRUSH CURRENT (Typ.) | COLD START 20A (width=260µs measured at 50% I _{peak}) at 230VAC; Per NEMA 410 | | | | | |
| | MAX. No. of PSUs on 16A CIRCUIT BREAKER | 26 units (circuit breaker of type B) / 44 units (circuit breaker of type C) at 230VAC | | | | | |
| | LEAKAGE CURRENT | <0.5mA / 240VAC | | | | | |
| STANDBY POWER CONSUMPTION Note.5 | <0.5W | | | | | | |
| PROTECTION | SHORT CIRCUIT | Constant current limiting, recovers automatically after fault condition is removed | | | | | |
| | OVER TEMPERATURE | Shut down o/p voltage, recovers automatically after temperature goes down | | | | | |
| FUNCTION | DIMMING | Please refer to "DIMMING OPERATION" section | | | | | |
| | SYNCHRONIZATION | Please refer to "SYNCHRONIZATION OPERATION" section | | | | | |
| ENVIRONMENT | WORKING TEMP. | T _{case} = -30 ~ +85°C (Please refer to "OUTPUT LOAD vs TEMPERATURE" section) | | | | | |
| | MAX. CASE TEMP. | T _{case} = +85°C | | | | | |
| | WORKING HUMIDITY | 20 ~ 90% RH non-condensing | | | | | |
| | STORAGE TEMP., HUMIDITY | -40 ~ +80°C, 10 ~ 95% RH | | | | | |
| | TEMP. COEFFICIENT | ±0.03%/°C (0 ~ 50°C) | | | | | |
| | VIBRATION | 10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes | | | | | |
| SAFETY & EMC | SAFETY STANDARDS | UL8750, CSA C22.2 NO.250.0-08, ENEC EN61347-1, EN61347-2-13, EN62384 independent, GB19510.14, GB19510.1, BIS IS15885, EAC TP TC 004 approved | | | | | |
| | DALI STANDARDS | Comply with IEC62386-101, 102, 207 | | | | | |
| | WITHSTAND VOLTAGE | I/P-O/P: 3.75KVAC ; I/P-DA ±: 1.875KVAC ; O/P-DA ±: 1.875KVAC | | | | | |
| | ISOLATION RESISTANCE | I/P-O/P: >100M Ohms / 500VDC / 25°C / 70% RH | | | | | |
| | EMC EMISSION Note.6 | Compliance to EN55015, EN61000-3-2 Class C (@load ≥ 50%) ; EN61000-3-3; GB17625.1, GB17743, EAC TP TC 020 | | | | | |
| | EMC IMMUNITY | Compliance to EN61000-4-2, 3, 4, 5, 6, 8, 11, EN61547, light industry level (surge immunity Line-Line 2KV), EAC TP TC 020 | | | | | |
| OTHERS | MTBF | 213.3K hrs min. MIL-HDBK-217F (25°C) | | | | | |
| | DIMENSION | 105*68*23mm (L*W*H) | | | | | |
| | PACKING | 0.17Kg ; 72pcs/13.2Kg/1.04CUFT | | | | | |
| NOTE | <ol style="list-style-type: none"> All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25°C of ambient temperature. De-rating may be needed under low input voltages. Please refer to "STATIC CHARACTERISTIC" sections for details. Length of set up time is measured at first cold start. Turning ON/OFF the driver may lead to increase of the set up time. Efficiency is measured at 500mA/50V output set by DIP switch. Standby power consumption is measured at 230VAC. The driver is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft). | | | | | | |

■ BLOCK DIAGRAM

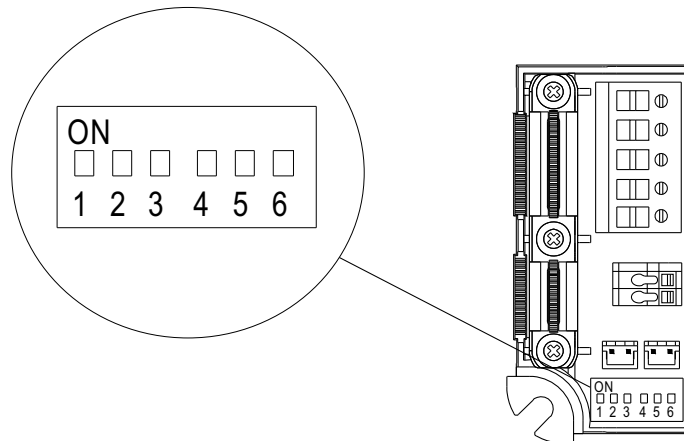
PFC fosc : 45KHz
PWM fosc : 70KHz



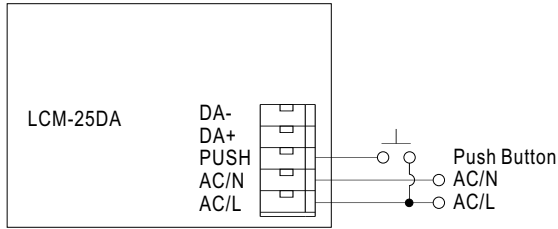
■ DIP SWITCH TABLE

LCM-25DA is a multiple-stage constant current driver, selection of output current through DIP switch is exhibited below.

| Io \ DIP S.W. | 1 | 2 | 3 | 4 | 5 | 6 |
|------------------------|------|------|------|------|------|------|
| 350mA | ---- | ---- | ---- | ---- | ---- | ---- |
| 500mA | ON | ---- | ---- | ---- | ---- | ---- |
| 600mA | ON | ON | ---- | ---- | ---- | ---- |
| 700mA(factory default) | ON | ON | ON | ---- | ---- | ON |
| 900mA | ON | ON | ON | ON | ---- | ON |
| 1050mA | ON | ON | ON | ON | ON | ON |



■ DIMMING OPERATION



※**PUSH dimming(primary side)**

| Action | Action duration | Function |
|------------|-----------------|---|
| Short push | 0.1~1 sec. | Turn ON-OFF the driver |
| Long push | 1.5~10 sec. | Every Long Push changes the dimming direction, dimming up or down |
| Reset | >11 sec. | Set up the dimming level to 100% |

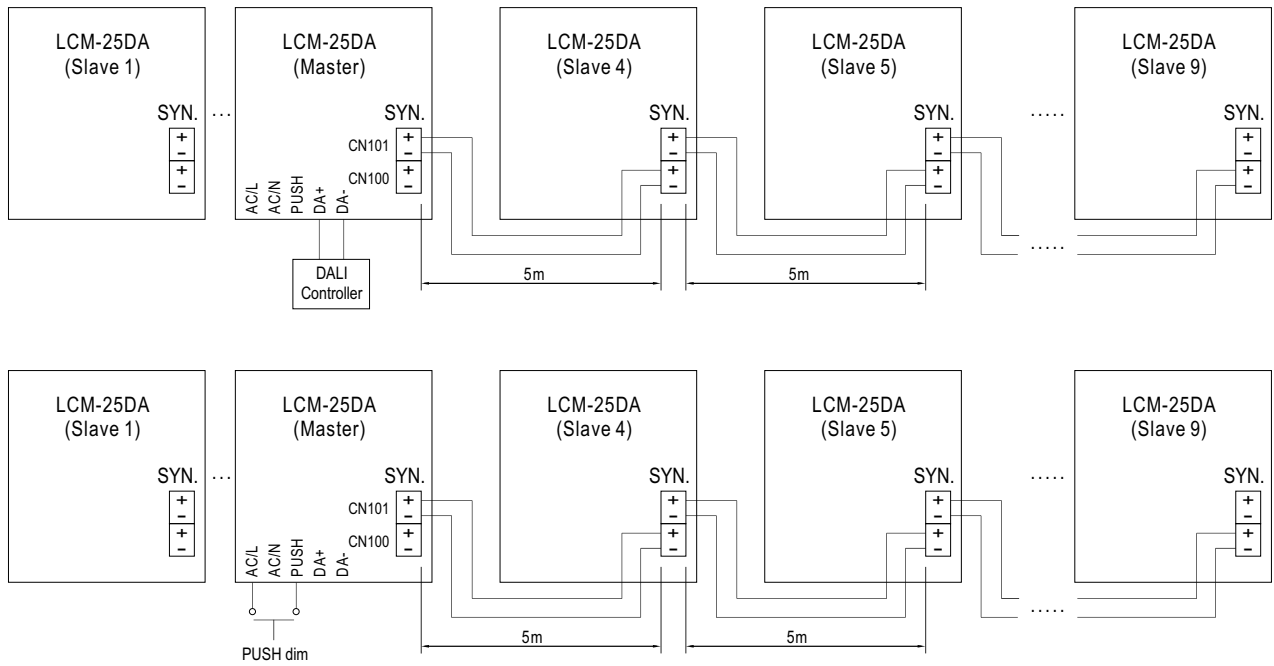
- The factory default dimming level is at 100%.
- If the push action lasts less than 0.05 sec., it will not lead to a change for the status of the driver.
- Up to 10 drivers can perform the PUSH dimming at the same time when utilizing one common push button.
- The maximum length of the cable from the push button to the last driver is 20 meters.
- The additive push button can be connected only between the PUSH terminal, as displayed in the diagram, and AC/L (in brown or black); it will lead to short circuit if it is connected to AC/N.

※**DALI interface(primary side)**

- Apply DALI signal between DA+ and DA-
- DALI protocol comprises 16 groups and 64 addresses.
- First step is fixed at 6% of output.

■ **SYNCHRONIZATION OPERATION**

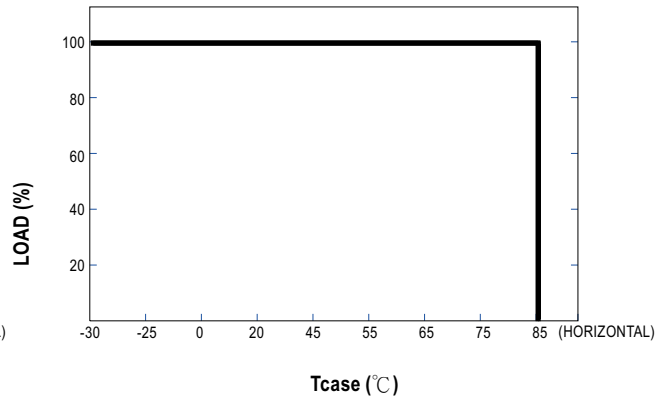
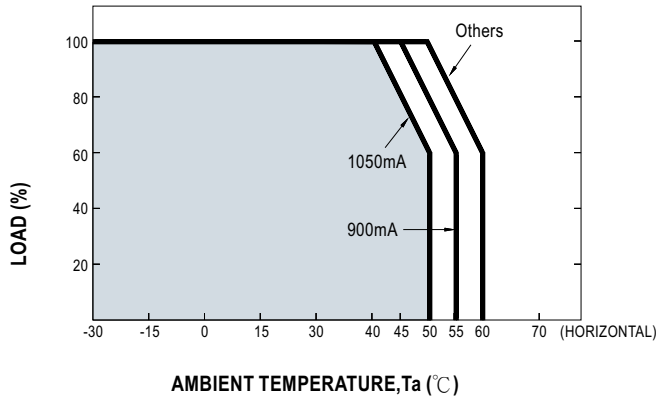
- Synchronization up to 10 drivers (1 master + 9 slaves)
- Dimming operating range : 10%~100%
- Sync cable length : < 5m
- Sync cable type : Flat cable
- Sync cable cross section area : 22 – 24 AWG (0.2~0.3mm²)



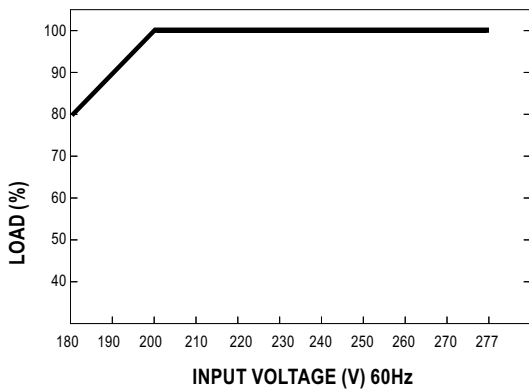
- CN100, CN101 : used to synchronously control the LCM units in parallel.

NOTE : 1. Please make sure all units are set to 100% dimming setting (factory default) before synchronizing.
 2. Min. Dimming operating range depends on dimmer setting.

■ **OUTPUT LOAD vs TEMPERATURE**



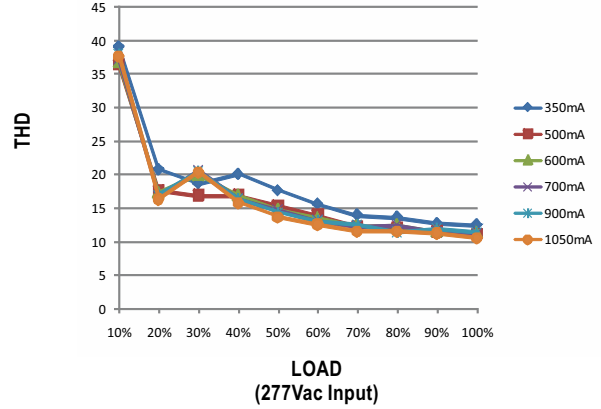
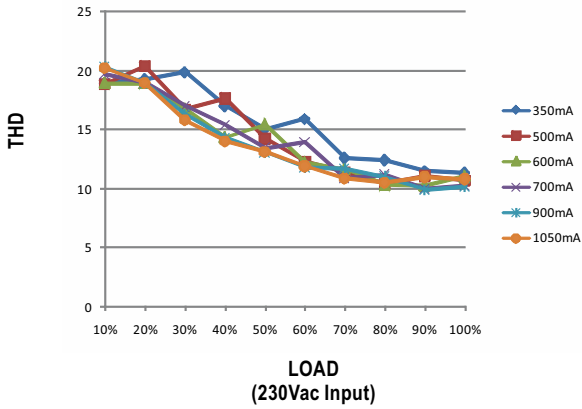
■ **STATIC CHARACTERISTIC**



※ De-rating is needed under low input voltage.

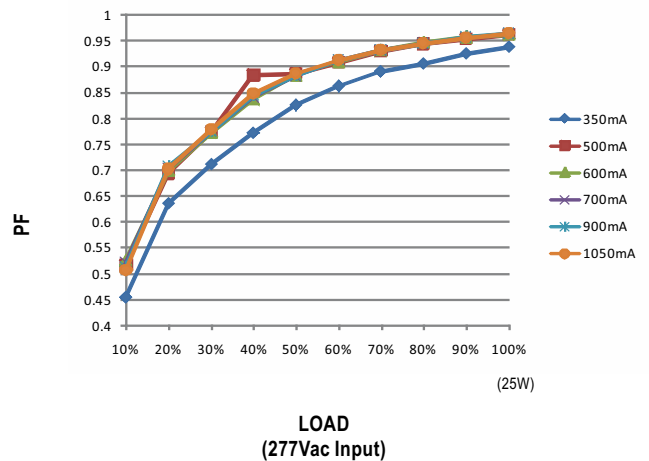
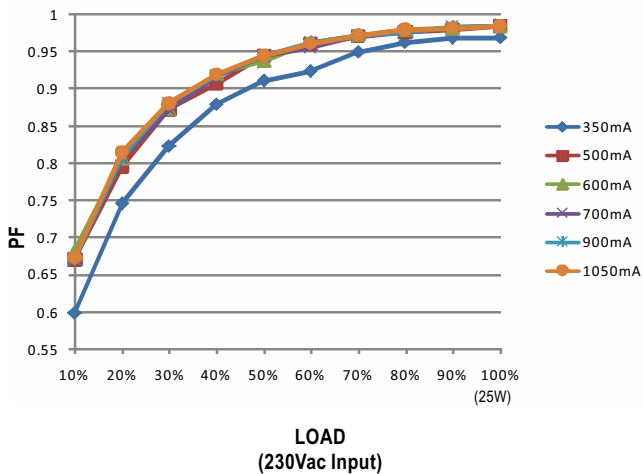
TOTAL HARMONIC DISTORTION (THD)

※ Tcase at 75°C



POWER FACTOR (PF) CHARACTERISTIC

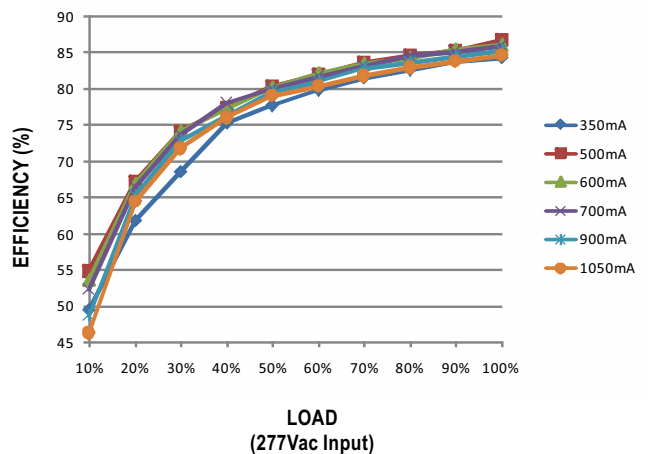
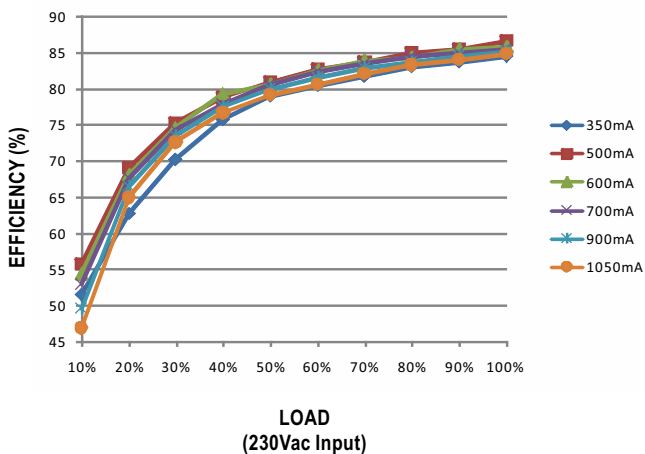
※ Tcase at 75°C



EFFICIENCY vs LOAD

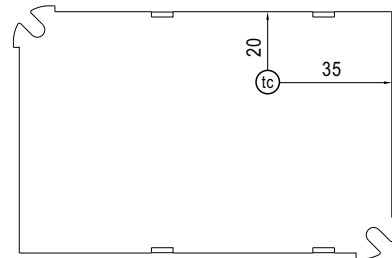
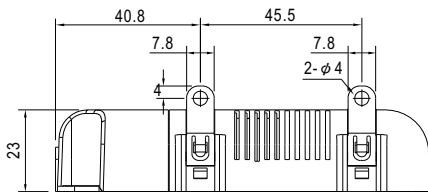
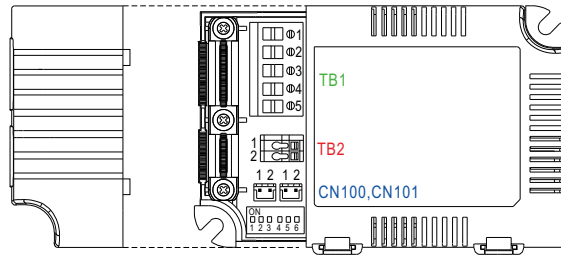
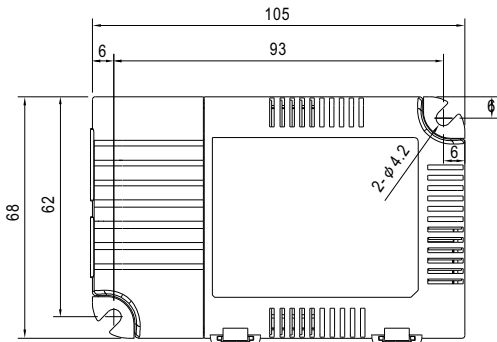
LCM-25DA series possess superior working efficiency that up to 86% can be reached in field applications.

※ Tcase at 75°C



MECHANICAL SPECIFICATION

Case No.LCM-25 Unit:mm



Bottom View

• (tc) : Max. Case Temperature

※ Terminal Pin No. Assignment(TB1)

| Pin No. | Assignment | Pin No. | Assignment |
|---------|------------|---------|------------|
| 1 | AC/L | 4 | DA+ |
| 2 | AC/N | 5 | DA- |
| 3 | PUSH | | |

※ Terminal Pin No. Assignment(TB2)

| Pin No. | Assignment |
|---------|------------|
| 1 | +V |
| 2 | -V |

※ SYN. Connector(CN100/CN101):JST B2B-PH-KL or equivalent

| Pin No. | Assignment | Mating Housing | Terminal |
|---------|------------|-------------------------|----------------------------------|
| 1 | - | JST PHR-2 or equivalent | JST SPH-002T-P0.5S or equivalent |
| 2 | + | | |

Note:Please use wires with a cross section of 0.5~2.5mm²(14~20AWG) for TB1 and wires with a cross section of 0.5~1.5 mm²(16~20AWG) for TB2. Please use wires with a cross section of 0.126~0.205mm²(24~26AWG) for CN100/CN101

INSTALLATION MANUAL

Please refer to : <http://www.meanwell.com/manual.html>

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