## CUT35J/T

## SPECIFICATIONS

CA873-01-01/T

| | ITEMS | MODEL | | CUT35J-522/T | | | CUT35J-5FF/T | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | CH1 | CH2 | CH3 | CH1 | CH2 | CH3 |
| 1 | Nominal Output Voltage | V | | +5 | +12 | -12 | +5 | +15 | -15 |
| 2 | Minimum Output Current | A | | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | Maximum Output Current | A | | 3.0 | 1.2 | 0.85 | 3.0 | 1.0 | 0.65 |
| 4 | Typical Output Current | A | | 3.0 | 1.2 | 0.5 | 3.0 | 1.0 | 0.3 |
| 5 | Maximum Output Power | W | | 35.4 | | | 34.5 | | |
| 6 | Maximum Output Power (CH1, CH2+CH3) | W | | 15.0 | 20.4 | | 15.0 | 19.5 | |
| 7 | Maximum Output Power (/CH) | W | | 15.0 | 14.4 | 10.2 | 15.0 | 15.0 | 9.75 |
| 8 | Efficiency (Typ) | (*8) | - | 81.0% | | | 82.0% | | |
| 9 | Input Voltage Range | (*2) | - | 85 - 265VAC, 47 - 63Hz | | | | | |
| 10 | Input Current (Typ) | (*1) | - | 1.0A / 0.5A | | | | | |
| 11 | Inrush Current (Typ) | (*3) | - | 13A / 100VAC, 32A / 230VAC ( cold start, Ta=25°C ) | | | | | |
| 12 | Output Voltage Range | (*12) | - | V1: +5%, -0% max; V2, V3: Fixed ( ± 5% max) | | | | | |
| 13 | Maximum Ripple & Noise (0<Ta<70°C, 35-100% Load) | (*4,11) | mV | 120 | 150 | 150 | 120 | 150 | 150 |
| | (-20<Ta<0°C, 35-100% Load) | (*4,11) | mV | 160 | 180 | 180 | 160 | 180 | 180 |
| | (-20<Ta<70°C, 0-35% Load) | (*4,11) | mV | 300 | 400 | 400 | 300 | 400 | 400 |
| 14 | Maximum Line Regulation | (*5,11) | mV | 50 | 240 | 240 | 50 | 300 | 300 |
| 15 | Maximum Load Regulation | (*6,11) | mV | 100 | 600 | 600 | 100 | 750 | 750 |
| 16 | Temperature Coefficient | - | | V1 less than 0.02%/°C, V2, V3 less than 0.03%/°C at -20 - +70°C | | | | | |
| 17 | Over Current Protection | (*7) | - | More than 105% | | | | | |
| 18 | Over Voltage Protection | V | | 5.7 - 7.0 | 13.8 - 16.8 | - | 5.7 - 7.0 | 17.2 - 21.0 | - |
| 19 | Hold Up Time (Typ) | (*1) | - | 16ms / 90ms | | | | | |
| 20 | Leakage Current | (*9) | - | Less than 0.3mA at 50Hz, 265VAC / 0.5mA at 60Hz, 265VAC 0.11mA(Typ) at 60Hz, 115VAC / 0.22mA(Typ) at 60Hz, 230VAC | | | | | |
| 21 | Operating Temperature | (*10) | - | -20 - +70°C | | | | | |
| 22 | Operating Humidity | - | | 5 - 95%RH (No dewdrop) | | | | | |
| 23 | Storage Temperature | - | | -30 - +85°C | | | | | |
| 24 | Storage Humidity | - | | 5 - 95%RH (No dewdrop) | | | | | |
| 25 | Cooling | - | | Convection cooling | | | | | |
| 26 | EMI | - | | Designed to meet EN55011/EN55032-B, FCC-B, VCCI-B | | | | | |
| 27 | Withstand Voltage | - | | I/P-O/P: 3kVAC(10mA), I/P-FG: 2.0kVAC(10mA), O/P-FG: 500VAC(20mA), CH1-CH2/CH3: 500VAC(20mA) for 1min. | | | | | |
| 28 | Isolation Resistance | - | | More than 100MΩ at Ta=25°C and 70%RH, Output - FG: 500VDC | | | | | |
| 29 | Vibration | - | | 10 - 55Hz Amplitude ( sweep 1min ) Less than 19.6m/s$^2$ X, Y, Z 1Hr each | | | | | |
| 30 | Shock (In package) | - | | Less than 196.1m/s$^2$ | | | | | |
| 31 | Safety | - | | Certificated by IEC60950-1 2nd Edition, IEC60601-1 3rd Edition Approved by EN60950-1, UL60950-1, CSA60950-1 Approved by EN60601-1, ES60601-1, CSA-C22.2 No.60601-1 | | | | | |
| | | (*13) | | | | | | | |
| 32 | Immunity | - | | Designed to meet IEC61000-6-2    IEC61000-4-2, -3, -4, -5, -6, -8, -11 | | | | | |
| 33 | Weight (Typ) | g | | 100 | | | | | |
| 34 | Size ( W.H.D.) | mm | | 50.8 x 26 x 101.6 (Refer to Outline Drawing) | | | | | |

**NOTES:**

* 1 : At 100/200VAC, Ta=25°C and typical output current.
* 2 : For cases where conformance to various safety specs (UL, CSA, EN) are required,
    to be described as 100 - 240VAC(50/60Hz).
* 3 : Not applicable for the in-rush current to Noise Filter for less than 0.2ms.
* 4 : Measure with JEITA probe, Bandwidth of scope :20MHz.
* 5 : 85 - 265VAC, typical output current.
* 6 : No load-typical output current, constant input voltage.
* 7 : Current limit and Hiccup with automatic recovery.
    Not operate at over load or dead short condition.
* 8 : At 200VAC, nominal output voltage and typical output current.
* 9: Measured by the each measuring method of UL, CSA and EN.
*10: Ratings - Derating at standard mounting (Fig. B).
    - Load (%) is percent of maximum output power or typical output current,
      whichever is greater.
    - As for each mountings, refer to derating curve (CA873-01-02/T-_).
    - When ambient temperature less is than -10°C, refer to derating curve (CA873-01-03/T-_).
*11: Please refer to Fig. A for measurement determination of Vo, line & load regulation
    and output ripple voltage.
*12: No load-typical output current.
*13: As for EN60601-1, ES60601-1 and CSA-C22.2 No.60601-1, 3rd Edition and MOOP level.

Fig. A



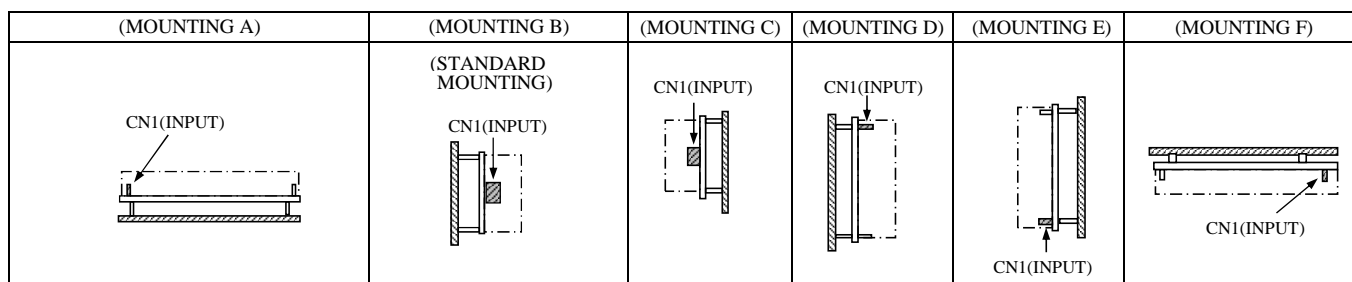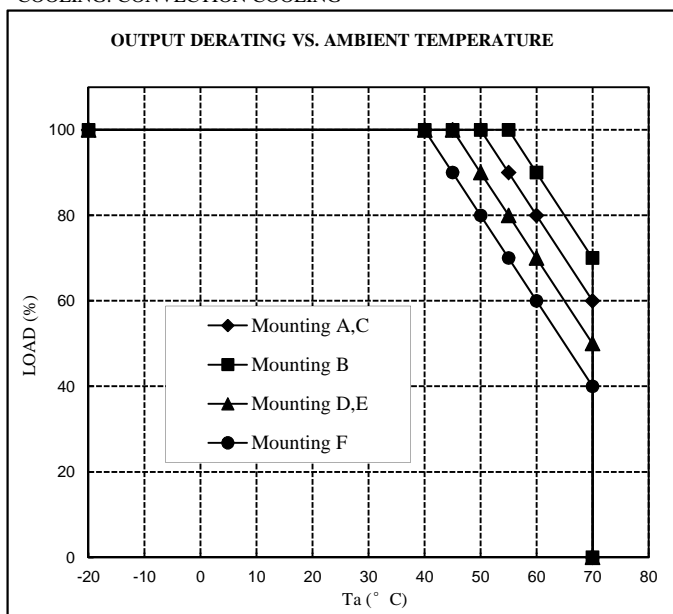Measuring Point for Ripple & Noise
Measure by JEITA probe.
Bandwidth of Ociloscope : 20MHz
L = 150mm

C1, C3, C5 : Elec. Cap 100uF
C2, C4, C6 : Film Cap 0.1uF

Measuring Point for Vo and Line/Load Regulation.

CN1(INPUT)

Fig. B

Component side
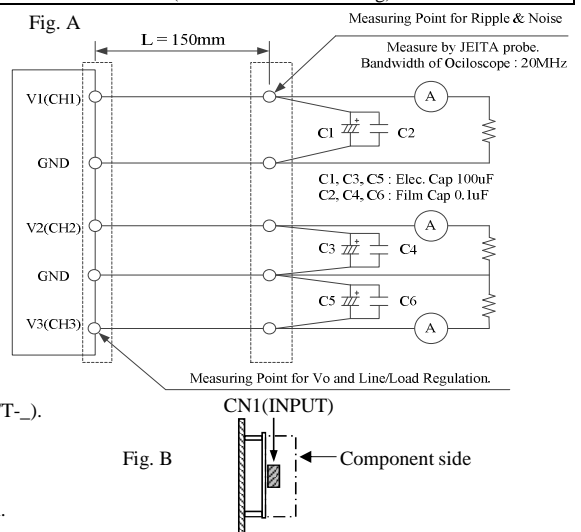
## CUT35J/T

### OUTPUT DERATING

CA873-01-02/T

*COOLING: CONVECTION COOLING

| Ta (°C) | LOADING CONDITION(%) | | | |
|---|---|---|---|---|
| | Mounting A,C | Mounting B | Mounting D,E | Mounting F |
| - 20 | 100 | 100 | 100 | 100 |
| 40 | 100 | 100 | 100 | 100 |
| 45 | 100 | 100 | 100 | 90 |
| 50 | 100 | 100 | 90 | 80 |
| 55 | 90 | 100 | 80 | 70 |
| 60 | 80 | 90 | 70 | 60 |
| 70 | 60 | 70 | 50 | 40 |

*COOLING: CONVECTION COOLING

**OUTPUT DERATING VS. AMBIENT TEMPERATURE**

LOAD (%)

Ta (°C)

- Mounting A,C
- Mounting B
- Mounting D,E
- Mounting F

| (MOUNTING A) | (MOUNTING B) | (MOUNTING C) | (MOUNTING D) | (MOUNTING E) | (MOUNTING F) |
|---|---|---|---|---|---|
| CN1(INPUT) | (STANDARD MOUNTING) CN1(INPUT) | CN1(INPUT) | CN1(INPUT) | CN1(INPUT) | CN1(INPUT) |

## CUT35J/T

## OUTPUT DERATING

CA873-01-03/T

Output derating for start up when ambient temperature is less than -10°C

| INPUT VOLTAGE | LOADING CONDITION(%) |
|---|---|
| | All Mounting (A,B,C,D,E,F) |
| 85VAC | 60 |
| 105-265VAC | 100 |

**OUTPUT DERATING FOR START UP VS. INPUT VOLTAGE**
**(when ambient temperature is less than -10°C)**



LOAD (%) vs Input voltage(VAC)

A,B,C,D,E,F

| (MOUNTING A) | (MOUNTING B) | (MOUNTING C) | (MOUNTING D) | (MOUNTING E) | (MOUNTING F) |
|---|---|---|---|---|---|
| CN1(INPUT) | (STANDARD MOUNTING) CN1(INPUT) | CN1(INPUT) | CN1(INPUT) | CN1(INPUT) | CN1(INPUT) |