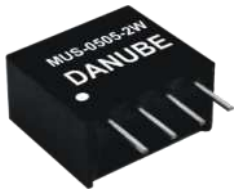
# MU-2W SERIES

## 2W UNREGULATED

DANUBE

## FEATURES

- SINGLE IN LINE PACKAGE
- UP TO 2W UNREGULATED OUTPUT POWER
- 100% BURN IN
- HIGH EFFICIENCY
- INTERNAL SMD TECHNOLOGY
- LOW COST
- NO HEATSINK REQUIRED
- UL 94V-0 PACKAGE MATERIAL
- CUSTOM SOLUTIONS AVAILABLE
- RoHS COMPLIANT
- 3 YEARS WARRANTY




## OUTPUT SPECIFICATIONS

| | |
|---|---|
| Voltage Set-point Accuracy | +/-2% max. |
| Temperature Coefficient | +/-0.05%/°C |
| Ripple & Noise (20MHz BW)[1] | 100mVp-p max. |
| Line Regulation[2] | +/-1.2% max. |
| Load Regulation[3] | +/-8% max. |
| Minimum Load | 10% of Full Load |
| Short Circuit Protection | Momentary |

## ENVIRONMENTAL SPECIFICATIONS

| | |
|---|---|
| Operating Temperature | -40 °C to +71 °C |
| Storage Temperature | -55 °C to +125 °C |
| Humidity | 95% max. |
| Cooling | Free-Air Convection |

## INPUT SPECIFICATIONS

| | |
|---|---|
| Input Voltage Range | +/-10% max. |
| Input Filter | Capacitor typ. |
| Protection | Fuse Recommended |

## GENERAL SPECIFICATIONS

| | |
|---|---|
| Efficiency | 77%-85% |
| Isolation Voltage[4] | 1500VDC min. |
| Isolation Resistance | $10^9$ ohms min. |
| Isolation Capacitance | 80pF max. |
| Switching Frequency | 100KHz min. |
| MTBF[5] | >1,100,000 Hours |
| Weight | 1.3g typ. |
| Case Material | Non-Conductive Plastic |
| Case Size | 11.7mm*7.5mm*10.1mm |
| Radiated Emissions | EN55022 Class B |

*ALL SPECIFICATIONS TYPICAL AT NOMINAL LINE, FULL LOAD AND 25 °C UNLESS OTHERWISE NOTED.*

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[1] *Measured with 1uF ceramic capacitor connects to the output pins.*
[2] *Line Regulation is for a 1.0% change in input Voltage.*
[3] *Load Regulation is for output load current change from 20% to 100%.*
[4] *1500 For 10 seconds.*
[5] *MIL-HDBK-217F @25 °C , Ground Benign.*

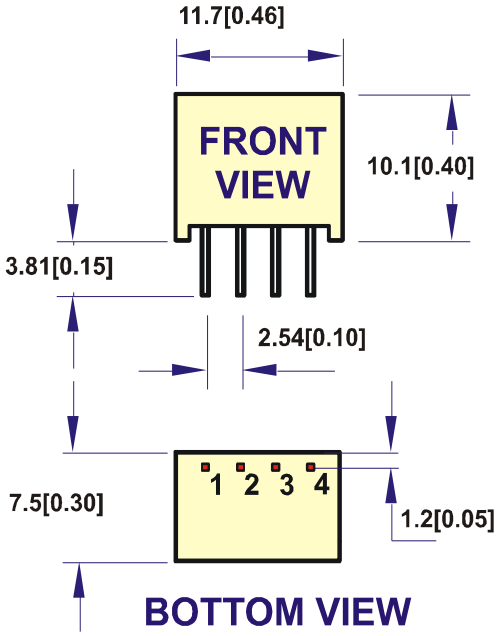
## ● SELECTION GUIDE
## 2W OUTPUT

| MODEL NUMBER | INPUT VOLTAGE (VDC) | OUTPUT VOLTAGE (VDC) | OUTPUT CURRENT (mA) | INPUT[6] CURRENT(mA) | | EFF (%)[7] | ISOLATION (VDC) |
|---|---|---|---|---|---|---|---|
| | | | | FULL LOAD | NO LOAD | | |
| MUS-0505-2W | 5 | 5 | 400 | 520 | 55 | 77 | 1500 |
| MUS-0512-2W | 5 | 12 | 167 | 500 | 55 | 80 | 1500 |
| MUS-0515-2W | 5 | 15 | 133 | 488 | 55 | 82 | 1500 |
| MUS-1205-2W | 12 | 5 | 400 | 214 | 16 | 78 | 1500 |
| MUS-1212-2W | 12 | 12 | 167 | 207 | 16 | 81 | 1500 |
| MUS-1215-2W | 12 | 15 | 133 | 203 | 16 | 82 | 1500 |
| MUS-2405-2W | 24 | 5 | 400 | 107 | 15 | 78 | 1500 |
| MUS-2412-2W | 24 | 12 | 167 | 103 | 15 | 81 | 1500 |
| MUS-2415-2W | 24 | 15 | 133 | 101 | 15 | 82 | 1500 |

*Note: Other input to output voltages may be available. Please contact factory.*

[6] *NOMINAL INPUT VOLTAGE.*
[7] *NOMINAL INPUT VOLTAGE, FULL LOAD.*

## ● MECHANICAL DIMENSIONS & RECOMMENDED FOOTPRINT DETAILS

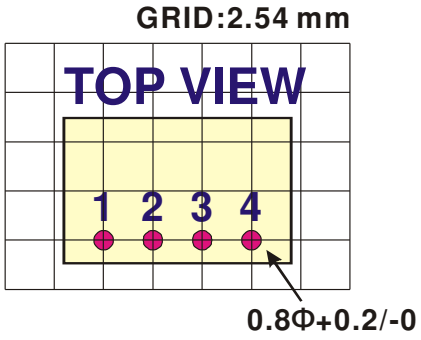



| PIN | SINGLE |
|---|---|
| 1 | -Vin |
| 2 | +Vin |
| 3 | -Vout |
| 4 | +Vout |

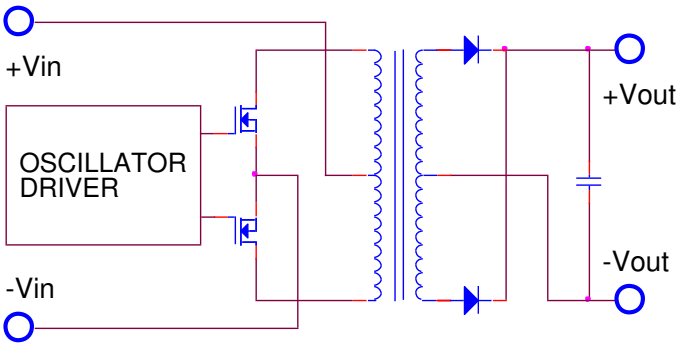
NOTE : All dimensions are in mm [inches]

1. Pin Size is 0.50x0.30mm[0.02x0.01"]
2. Pin is Tolerance .XX= ±0.05mm
3. Tolerance .X or .XX= ±0.5mm

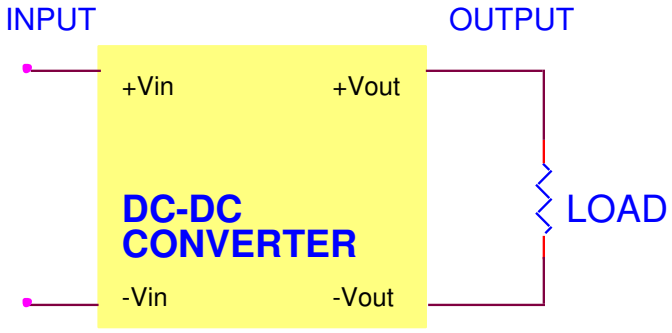
All dimensions are in mm[inches]




## ● SIMPLIFIED SCHEMATIC



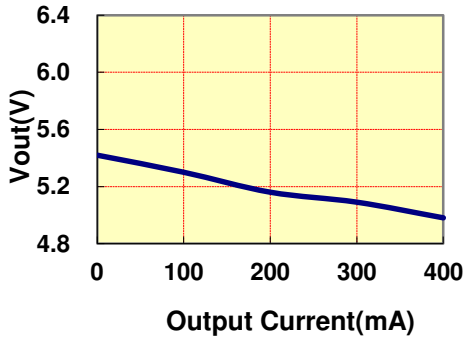
## ● TYPICAL APPLICATIONS



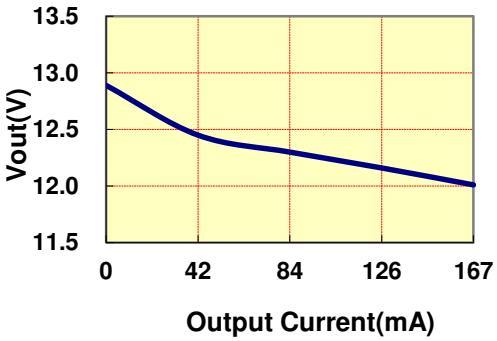

## ● TYPICAL PERFORMANCE CURVES

**Specifications typical at TA=25˚C, nominal input voltage, rated output current unless otherwise specified.**

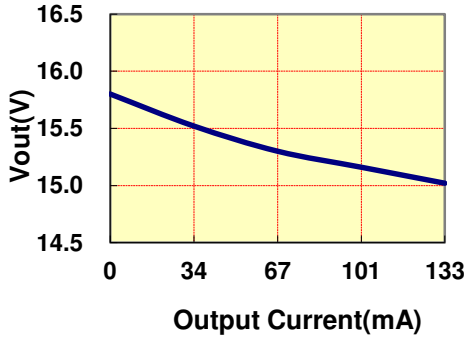
### VOUT VS LOAD (5Vout Models)



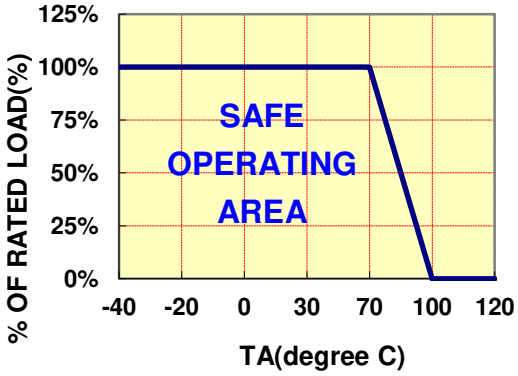

### VOUT VS LOAD (12Vout Models)



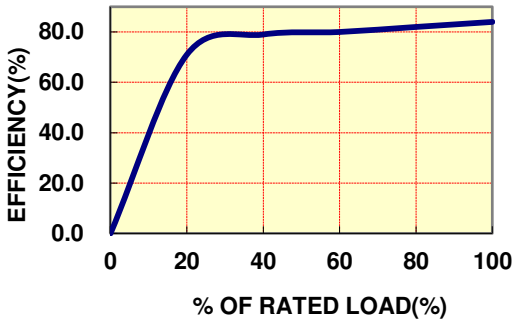

### VOUT VS LOAD (15Vout Models)




### DERATING CURVE

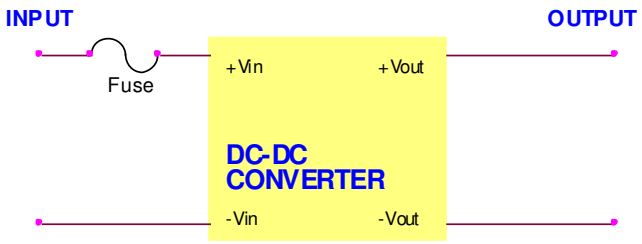



### EFFICIENCY VS LOAD



## ● INPUT FUSE SELECTION GUIDE

| 4.5-5.5V<br>INPUT VOLTAGE(VDC) | 10.8-13.2V<br>INPUT VOLTAGE(VDC) | 21.6-26.4V<br>INPUT VOLTAGE(VDC) |
|---|---|---|
| 1500mA Slow-Blow Type | 600mA Slow-Blow Type | 300mA Slow-Blow Type |




***Note: Certain applications may require the installation of external fuse in front of the input.***

## *MU-2W SERIES APPLICATION NOTES:*

### *EXTERNAL CAPACITANCE REQUIREMENTS:*

*Output filtering is required for operation. A minimum of 10uF is needed. Output capacitance may be increased for additional filtering, not to exceed 220uF.*

*To meet the reflected ripple requirements of the converter, an input impedance of less than 0.5ohm from DC to 250KHz is required.*

*We Can Offer EMC-Filter According To EN55011/22 Class B.*

### *Negative Outputs:*

*A negative output voltage may be obtained by connecting the +OUT to circuit ground and connecting –OUT as the negative output.*


## FOR MORE INFORMATION CALL:

***Danube Enterprise Co., Ltd.***

**Tel: 886-7-3755165 Fax: 886-7-3755330 E-mail: danube@ms10.hinet.net**

**Home Page http://www.danube.com.tw**