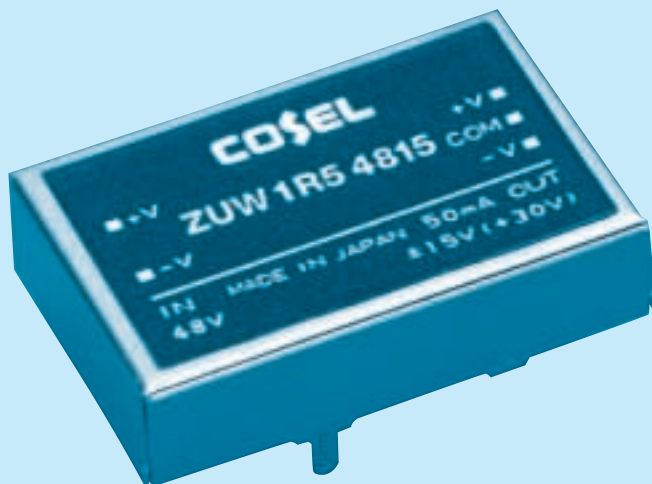




- ① Series name  
② Dual output  
③ Output wattage  
④ Input voltage  
⑤ Output voltage

| MODEL                 |            | ZUW1R50512 | ZUW1R50515 | ZUW1R51212 | ZUW1R51215 | ZUW1R52412 | ZUW1R52415 | ZUW1R54812 | ZUW1R54815 |
|-----------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| MAX OUTPUT WATTAGE[W] |            | 1.56       | 1.50       | 1.56       | 1.50       | 1.56       | 1.50       | 1.56       | 1.50       |
| DC OUTPUT             | VOLTAGE[V] | ±12 or +24 | ±15 or +30 | ±12 or +24 | ±15 or +30 | ±12 or +24 | ±15 or +30 | ±12 or +24 | ±15 or +30 |
|                       | CURRENT[A] | 0.065      | 0.050      | 0.065      | 0.050      | 0.065      | 0.050      | 0.065      | 0.050      |

## SPECIFICATIONS

Output pins can be connected in series to make a 24V/30V output.

|                    | MODEL                                | ZUW1R50512                                                                                   | ZUW1R50515 | ZUW1R51212 | ZUW1R51215 | ZUW1R52412 | ZUW1R52415 | ZUW1R54812 | ZUW1R54815 |
|--------------------|--------------------------------------|----------------------------------------------------------------------------------------------|------------|------------|------------|------------|------------|------------|------------|
| INPUT              | VOLTAGE[V]                           | DC4.5 - 9                                                                                    |            | DC9 - 18   |            | DC18 - 36  |            | DC36 - 72  |            |
|                    | CURRENT[A]                           | *1 0.466typ                                                                                  | 0.448typ   | 0.183typ   | 0.176typ   | 0.092typ   | 0.088typ   | 0.046typ   | 0.044typ   |
|                    | EFFICIENCY[%]                        | *1 67typ                                                                                     | 67typ      | 71typ      | 71typ      | 71typ      | 71typ      | 71typ      | 71typ      |
| OUTPUT             | VOLTAGE[V]                           | ±12 (+24)                                                                                    | ±15 (+30)  | ±12 (+24)  | ±15 (+30)  | ±12 (+24)  | ±15 (+30)  | ±12 (+24)  | ±15 (+30)  |
|                    | CURRENT[A]                           | 0.065                                                                                        | 0.050      | 0.065      | 0.050      | 0.065      | 0.050      | 0.065      | 0.050      |
|                    | LINE REGULATION[mV]                  | 60max                                                                                        | 75max      | 60max      | 75max      | 60max      | 75max      | 60max      | 75max      |
|                    | LOAD REGULATION[mV]                  | 600max                                                                                       | 750max     | 600max     | 750max     | 600max     | 750max     | 600max     | 750max     |
|                    | RIPPLE[mVp-p]                        | *2 120max                                                                                    | 120max     | 120max     | 120max     | 120max     | 120max     | 120max     | 120max     |
|                    | RIPPLE NOISE[mVp-p]                  | *2 150max                                                                                    | 150max     | 150max     | 150max     | 150max     | 150max     | 150max     | 150max     |
|                    | TEMPERATURE REGULATION[mV]           | -20 to +55℃                                                                                  | 150max     | 180max     | 150max     | 180max     | 150max     | 180max     | 150max     |
|                    | DRIFT[mV]                            | *3 50max                                                                                     | 60max      | 50max      | 60max      | 50max      | 60max      | 50max      | 60max      |
|                    | START-UP TIME[ms]                    | 20max (Minimum input, Io=100%)                                                               |            |            |            |            |            |            |            |
|                    | OUTPUT VOLTAGE ADJUSTMENT RANGE[V]   | Fixed                                                                                        |            |            |            |            |            |            |            |
| PROTECTION CIRCUIT | OVERCURRENT PROTECTION               | Works over 105% of rating and recovers automatically                                         |            |            |            |            |            |            |            |
|                    | INPUT-OUTPUT                         | AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃)                              |            |            |            |            |            |            |            |
| ISOLATION          | INPUT-CASE                           | AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃)                              |            |            |            |            |            |            |            |
|                    | OUTPUT-CASE                          | AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃)                              |            |            |            |            |            |            |            |
| ENVIRONMENT        | OPERATING TEMP., HUMID. AND ALTITUDE | -20 to +71℃, 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max  |            |            |            |            |            |            |            |
|                    | STORAGE TEMP., HUMID. AND ALTITUDE   | -40 to +85℃, 20 - 95%RH (Non condensing), 9,000m (30,000feet) max                            |            |            |            |            |            |            |            |
|                    | VIBRATION                            | 10 - 55Hz, 98.0m/s <sup>2</sup> (10G), 3minutes period, 60minutes each along X, Y and Z axis |            |            |            |            |            |            |            |
|                    | IMPACT                               | 490.3m/s <sup>2</sup> (50G), 11ms, once each X, Y and Z axis                                 |            |            |            |            |            |            |            |
| SAFETY             | AGENCY APPROVALS                     | UL60950-1, EN60950-1, CSA C22.2 No.60950-1 Complies with IEC60950-1                          |            |            |            |            |            |            |            |
| OTHERS             | CASE SIZE/WEIGHT                     | 27.5×7×18mm (W×H×D) / 10g max                                                                |            |            |            |            |            |            |            |
|                    | COOLING METHOD                       | Convection                                                                                   |            |            |            |            |            |            |            |

\*1 Rated input 5V, 12V, 24V or 48V DC, Io=100%.

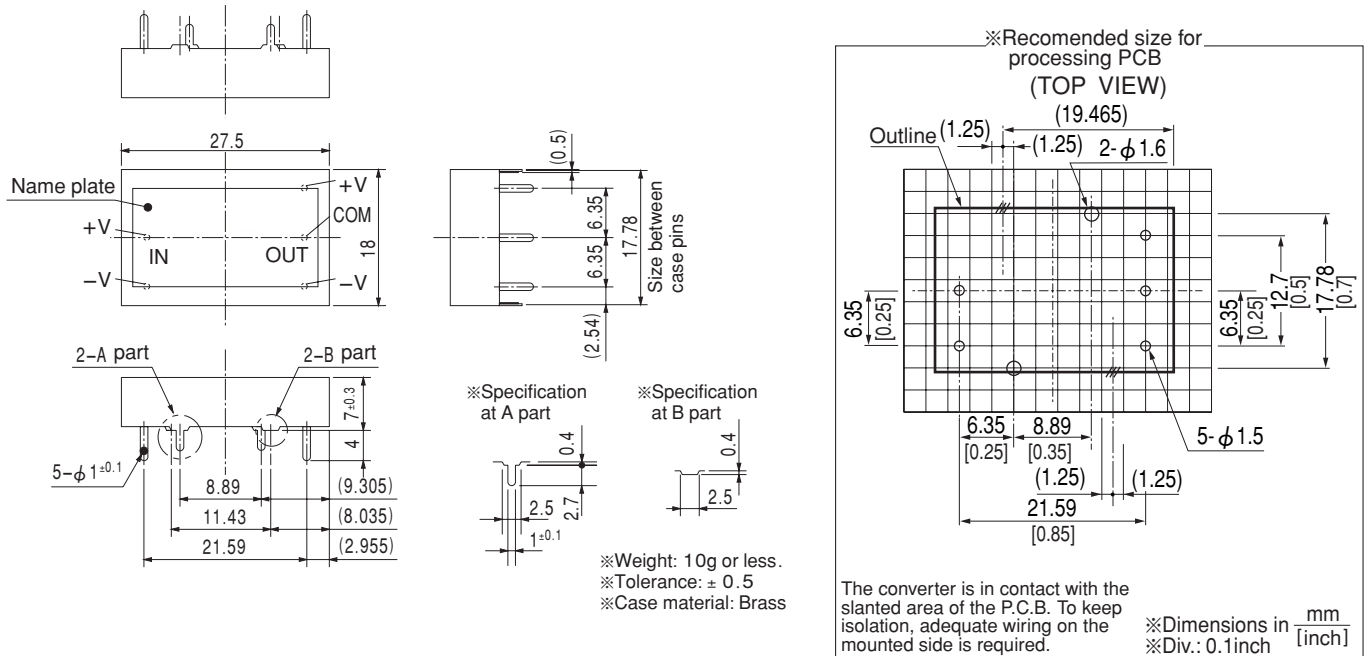
\*2 Measured by 20MHz oscilloscope.

\*3 The drift is a change at 25℃ of ambient temperature and 30 minutes - 8 hours after the input voltage applied at rated input/output.

\* The output specification is at ±12V and ±15V.

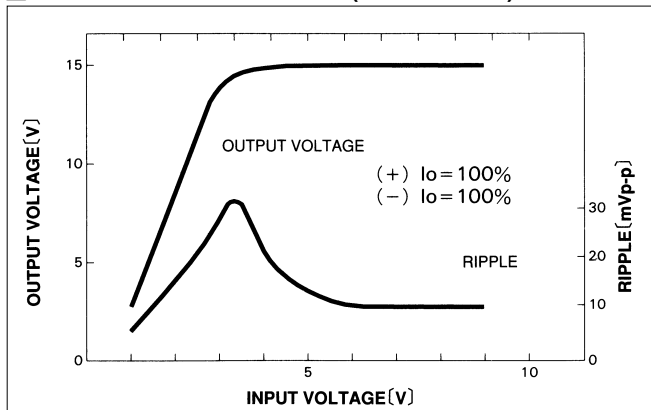
\* Series/Parallel operation with other model is not possible.

## External view

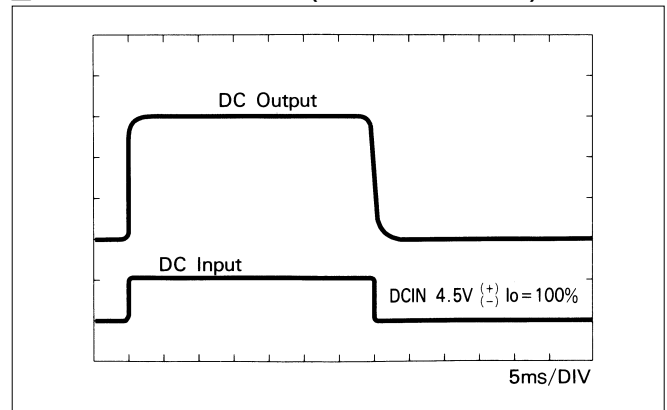


## Performance data

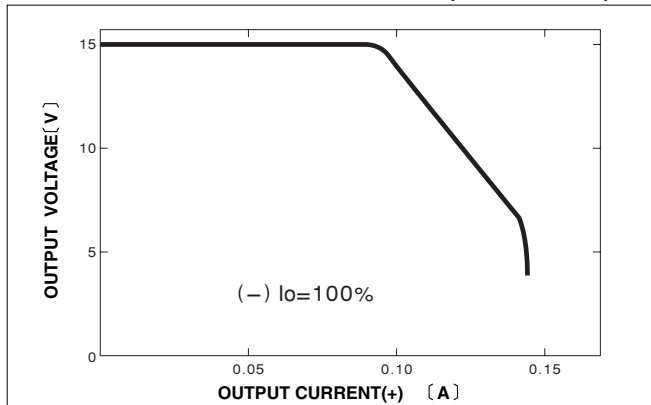
## ■ STATIC CHARACTERISTICS (ZUW1R50515)



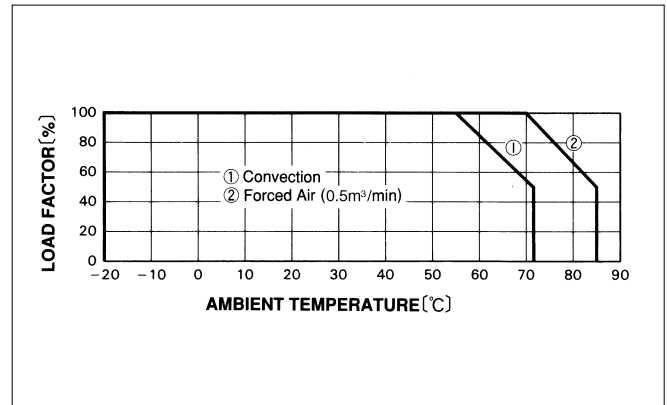
## ■ RISE TIME &amp; FALL TIME (ZUW1R50515: +15V)

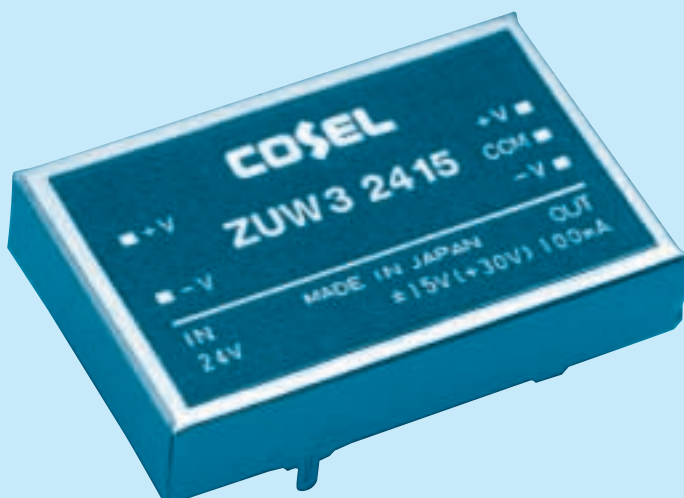


## ■ OVERCURRENT CHARACTERISTICS (ZUW1R50515)



## ■ DERATING CURVE





- ① Series name  
② Dual output  
③ Output wattage  
④ Input voltage  
⑤ Output voltage

| MODEL                 |            | ZUW30512   | ZUW30515   | ZUW31212   | ZUW31215   | ZUW32412   | ZUW32415   | ZUW34812   | ZUW34815   |
|-----------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| MAX OUTPUT WATTAGE[W] |            | 3.12       | 3.00       | 3.12       | 3.00       | 3.12       | 3.00       | 3.12       | 3.00       |
| DC OUTPUT             | VOLTAGE[V] | ±12 or +24 | ±15 or +30 | ±12 or +24 | ±15 or +30 | ±12 or +24 | ±15 or +30 | ±12 or +24 | ±15 or +30 |
|                       | CURRENT[A] | 0.13       | 0.10       | 0.13       | 0.10       | 0.13       | 0.10       | 0.13       | 0.10       |

## SPECIFICATIONS

Output pins can be connected in series to make a 24V/30V output.

|                    | MODEL                                | ZUW30512                                                                                     | ZUW30515  | ZUW31212  | ZUW31215  | ZUW32412  | ZUW32415  | ZUW34812  | ZUW34815  |
|--------------------|--------------------------------------|----------------------------------------------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| INPUT              | VOLTAGE[V]                           | DC4.5 - 9                                                                                    |           | DC9 - 18  |           | DC18 - 36 |           | DC36 - 72 |           |
|                    | CURRENT[A]                           | *1 0.891typ                                                                                  | 0.857typ  | 0.351typ  | 0.338typ  | 0.176typ  | 0.169typ  | 0.087typ  | 0.083typ  |
|                    | EFFICIENCY[%]                        | *1 70typ                                                                                     | 70typ     | 74typ     | 74typ     | 74typ     | 74typ     | 75typ     | 75typ     |
| OUTPUT             | VOLTAGE[V]                           | ±12 (+24)                                                                                    | ±15 (+30) | ±12 (+24) | ±15 (+30) | ±12 (+24) | ±15 (+30) | ±12 (+24) | ±15 (+30) |
|                    | CURRENT[A]                           | 0.13                                                                                         | 0.10      | 0.13      | 0.10      | 0.13      | 0.10      | 0.13      | 0.10      |
|                    | LINE REGULATION[mV]                  | 60max                                                                                        | 75max     | 60max     | 75max     | 60max     | 75max     | 60max     | 75max     |
|                    | LOAD REGULATION[mV]                  | 600max                                                                                       | 750max    | 600max    | 750max    | 600max    | 750max    | 600max    | 750max    |
|                    | RIPPLE[mVp-p]                        | *2 120max                                                                                    | 120max    | 120max    | 120max    | 120max    | 120max    | 120max    | 120max    |
|                    | RIPPLE NOISE[mVp-p]                  | *2 150max                                                                                    | 150max    | 150max    | 150max    | 150max    | 150max    | 150max    | 150max    |
|                    | TEMPERATURE REGULATION[mV]           | -20 to +55℃                                                                                  | 150max    | 180max    | 150max    | 180max    | 150max    | 180max    | 150max    |
|                    | DRIFT[mV]                            | *3 50max                                                                                     | 60max     | 50max     | 60max     | 50max     | 60max     | 50max     | 60max     |
|                    | START-UP TIME[ms]                    | 20max (Minimum input, Io=100%)                                                               |           |           |           |           |           |           |           |
|                    | OUTPUT VOLTAGE ADJUSTMENT RANGE[V]   | Fixed                                                                                        |           |           |           |           |           |           |           |
| PROTECTION CIRCUIT | OVERCURRENT PROTECTION               | Works over 105% of rating and recovers automatically                                         |           |           |           |           |           |           |           |
|                    | INPUT-OUTPUT                         | AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃)                              |           |           |           |           |           |           |           |
| ISOLATION          | INPUT-CASE                           | AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃)                              |           |           |           |           |           |           |           |
|                    | OUTPUT-CASE                          | AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃)                              |           |           |           |           |           |           |           |
| ENVIRONMENT        | OPERATING TEMP., HUMID. AND ALTITUDE | -20 to +71℃, 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max  |           |           |           |           |           |           |           |
|                    | STORAGE TEMP., HUMID. AND ALTITUDE   | -40 to +85℃, 20 - 95%RH (Non condensing), 9,000m (30,000feet) max                            |           |           |           |           |           |           |           |
|                    | VIBRATION                            | 10 - 55Hz, 98.0m/s <sup>2</sup> (10G), 3minutes period, 60minutes each along X, Y and Z axis |           |           |           |           |           |           |           |
|                    | IMPACT                               | 490.3m/s <sup>2</sup> (50G), 11ms, once each X, Y and Z axis                                 |           |           |           |           |           |           |           |
| SAFETY             | AGENCY APPROVALS                     | UL60950-1, EN60950-1, CSA C22.2 No.60950-1 Complies with IEC60950-1                          |           |           |           |           |           |           |           |
| OTHERS             | CASE SIZE/WEIGHT                     | 35×7×23mm (W×H×D) / 16g max                                                                  |           |           |           |           |           |           |           |
|                    | COOLING METHOD                       | Convection                                                                                   |           |           |           |           |           |           |           |

\*1 Rated input 5V, 12V, 24V or 48V DC, Io=100%.

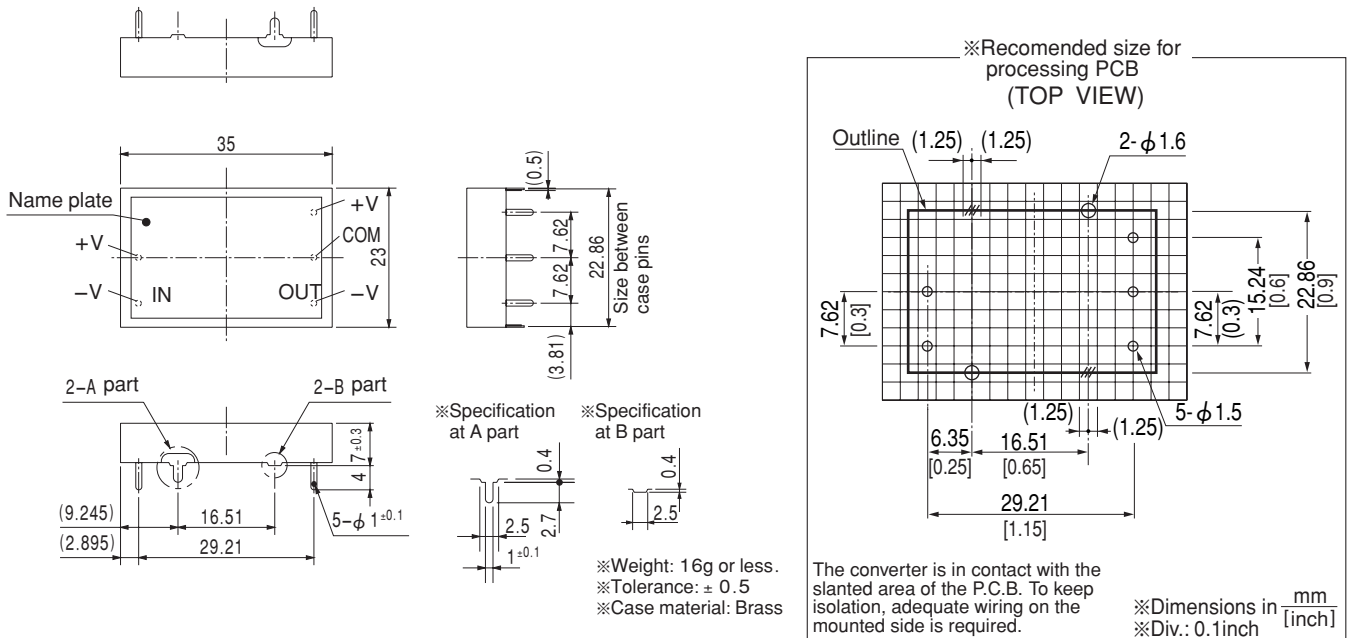
\*2 Measured by 20MHz oscilloscope.

\*3 The drift is a change at 25℃ of ambient temperature and 30 minutes - 8 hours after the input voltage applied at rated input/output.

\* The output specification is at ±12V and ±15V.

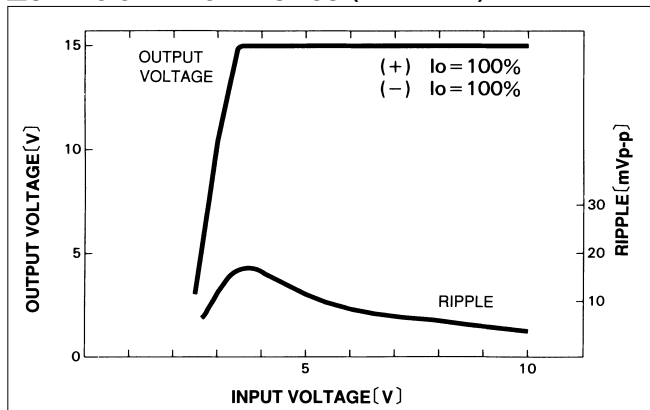
\* Series/Parallel operation with other model is not possible.

## External view

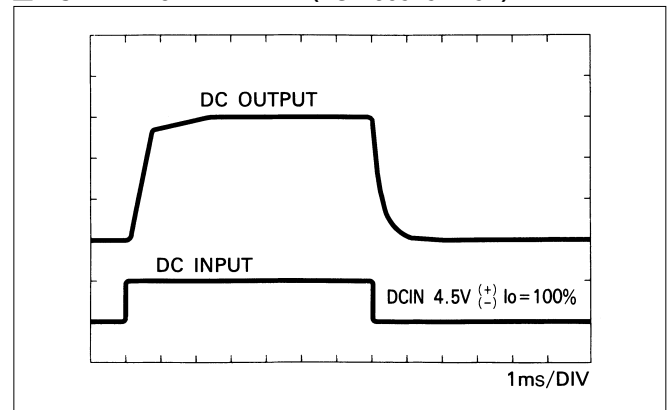


## Performance data

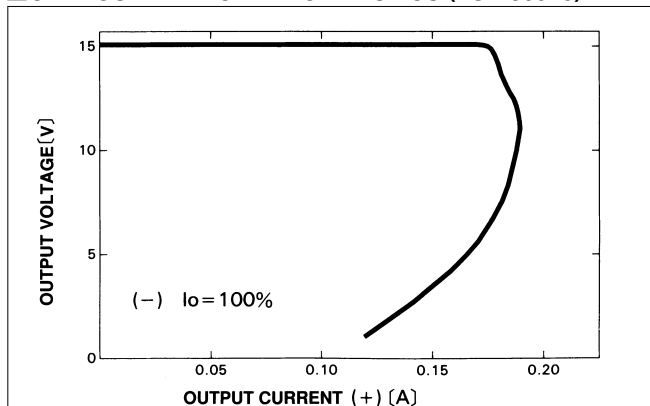
## ■ STATIC CHARACTERISTICS (ZUW30515)



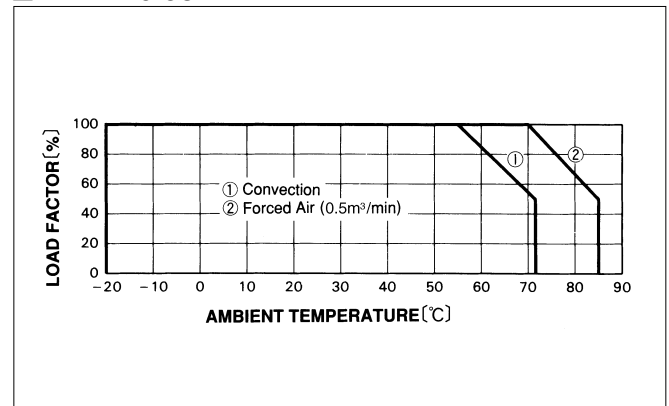
## ■ RISE TIME &amp; FALL TIME (ZUW30515: +15V)



## ■ OVERCURRENT CHARACTERISTICS (ZUW30515)



## ■ DERATING CURVE





- ① Series name  
② Dual output  
③ Output wattage  
④ Input voltage  
⑤ Output voltage

| MODEL                 |            | ZUW60512   | ZUW60515   | ZUW61212   | ZUW61215   | ZUW62412   | ZUW62415   | ZUW64812   | ZUW64815   |
|-----------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| MAX OUTPUT WATTAGE[W] |            | 6.00       | 6.00       | 6.00       | 6.00       | 6.00       | 6.00       | 6.00       | 6.00       |
| DC OUTPUT             | VOLTAGE[V] | ±12 or +24 | ±15 or +30 | ±12 or +24 | ±15 or +30 | ±12 or +24 | ±15 or +30 | ±12 or +24 | ±15 or +30 |
|                       | CURRENT[A] | 0.25       | 0.20       | 0.25       | 0.20       | 0.25       | 0.20       | 0.25       | 0.20       |

## SPECIFICATIONS

Output pins can be connected in series to make a 24V/30V output.

|                    | MODEL                                | ZUW60512                                                                                     | ZUW60515  | ZUW61212  | ZUW61215  | ZUW62412  | ZUW62415  | ZUW64812  | ZUW64815  |
|--------------------|--------------------------------------|----------------------------------------------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| INPUT              | VOLTAGE[V]                           | DC4.5 - 9                                                                                    |           | DC9 - 18  |           | DC18 - 36 |           | DC36 - 72 |           |
|                    | CURRENT[A]                           | *1 1.60typ                                                                                   | 1.60typ   | 0.65typ   | 0.65typ   | 0.33typ   | 0.33typ   | 0.17typ   | 0.17typ   |
|                    | EFFICIENCY[%]                        | *1 75typ                                                                                     | 75typ     | 77typ     | 77typ     | 77typ     | 77typ     | 77typ     | 77typ     |
| OUTPUT             | VOLTAGE[V]                           | ±12 (+24)                                                                                    | ±15 (+30) | ±12 (+24) | ±15 (+30) | ±12 (+24) | ±15 (+30) | ±12 (+24) | ±15 (+30) |
|                    | CURRENT[A]                           | 0.25                                                                                         | 0.20      | 0.25      | 0.20      | 0.25      | 0.20      | 0.25      | 0.20      |
|                    | LINE REGULATION[mV]                  | 60max                                                                                        | 75max     | 60max     | 75max     | 60max     | 75max     | 60max     | 75max     |
|                    | LOAD REGULATION[mV]                  | 600max                                                                                       | 750max    | 600max    | 750max    | 600max    | 750max    | 600max    | 750max    |
|                    | RIPPLE[mVp-p]                        | *2 120max                                                                                    | 120max    | 120max    | 120max    | 120max    | 120max    | 120max    | 120max    |
|                    | RIPPLE NOISE[mVp-p]                  | *2 150max                                                                                    | 150max    | 150max    | 150max    | 150max    | 150max    | 150max    | 150max    |
|                    | TEMPERATURE REGULATION[mV]           | *3 -20 to +55℃                                                                               | 150max    | 180max    | 150max    | 180max    | 150max    | 180max    | 150max    |
|                    | DRIFT[mV]                            | *3 50max                                                                                     | 60max     | 50max     | 60max     | 50max     | 60max     | 50max     | 60max     |
|                    | START-UP TIME[ms]                    | 20max (Minimum input, Io=100%)                                                               |           |           |           |           |           |           |           |
|                    | OUTPUT VOLTAGE ADJUSTMENT RANGE[V]   | Fixed                                                                                        |           |           |           |           |           |           |           |
| PROTECTION CIRCUIT | OVERCURRENT PROTECTION               | Works over 105% of rating and recovers automatically                                         |           |           |           |           |           |           |           |
|                    | INPUT-OUTPUT                         | AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃)                              |           |           |           |           |           |           |           |
| ISOLATION          | INPUT-CASE                           | AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃)                              |           |           |           |           |           |           |           |
|                    | OUTPUT-CASE                          | AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃)                              |           |           |           |           |           |           |           |
| ENVIRONMENT        | OPERATING TEMP., HUMID. AND ALTITUDE | -20 to +71℃, 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max  |           |           |           |           |           |           |           |
|                    | STORAGE TEMP., HUMID. AND ALTITUDE   | -40 to +85℃, 20 - 95%RH (Non condensing), 9,000m (30,000feet) max                            |           |           |           |           |           |           |           |
|                    | VIBRATION                            | 10 - 55Hz, 98.0m/s <sup>2</sup> (10G), 3minutes period, 60minutes each along X, Y and Z axis |           |           |           |           |           |           |           |
|                    | IMPACT                               | 490.3m/s <sup>2</sup> (50G), 11ms, once each X, Y and Z axis                                 |           |           |           |           |           |           |           |
| SAFETY             | AGENCY APPROVALS                     | UL60950-1, EN60950-1, CSA C22.2 No.60950-1 Complies with IEC60950-1                          |           |           |           |           |           |           |           |
| OTHERS             | CASE SIZE/WEIGHT                     | 44.5×7×28mm (W×H×D) / 25g max                                                                |           |           |           |           |           |           |           |
|                    | COOLING METHOD                       | Convection                                                                                   |           |           |           |           |           |           |           |

\*1 Rated input 5V, 12V, 24V or 48V DC, Io=100%.

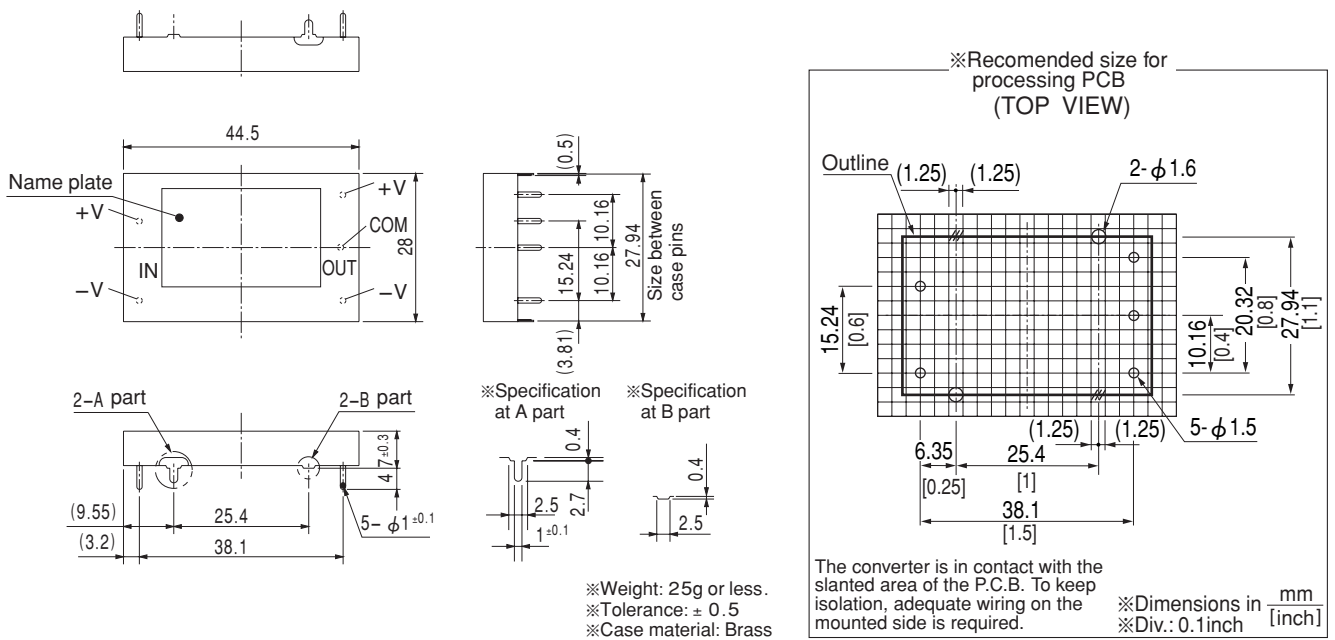
\*2 Measured by 20MHz oscilloscope.

\*3 The drift is a change at 25℃ of ambient temperature and 30 minutes - 8 hours after the input voltage applied at rated input/output.

\* The output specification is at ±12V and ±15V.

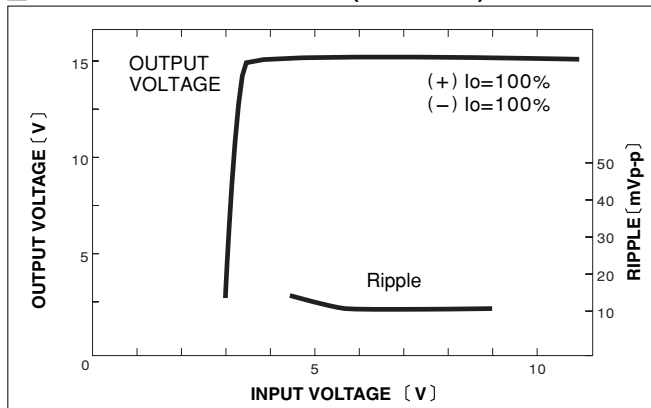
\* Series/Parallel operation with other model is not possible.

## External view

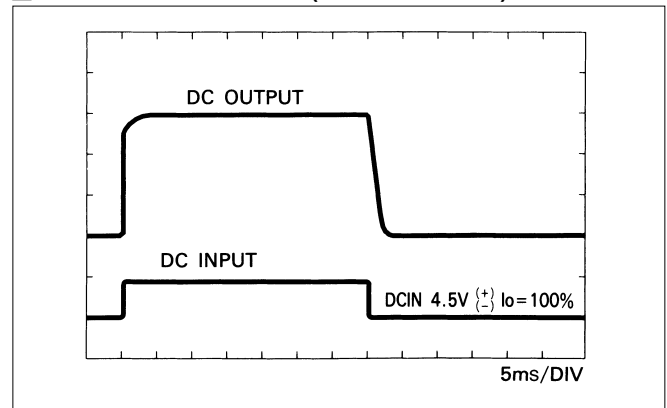


## Performance data

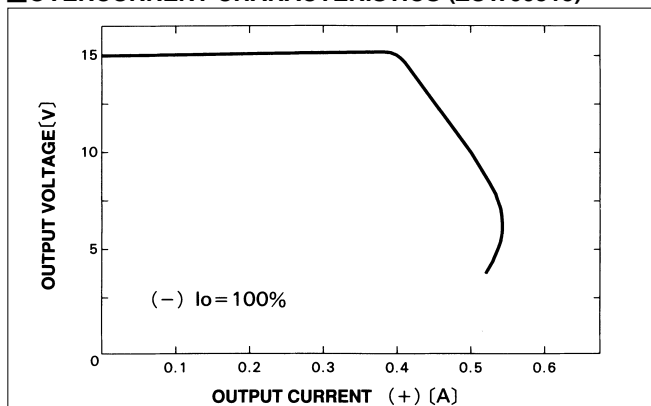
## ■ STATIC CHARACTERISTICS (ZUW60515)



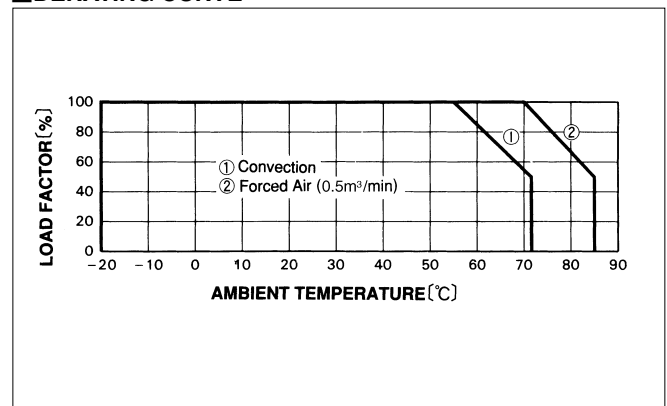
## ■ RISE TIME &amp; FALL TIME (ZUW60515: +15V)



## ■ OVERCURRENT CHARACTERISTICS (ZUW60515)



## ■ DERATING CURVE





- ① Series name  
② Dual output  
③ Output wattage  
④ Input voltage  
⑤ Output voltage

| MODEL                 |            | ZUW100512  | ZUW100515  | ZUW101212  | ZUW101215  | ZUW102412  | ZUW102415  | ZUW104812  | ZUW104815  |
|-----------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| MAX OUTPUT WATTAGE[W] |            | 8.4        | 9.0        | 10.8       | 10.5       | 10.8       | 10.5       | 10.8       | 10.5       |
| DC OUTPUT             | VOLTAGE[V] | ±12 or +24 | ±15 or +30 | ±12 or +24 | ±15 or +30 | ±12 or +24 | ±15 or +30 | ±12 or +24 | ±15 or +30 |
|                       | CURRENT[A] | 0.35       | 0.30       | 0.45       | 0.35       | 0.45       | 0.35       | 0.45       | 0.35       |

## SPECIFICATIONS

Output pins can be connected in series to make a 24V/30V output.

|                    | MODEL                                | ZUW100512                                                                                    | ZUW100515 | ZUW101212 | ZUW101215 | ZUW102412 | ZUW102415 | ZUW104812 | ZUW104815 |
|--------------------|--------------------------------------|----------------------------------------------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| INPUT              | VOLTAGE[V]                           | DC4.5 - 9                                                                                    |           | DC9 - 18  |           | DC18 - 36 |           | DC36 - 72 |           |
|                    | CURRENT[A]                           | *1 2.24typ                                                                                   | 2.40typ   | 1.12typ   | 1.09typ   | 0.56typ   | 0.55typ   | 0.28typ   | 0.28typ   |
|                    | EFFICIENCY[%]                        | *1 75typ                                                                                     | 75typ     | 81typ     | 81typ     | 81typ     | 81typ     | 81typ     | 81typ     |
| OUTPUT             | VOLTAGE[V]                           | ±12 (+24)                                                                                    | ±15 (+30) | ±12 (+24) | ±15 (+30) | ±12 (+24) | ±15 (+30) | ±12 (+24) | ±15 (+30) |
|                    | CURRENT[A]                           | 0.35                                                                                         | 0.30      | 0.45      | 0.35      | 0.45      | 0.35      | 0.45      | 0.35      |
|                    | LINE REGULATION[mV]                  | 60max                                                                                        | 75max     | 60max     | 75max     | 60max     | 75max     | 60max     | 75max     |
|                    | LOAD REGULATION[mV]                  | 600max                                                                                       | 750max    | 600max    | 750max    | 600max    | 750max    | 600max    | 750max    |
|                    | RIPPLE[mVp-p]                        | *2 120max                                                                                    | 120max    | 120max    | 120max    | 120max    | 120max    | 120max    | 120max    |
|                    | RIPPLE NOISE[mVp-p]                  | *2 150max                                                                                    | 150max    | 150max    | 150max    | 150max    | 150max    | 150max    | 150max    |
|                    | TEMPERATURE REGULATION[mV]           | -20 to +55°C                                                                                 | 150max    | 180max    | 150max    | 180max    | 150max    | 180max    | 150max    |
|                    | DRIFT[mV]                            | *3 50max                                                                                     | 60max     | 50max     | 60max     | 50max     | 60max     | 50max     | 60max     |
|                    | START-UP TIME[ms]                    | 20max (Minimum input, Io=100%)                                                               |           |           |           |           |           |           |           |
|                    | OUTPUT VOLTAGE ADJUSTMENT RANGE[V]   | Fixed                                                                                        |           |           |           |           |           |           |           |
| PROTECTION CIRCUIT | OVERCURRENT PROTECTION               | Works over 105% of rating and recovers automatically                                         |           |           |           |           |           |           |           |
|                    | INPUT-OUTPUT                         | AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15°C)                             |           |           |           |           |           |           |           |
| ISOLATION          | INPUT-CASE                           | AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15°C)                             |           |           |           |           |           |           |           |
|                    | OUTPUT-CASE                          | AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15°C)                             |           |           |           |           |           |           |           |
| ENVIRONMENT        | OPERATING TEMP., HUMID. AND ALTITUDE | -20 to +71°C, 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max |           |           |           |           |           |           |           |
|                    | STORAGE TEMP., HUMID. AND ALTITUDE   | -40 to +85°C, 20 - 95%RH (Non condensing), 9,000m (30,000feet) max                           |           |           |           |           |           |           |           |
|                    | VIBRATION                            | 10 - 55Hz, 98.0m/s <sup>2</sup> (10G), 3minutes period, 60minutes each along X, Y and Z axis |           |           |           |           |           |           |           |
|                    | IMPACT                               | 490.3m/s <sup>2</sup> (50G), 11ms, once each X, Y and Z axis                                 |           |           |           |           |           |           |           |
| SAFETY             | AGENCY APPROVALS                     | UL60950-1, EN60950-1, CSA C22.2 No.60950-1 Complies with IEC60950-1                          |           |           |           |           |           |           |           |
| OTHERS             | CASE SIZE/WEIGHT                     | 45×7×35mm (W×H×D) / 40g max                                                                  |           |           |           |           |           |           |           |
|                    | COOLING METHOD                       | Convection                                                                                   |           |           |           |           |           |           |           |

\*1 Rated input 5V, 12V, 24V or 48V DC, Io=100%.

\*2 Measured by 20MHz oscilloscope.

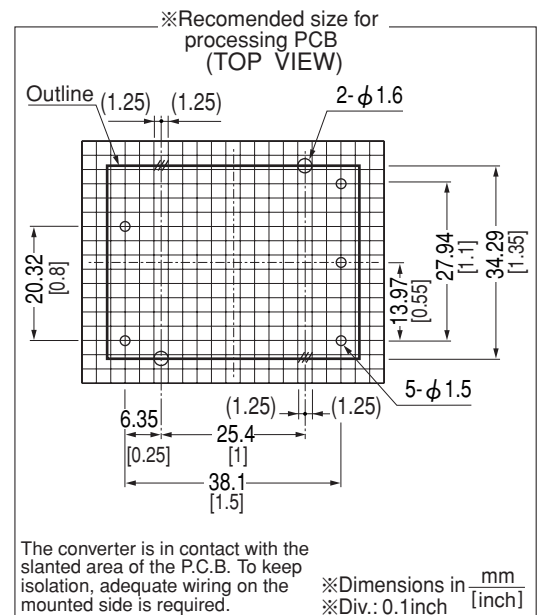
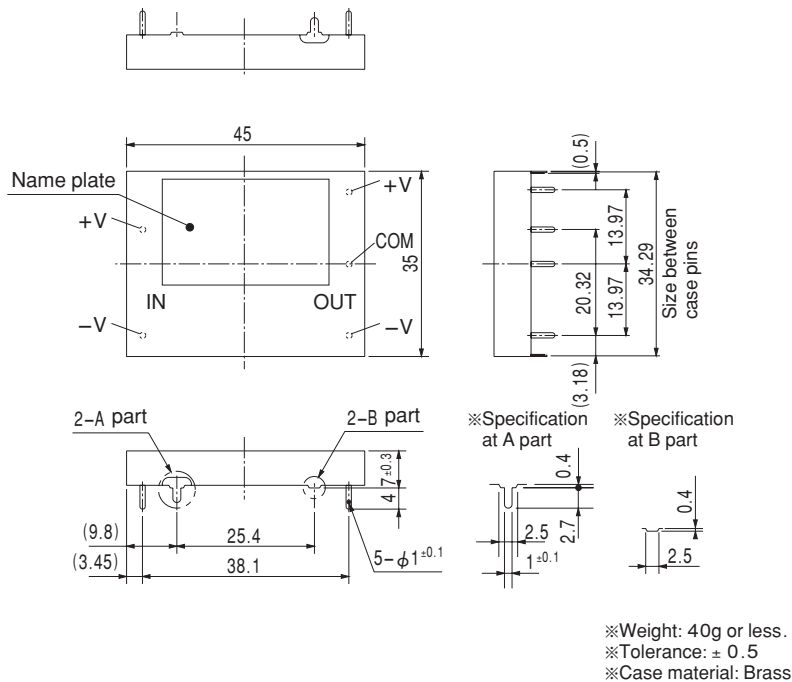
\*3 The drift is a change at 25°C of ambient temperature and 30 minutes - 8 hours after the input voltage applied at rated input/output.

\* The output specification is at ±12V and ±15V.

\* Series/Parallel operation with other model is not possible.

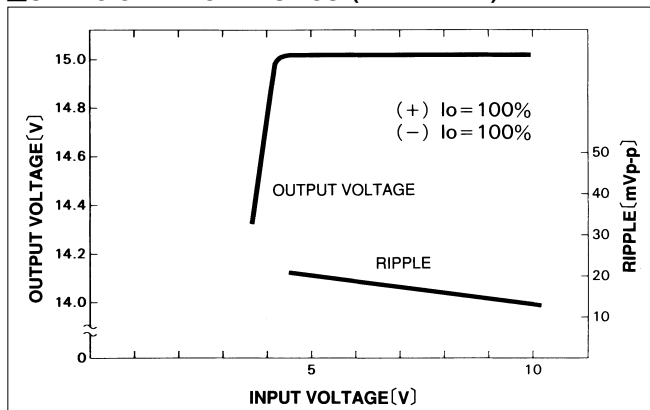


## External view

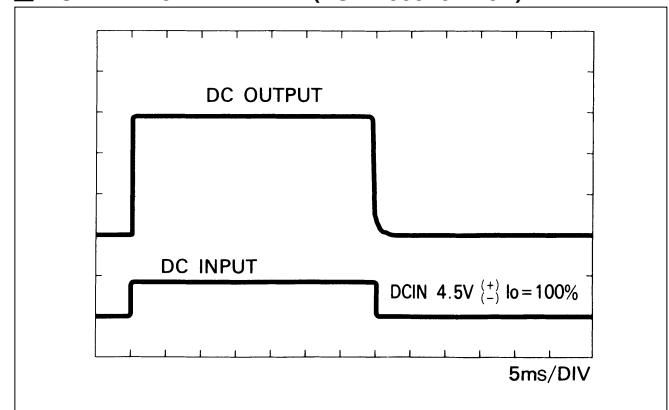


## Performance data

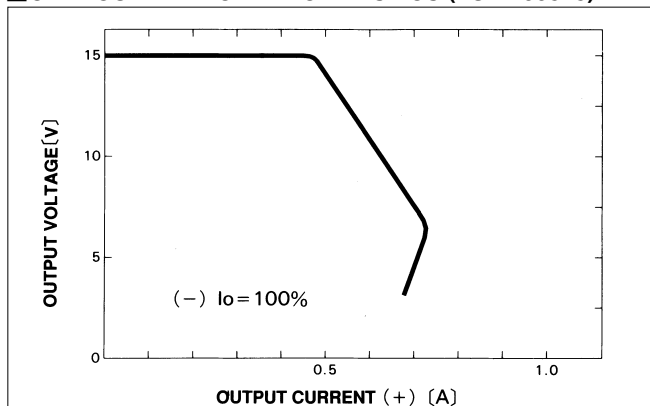
## ■ STATIC CHARACTERISTICS (ZUW100515)



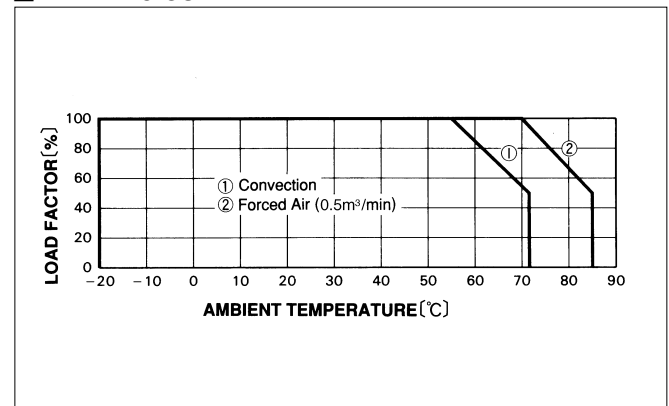
### ■ RISE TIME & FALL TIME (ZUW100515:+15V)



## ■ OVERCURRENT CHARACTERISTICS (ZUW100515)



## DERATING CURVE







- ① Series name  
② Dual output  
③ Output wattage  
④ Input voltage  
⑤ Output voltage

| MODEL                 | ZUW150512  | ZUW150515  | ZUW151212  | ZUW151215  | ZUW152412  | ZUW152415  | ZUW154812  | ZUW154815  |
|-----------------------|------------|------------|------------|------------|------------|------------|------------|------------|
| MAX OUTPUT WATTAGE[W] | 14.4       | 15.0       | 15.6       | 15.0       | 15.6       | 15.0       | 15.6       | 15.0       |
| DC OUTPUT             | VOLTAGE[V] | ±12 or +24 | ±15 or +30 | ±12 or +24 | ±15 or +30 | ±12 or +24 | ±15 or +30 | ±12 or +24 |
|                       | CURRENT[A] | 0.6        | 0.5        | 0.65       | 0.5        | 0.65       | 0.5        | 0.65       |

## SPECIFICATIONS

Output pins can be connected in series to make a 24V/30V output.

|                    | MODEL                                | ZUW150512                                                                                                             | ZUW150515     | ZUW151212     | ZUW151215     | ZUW152412     | ZUW152415     | ZUW154812     | ZUW154815     |
|--------------------|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| INPUT              | VOLTAGE[V]                           | DC4.5 - 9                                                                                                             |               | DC9 - 18      |               | DC18 - 36     |               | DC36 - 75     |               |
|                    | CURRENT[A]                           | *1 3.56typ                                                                                                            | 3.70typ       | 1.57typ       | 1.51typ       | 0.78typ       | 0.75typ       | 0.39typ       | 0.38typ       |
|                    | EFFICIENCY[%]                        | *1 81typ                                                                                                              | 81typ         | 83typ         | 83typ         | 83typ         | 83typ         | 83typ         | 83typ         |
| ZU/ZT OUTPUT       | VOLTAGE[V]                           | ±12 (+24)                                                                                                             | ±15 (+30)     | ±12 (+24)     | ±15 (+30)     | ±12 (+24)     | ±15 (+30)     | ±12 (+24)     | ±15 (+30)     |
|                    | CURRENT[A]                           | 0.60                                                                                                                  | 0.50          | 0.65          | 0.50          | 0.65          | 0.50          | 0.65          | 0.50          |
|                    | LINE REGULATION[mV]                  | 60max                                                                                                                 | 75max         | 60max         | 75max         | 60max         | 75max         | 60max         | 75max         |
|                    | LOAD REGULATION[mV]                  | 600max                                                                                                                | 750max        | 600max        | 750max        | 600max        | 750max        | 600max        | 750max        |
|                    | RIPPLE[mVp-p]                        | *2 120max                                                                                                             | 120max        | 120max        | 120max        | 120max        | 120max        | 120max        | 120max        |
|                    | RIPPLE NOISE[mVp-p]                  | *2 150max                                                                                                             | 150max        | 150max        | 150max        | 150max        | 150max        | 150max        | 150max        |
|                    | TEMPERATURE REGULATION[mV]           | 0 to +55°C                                                                                                            | 150max        | 180max        | 150max        | 180max        | 150max        | 180max        | 150max        |
|                    | DRIFT[mV]                            | *3 50max                                                                                                              | 60max         | 50max         | 60max         | 50max         | 60max         | 50max         | 60max         |
|                    | START-UP TIME[ms]                    | 100max (Minimum input, I <sub>o</sub> =100%)                                                                          |               |               |               |               |               |               |               |
|                    | OUTPUT VOLTAGE ADJUSTMENT RANGE[V]   | Internally fixed (TRM pin open), ±5% adjustable by external VR                                                        |               |               |               |               |               |               |               |
| PROTECTION CIRCUIT | OUTPUT VOLTAGE SETTING[V]            | 11.40 - 12.60                                                                                                         | 14.25 - 15.75 | 11.40 - 12.60 | 14.25 - 15.75 | 11.40 - 12.60 | 14.25 - 15.75 | 11.40 - 12.60 | 14.25 - 15.75 |
|                    | OVERCURRENT PROTECTION               | Works over 105% of rating and recovers automatically                                                                  |               |               |               |               |               |               |               |
|                    | OVERVOLTAGE PROTECTION               | Works at 115 - 140% of rating (Total of +V and -V)                                                                    |               |               |               |               |               |               |               |
| ISOLATION          | REMOTE ON/OFF                        | Between RC and -side of input: short - 1.2V · · · output ON, 2.4V - 5.5V(or open) · · · output OFF, Compatible to TTL |               |               |               |               |               |               |               |
|                    | INPUT-OUTPUT                         | AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15°C)                                                      |               |               |               |               |               |               |               |
|                    | INPUT-CASE                           | AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15°C)                                                      |               |               |               |               |               |               |               |
| ENVIRONMENT        | OUTPUT-CASE                          | AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15°C)                                                      |               |               |               |               |               |               |               |
|                    | OPERATING TEMP., HUMID. AND ALTITUDE | -20 to +71°C, 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max                          |               |               |               |               |               |               |               |
|                    | STORAGE TEMP., HUMID. AND ALTITUDE   | -40 to +85°C, 20 - 95%RH (Non condensing), 9,000m (30,000feet) max                                                    |               |               |               |               |               |               |               |
|                    | VIBRATION                            | 10 - 55Hz, 98.0m/s <sup>2</sup> (10G), 3minutes period, 60minutes each along X, Y and Z axis                          |               |               |               |               |               |               |               |
| SAFETY             | IMPACT                               | 490.3m/s <sup>2</sup> (50G), 11ms, once each X, Y and Z axis                                                          |               |               |               |               |               |               |               |
|                    | AGENCY APPROVALS                     | UL60950-1, EN60950-1, CSA C22.2 No.60950-1 Complies with IEC60950-1                                                   |               |               |               |               |               |               |               |
| OTHERS             | CASE SIZE/WEIGHT                     | 45×8.5×50mm (W×H×D) / 55g max                                                                                         |               |               |               |               |               |               |               |
|                    | COOLING METHOD                       | Convection                                                                                                            |               |               |               |               |               |               |               |

\*1 Rated input 5V, 12V, 24V or 48V DC, I<sub>o</sub>=100%.

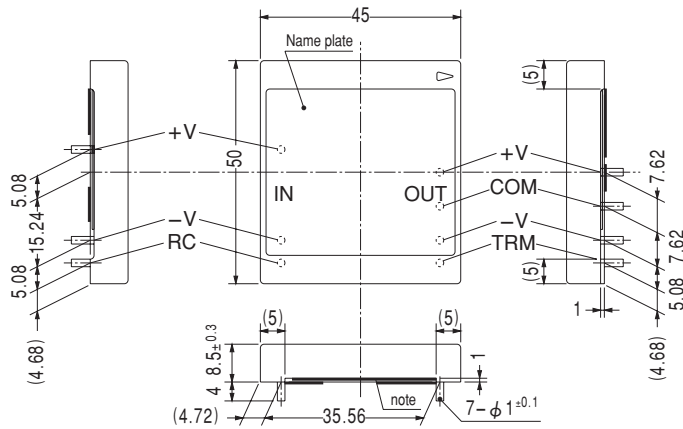
\*2 Measured by 20MHz oscilloscope.

\*3 The drift is a change at 25°C of ambient temperature and 30 minutes - 8 hours after the input voltage applied at rated input/output.

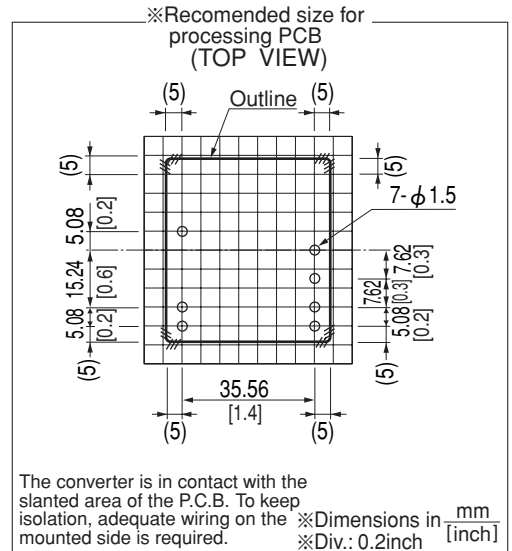
\* The output specification is at ±12V and ±15V.

\* Series/Parallel operation with other model is not possible.

## External view

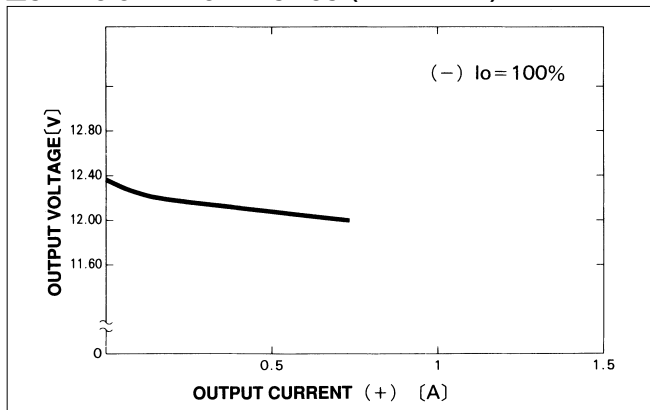


note) Internal parts  
 ※Weight: 55g or less.  
 ※Tolerance:  $\pm 0.5$   
 ※Case material: Aluminum

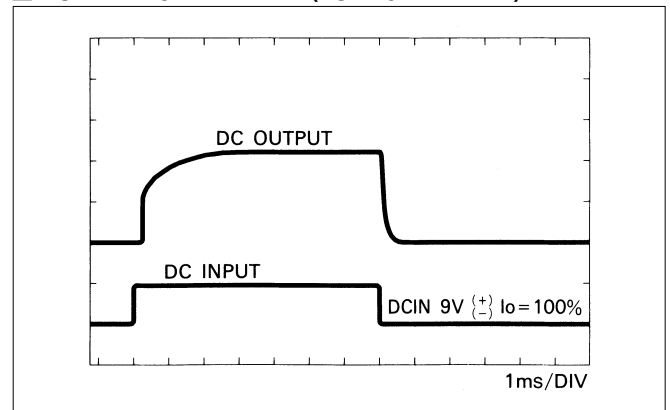


## Performance data

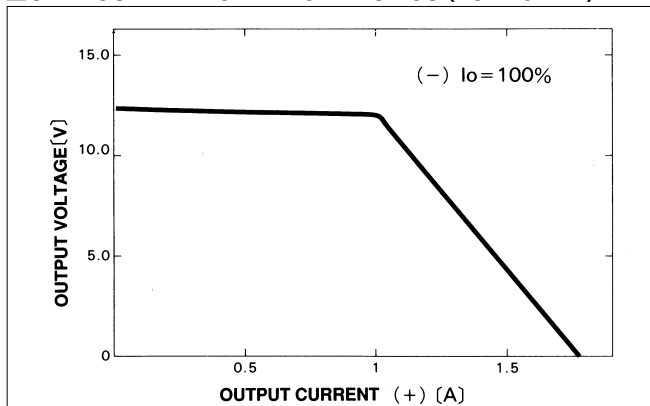
## ■ STATIC CHARACTERISTICS (ZUW151212)



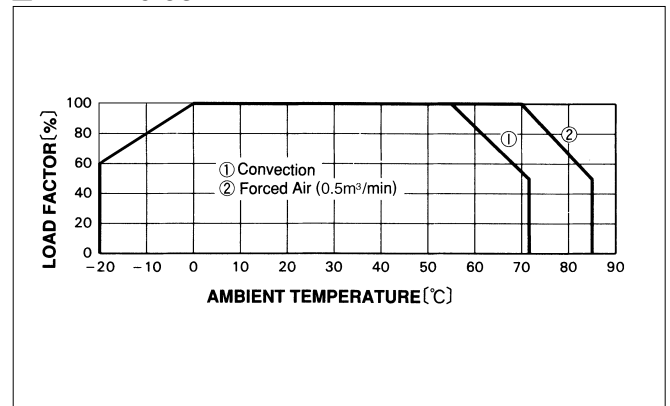
## ■ RISE TIME &amp; FALL TIME (ZUW151212:+12V)



## ■ OVERCURRENT CHARACTERISTICS (ZUW151212)



## ■ DERATING CURVE





- ① Series name  
② Dual output  
③ Output wattage  
④ Input voltage  
⑤ Output voltage

| MODEL                 |            | ZUW250512   | ZUW250515   | ZUW251212   | ZUW251215   | ZUW252412   | ZUW252415   | ZUW254812   | ZUW254815   |
|-----------------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| MAX OUTPUT WATTAGE[W] |            | 20.2        | 20.1        | 25.2        | 25.5        | 25.2        | 25.5        | 25.2        | 25.5        |
| DC OUTPUT             | VOLTAGE[V] | ± 12 or +24 | ± 15 or +30 | ± 12 or +24 | ± 15 or +30 | ± 12 or +24 | ± 15 or +30 | ± 12 or +24 | ± 15 or +30 |
|                       | CURRENT[A] | 0.84        | 0.67        | 1.05        | 0.85        | 1.05        | 0.85        | 1.05        | 0.85        |

## SPECIFICATIONS

Output pins can be connected in series to make a 24V/30V output.

|                    | MODEL                                | ZUW250512                                                                                                             | ZUW250515     | ZUW251212     | ZUW251215     | ZUW252412     | ZUW252415     | ZUW254812     | ZUW254815     |
|--------------------|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| INPUT              | VOLTAGE[V]                           | DC4.5 - 9                                                                                                             |               | DC9 - 18      |               | DC18 - 36     |               | DC36 - 75     |               |
|                    | CURRENT[A]                           | *1 4.92typ                                                                                                            | 4.90typ       | 2.47typ       | 2.50typ       | 1.23typ       | 1.25typ       | 0.62typ       | 0.63typ       |
|                    | EFFICIENCY[%]                        | *1 82typ                                                                                                              | 82typ         | 85typ         | 85typ         | 85typ         | 85typ         | 85typ         | 85typ         |
| ZU/ZT OUTPUT       | VOLTAGE[V]                           | ±12 (+24)                                                                                                             | ±15 (+30)     | ±12 (+24)     | ±15 (+30)     | ±12 (+24)     | ±15 (+30)     | ±12 (+24)     | ±15 (+30)     |
|                    | CURRENT[A]                           | 0.84                                                                                                                  | 0.67          | 1.05          | 0.85          | 1.05          | 0.85          | 1.05          | 0.85          |
|                    | LINE REGULATION[mV]                  | 60max                                                                                                                 | 75max         | 60max         | 75max         | 60max         | 75max         | 60max         | 75max         |
|                    | LOAD REGULATION[mV]                  | 600max                                                                                                                | 750max        | 600max        | 750max        | 600max        | 750max        | 600max        | 750max        |
|                    | RIPPLE[mVp-p]                        | *2 120max                                                                                                             | 120max        | 120max        | 120max        | 120max        | 120max        | 120max        | 120max        |
|                    | RIPPLE NOISE[mVp-p]                  | *2 150max                                                                                                             | 150max        | 150max        | 150max        | 150max        | 150max        | 150max        | 150max        |
|                    | TEMPERATURE REGULATION[mV]           | 0 to +55°C                                                                                                            | 150max        | 180max        | 150max        | 180max        | 150max        | 180max        | 150max        |
|                    | DRIFT[mV]                            | *3 50max                                                                                                              | 60max         | 50max         | 60max         | 50max         | 60max         | 50max         | 60max         |
|                    | START-UP TIME[ms]                    | 100max (Minimum input, Io=100%)                                                                                       |               |               |               |               |               |               |               |
|                    | OUTPUT VOLTAGE ADJUSTMENT RANGE[V]   | Internally fixed (TRM pin open), ±5% adjustable by external VR                                                        |               |               |               |               |               |               |               |
| PROTECTION CIRCUIT | OUTPUT VOLTAGE SETTING[V]            | 11.40 - 12.60                                                                                                         | 14.25 - 15.75 | 11.40 - 12.60 | 14.25 - 15.75 | 11.40 - 12.60 | 14.25 - 15.75 | 11.40 - 12.60 | 14.25 - 15.75 |
|                    | OVERCURRENT PROTECTION               | Works over 105% of rating and recovers automatically                                                                  |               |               |               |               |               |               |               |
|                    | OVERVOLTAGE PROTECTION               | Works at 115 - 140% of rating (Total of +V and -V)                                                                    |               |               |               |               |               |               |               |
| ISOLATION          | REMOTE ON/OFF                        | Between RC and -side of input: short - 1.2V · · · output ON, 2.4V - 5.5V(or open) · · · output OFF, Compatible to TTL |               |               |               |               |               |               |               |
|                    | INPUT-OUTPUT                         | AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15°C)                                                      |               |               |               |               |               |               |               |
|                    | INPUT-CASE                           | AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15°C)                                                      |               |               |               |               |               |               |               |
| ENVIRONMENT        | OUTPUT-CASE                          | AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15°C)                                                      |               |               |               |               |               |               |               |
|                    | OPERATING TEMP., HUMID. AND ALTITUDE | -20 to +71°C, 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max                          |               |               |               |               |               |               |               |
|                    | STORAGE TEMP., HUMID. AND ALTITUDE   | -40 to +85°C, 20 - 95%RH (Non condensing), 9,000m (30,000feet) max                                                    |               |               |               |               |               |               |               |
|                    | VIBRATION                            | 10 - 55Hz, 98.0m/s <sup>2</sup> (10G), 3minutes period, 60minutes each along X, Y and Z axis                          |               |               |               |               |               |               |               |
| SAFETY             | IMPACT                               | 490.3m/s <sup>2</sup> (50G), 11ms, once each X, Y and Z axis                                                          |               |               |               |               |               |               |               |
|                    | AGENCY APPROVALS                     | UL60950-1, EN60950-1, CSA C22.2 No.60950-1 Complies with IEC60950-1                                                   |               |               |               |               |               |               |               |
| OTHERS             | CASE SIZE/WEIGHT                     | 65×8.5×50mm (W×H×D) / 65g max                                                                                         |               |               |               |               |               |               |               |
|                    | COOLING METHOD                       | Convection                                                                                                            |               |               |               |               |               |               |               |

\*1 Rated input 5V, 12V, 24V or 48V DC, Io=100%.

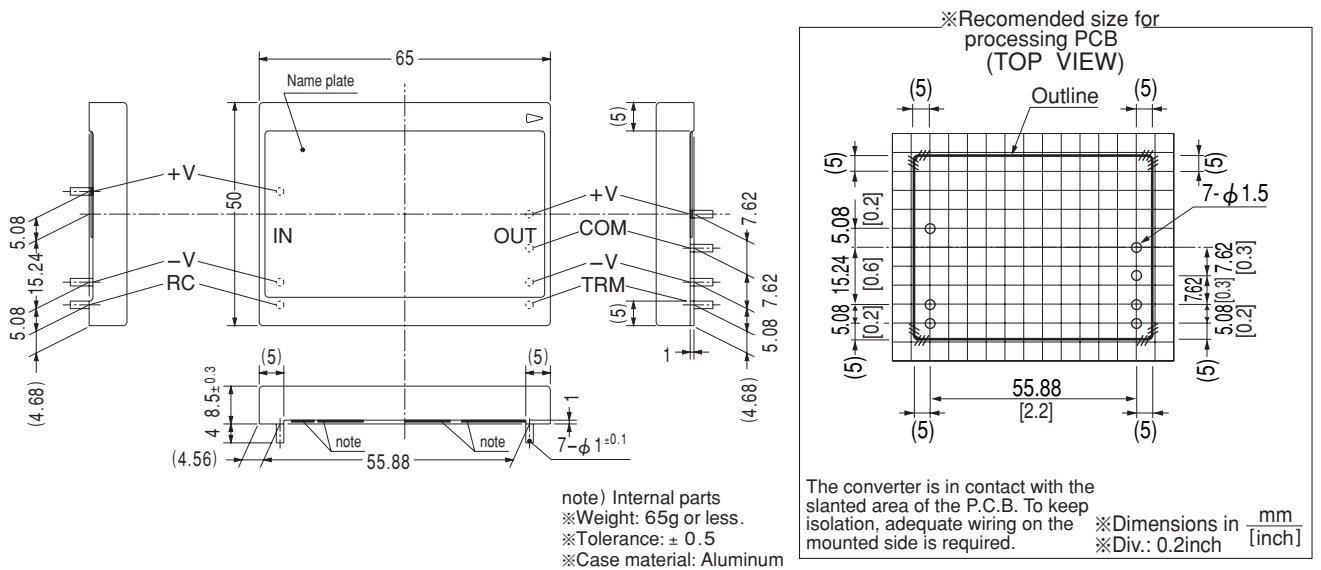
\*2 Measured by 20MHz oscilloscope.

\*3 The drift is a change at 25°C of ambient temperature and 30 minutes - 8 hours after the input voltage applied at rated input/output.

\* The output specification is at ±12V and ±15V.

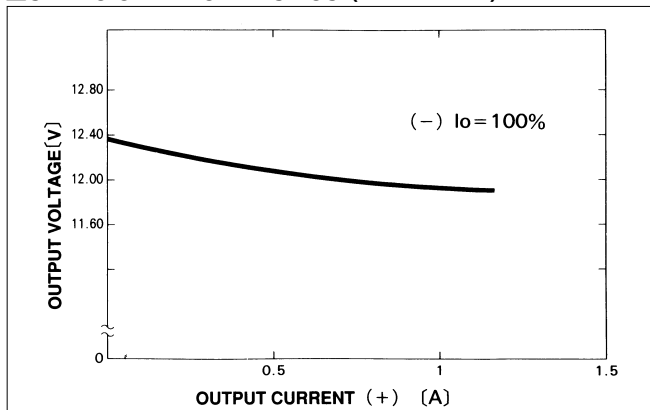
\* Series/Parallel operation with other model is not possible.

## External view

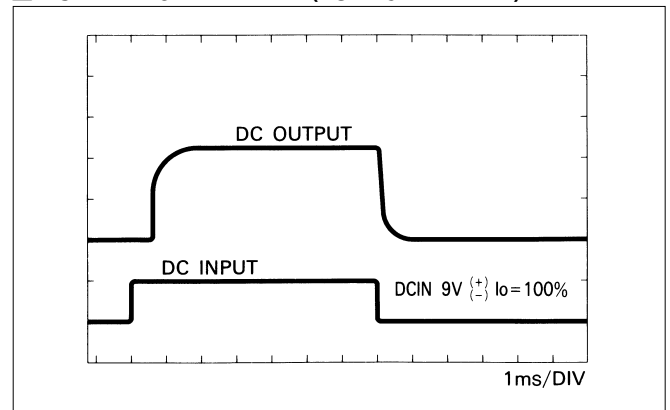


## Performance data

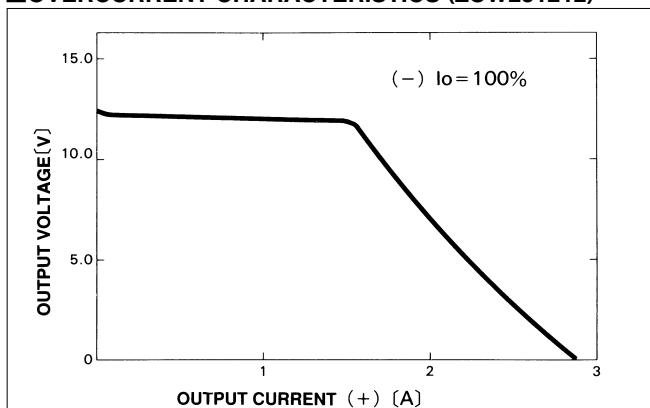
## ■ STATIC CHARACTERISTICS (ZUW251212)



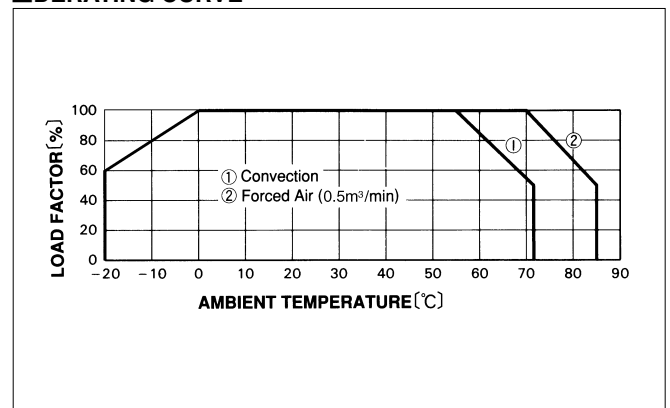
## ■ RISE TIME &amp; FALL TIME (ZUW251212:+12V)



## ■ OVERCURRENT CHARACTERISTICS (ZUW251212)



## ■ DERATING CURVE



# Mouser Electronics

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[ZUW31212-G](#) [ZUW61215](#) [ZUW152415](#) [ZUW1R52412-G](#) [ZUW32412-G](#) [ZUW104815](#) [ZUW62415](#) [ZUW34812](#)  
[ZUW254815-A](#) [ZUW151212](#) [ZUW60512](#) [ZUW251215](#) [ZUW1R50515](#) [ZUW152412-G](#) [ZUW31212](#) [ZUW100515](#)  
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[ZUW154815](#) [ZUW32412](#) [ZUW104812-A](#) [ZUW1R50512-A](#) [ZUW64812](#) [ZUW154812](#) [ZUW104812](#) [ZUW1R54815](#)  
[ZUW62412](#) [ZUW150512](#) [ZUW60512-A](#) [ZUW102415](#) [ZUW254812](#) [ZUW1R54812-A](#) [ZUW1R52412](#) [ZUW102412](#)  
[ZUW100512](#) [ZUW34815](#) [ZUW32415-G](#) [ZUW150515](#) [ZUW254815](#) [ZUW62412-G](#) [ZUW101215](#) [ZUW251212](#)  
[ZUW254812-A](#) [ZUW1R50512](#)



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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