

# ZTW1R5

ZT W 1R5 12 12

① ② ③ ④ ⑤



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



MODEL	ZTW1R50512	ZTW1R50515	ZTW1R51212	ZTW1R51215	ZTW1R52412	ZTW1R52415	ZTW1R54812	ZTW1R54815	
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	ZTW1R50512	ZTW1R50515	ZTW1R51212	ZTW1R51215	ZTW1R52412	ZTW1R52415	ZTW1R54812	ZTW1R54815							
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°C	150max	180max	150max	180max	150max	180max	150max	180max						
	DRIFT[mV]	*3 50max	60max	50max	60max	50max	60max	50max	60max							
	START-UP TIME[ms]	20max (Minimum input, I <sub>o</sub> =100%)														
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]	Fixed														
PROTECTION CIRCUIT	OVERCURRENT PROTECTION	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
ISOLATION	INPUT-OUTPUT	Works over 105% of rating and recovers automatically														
	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, C-UL, EN60950-1 Complies with IEC60950-1														
OTHERS	CASE SIZE/WEIGHT	28 × 21 × 10mm (W × H × D) / 15g max														
	COOLING METHOD	Convection														

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

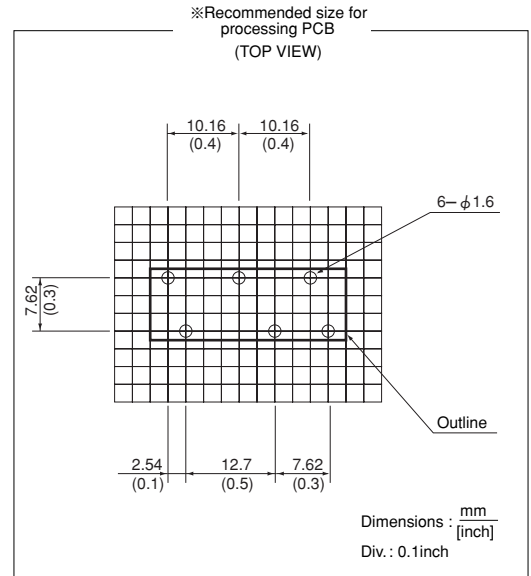
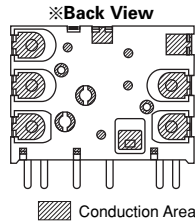
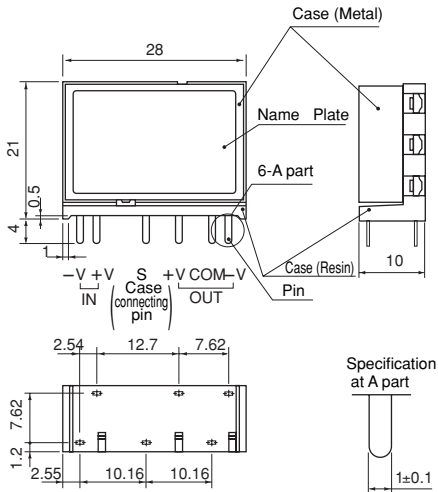
\*2 Measured by 20MHz oscilloscope.

\*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

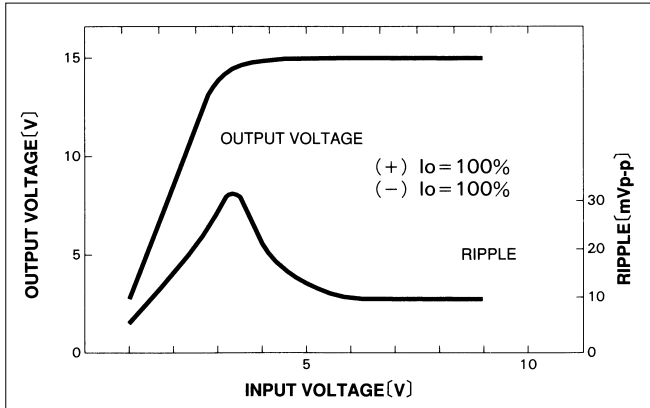


Weight: 15g or less  
 Tolerance: ±0.5  
 Case Material (Metal): Brass  
 Case Material (Resin): PPS  
 Pin Material: Phosphor Bronze (t=0.3)  
 (Solder Plate)

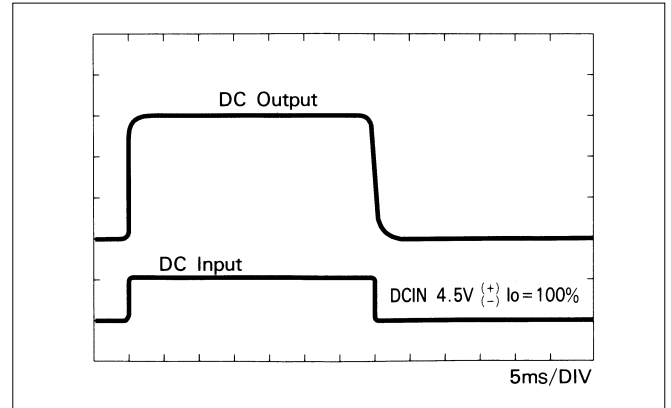
Dimensions :  $\frac{\text{mm}}{\text{[inch]}}$   
 Div. : 0.1inch

Performance data

■ STATIC CHARACTERISTICS (ZTW1R50515)

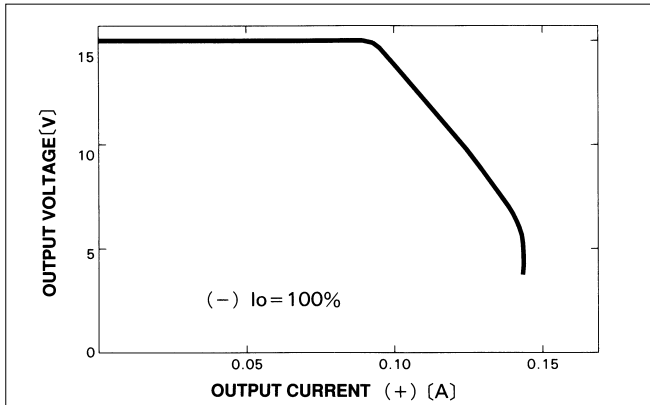


■ RISE TIME & FALL TIME (ZTW1R50515:+15V)



ZU/ZT

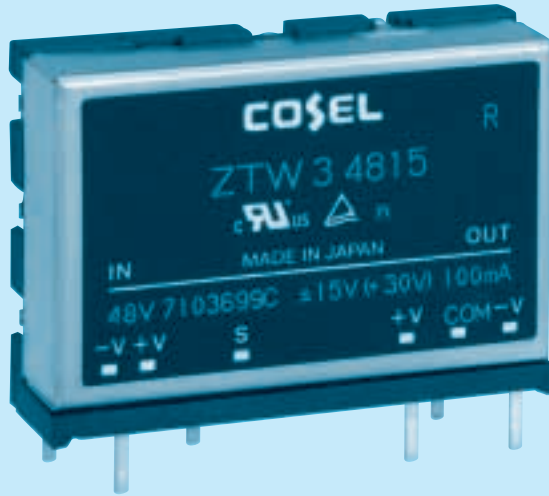
■ OVERCURRENT CHARACTERISTICS (ZTW1R50515)



# ZTW3

ZT W 3 12 12

① ② ③ ④ ⑤



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

MODEL	ZTW30512	ZTW30515	ZTW31212	ZTW31215	ZTW32412	ZTW32415	ZTW34812	ZTW34815	
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	ZTW30512	ZTW30515	ZTW31212	ZTW31215	ZTW32412	ZTW32415	ZTW34812	ZTW34815	
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°C	150max	180max	150max	180max	150max	180max	150max	180max
	DRIFT[mV]	*3 50max	60max	50max	60max	50max	60max	50max	60max	
	START-UP TIME[ms]	20max (Minimum input, I <sub>o</sub> =100%)								
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]	Fixed								
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		
PROTECTION CIRCUIT	OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically								
ISOLATION	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)								
	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, C-UL, EN60950-1 Complies with IEC60950-1								
OTHERS	CASE SIZE/WEIGHT	35.5×26×10mm (W×H×D) / 25g max								
	COOLING METHOD	Convection								

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

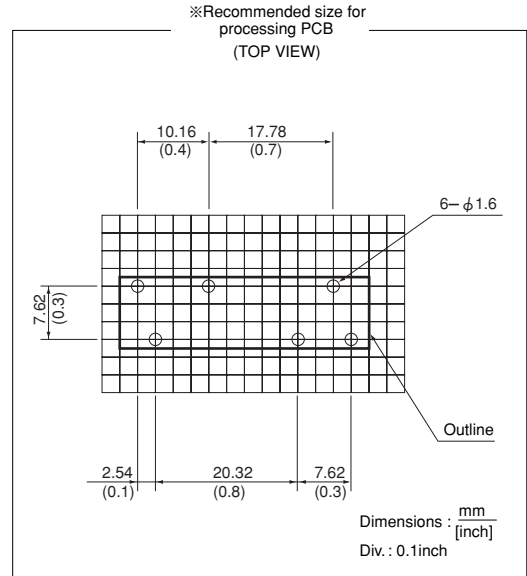
\*2 Measured by 20MHz oscilloscope.

\*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.

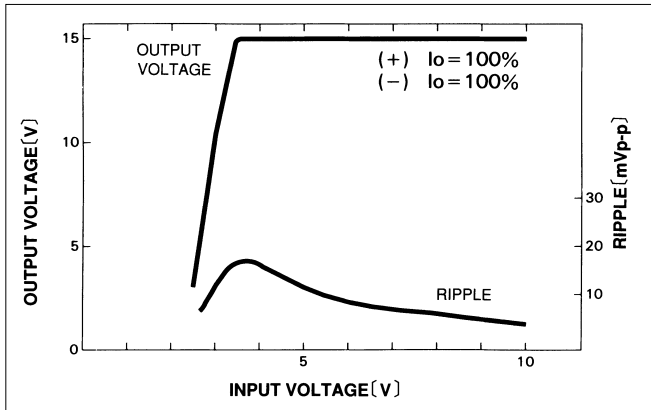
External view



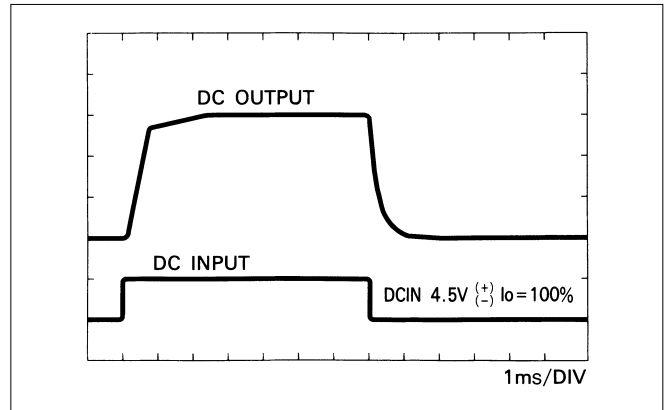
Weight: 25g or less  
 Tolerance:  $\pm 0.5$   
 Case Material (Metal): Brass  
 Case Material (Resin): PPS  
 Pin Material: Phosphor Bronze ( $t=0.3$ )  
 (Solder Plate)

Performance data

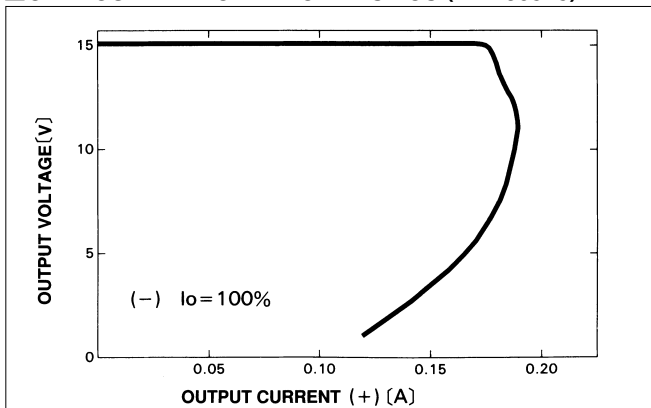
STATIC CHARACTERISTICS (ZTW30515)



RISE TIME & FALL TIME (ZTW30515:+15V)



OVERCURRENT CHARACTERISTICS (ZTW30515)



ZU/ZT

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