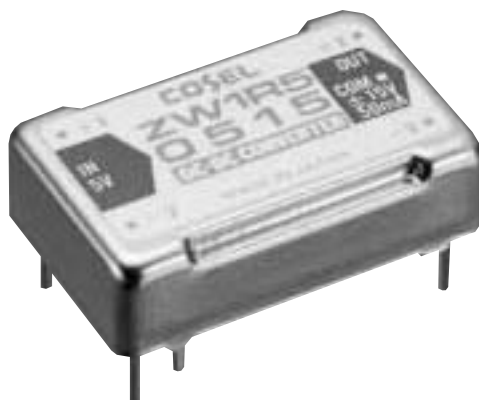


Z SERIES DC/DC CONVERTER

ZW1R5

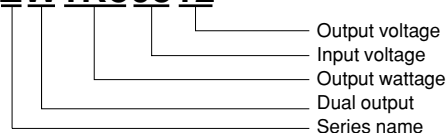


Z Series DC/DC converter designed for small size and high reliability

- Isolated between input-output
- Built-in overcurrent protection circuit
- Small and compact size
- Five-year warranty

ORDERING INFORMATION

ZW1R50512



SPECIFICATIONS

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

MODEL		ZW1R50512	ZW1R50515	ZW1R51212	ZW1R51215	ZW1R52412	ZW1R52415	ZW1R54812	ZW1R54815
INPUT	VOLTAGE [V]	5 (4.5~6.0)		12 (10~15)		24 (20~30)		48 (35~63)	
	CURRENT [A]※1	0.480typ	0.500typ	0.183typ	0.192typ	0.092typ	0.096typ	0.046typ	0.048typ
	EFFICIENCY [%]※1	60 typ		65 typ		65 typ		65typ	
OUTPUT	VOLTAGE [V]	±12 (+24)	±15 (+30)	±12 (+24)	±15 (+30)	±12 (+24)	±15 (+30)	±12 (+24)	±15 (+30)
	CURRENT [A]	0.06	0.05	0.06	0.05	0.06	0.05	0.06	0.05
	LINE REGULATION [mV]	60max	75max	60max	75max	60max	75max	60max	75max
	LOAD REGULATION [mV]	600max	750max	600max	750max	600max	750max	600max	750max
	RIPPLE ※2 [mVp-p]	120max		120max		120max		120max	
	RIPPLE NOISE ※2 [mVp-p]	120max		120max		120max		120max	
	TEMPERATURE REGULATION [mV] 0~+50°C	120max	150max	120max	150max	120max	150max	120max	150max
	OUTPUT VOLTAGE ADJUSTMENT RANGE [V]	FIXED							
PROTECTION CIRCUIT	OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically							
ISOLATION	INPUT,OUTPUT,CASE	AC500V, 1 minute, Cutoff current=10mA, DC500V, 50MΩ min. (At Room Temperature)							
ENVIRONMENT	OPERATING TEMP. HUMID. AND ALTITUDE	-10~+60°C, 20~90%RH (Non condensing) (Refer to DERATING CURVE) , 3,000m (10,000feet) max							
	STORAGE TEMP. HUMID. AND ALTITUDE	-20~+75°C, 20~90%RH (Non condensing) , 9,000m (30,000feet) max							
	VIBRATION	10~55Hz, 19.6m/s ² (2G) , 3 minutes period, 30 minutes along X, Y and Z axis							
	IMPACT	490.3m/s ² (50G) , 11ms, once on each X,Y and Z axis							

※1 Rated input 5V, 12V, 24V or 48V DC, I_o=100%

※2 Measured by 20MHz oscilloscope

※ The output specification is at ±12V and ±5V.

※ Parallel operation with other model is not possible.



DC/DC CONVERTER (DUAL OUTPUT)

MODEL	ZW1R5			ZW1R5				
	0512	1212	2412	4812	0515	1215	2415	4815
MAX OUTPUT WATTAGE	1.44W			1.50W				
DC OUTPUT VOLTAGE	$\pm 12V(+24V)$			$\pm 15V(+30V)$				
DC OUTPUT CURRENT	0.06A			0.05A				

EXTERNAL VIEW

Name Plate
 +V IN
 -V
 +V OUT
 COM
 -V

Dimensions: 33, 20.72, 2.0, 7.62, 15.24±0.3, 2.54±0.3, 0.4±0.1, 10, 0.5, 2.7, 7.5±1, 1.1, 2.5, 22.86±0.3, 27.94±0.3, 5-φ1±0.1.

※ Weight: 25g or less.
 ※ Tolerance: ±0.5
 ※ Dimensions in mm.

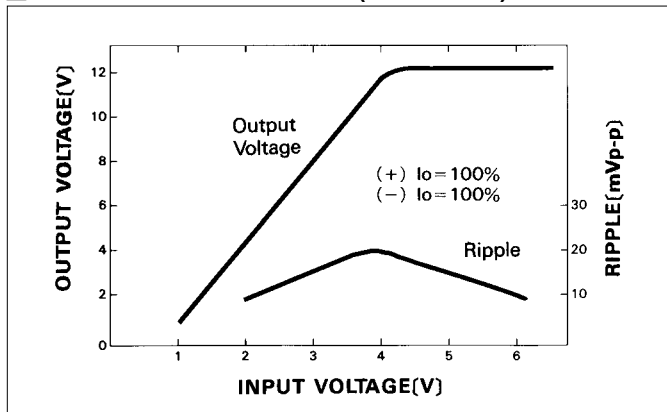
※Recommended size for processing PCB
 (TOP VIEW)

Outline (1.25), (1.25), (1.25), (1.25)
 5-φ1.3 (1.25)
 15.24
 φ1.4
 2.54
 (22.86), (1.25), (1.25)
 27.94

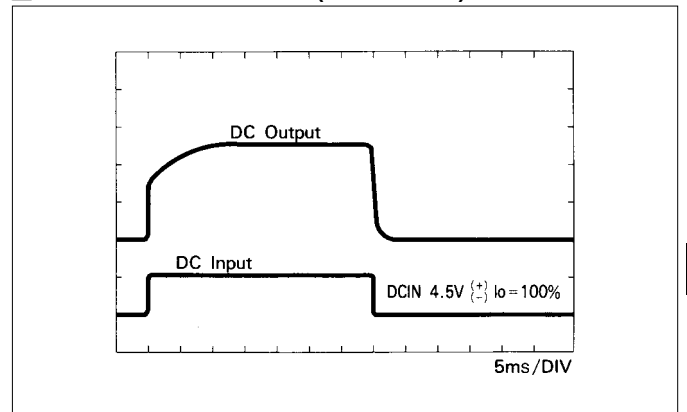
The converter is in contact with the slanted area of the P.C.B. To keep isolation, adequate wiring on the mounted side is required.

※Dimensions in mm
 ※Div.: 0.1inch

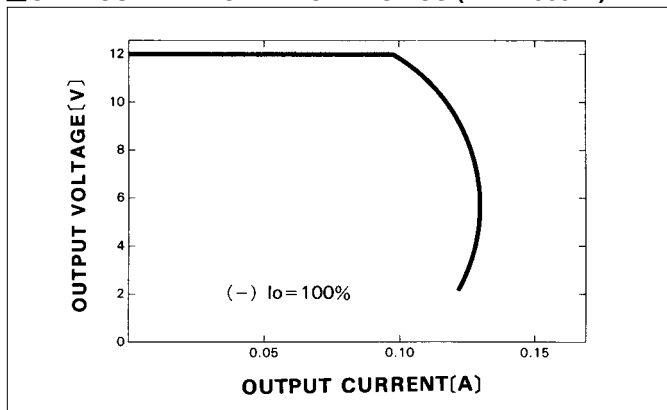
STATIC CHARACTERISTICS (ZW1R50512)



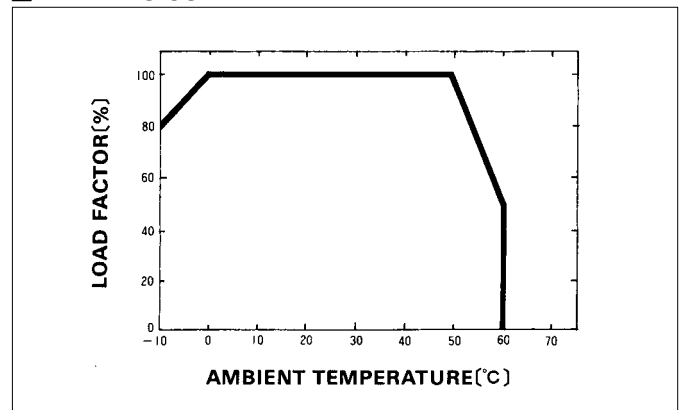
RISE TIME & FALL TIME (ZW1R50512)



OVERCURRENT CHARACTERISTICS (ZW1R50512)



DERATING CURVE



Basic characteristics data

Model	Circuit method	Switching frequency [kHz]	Input current [A]	Rated input fuse	Inrush current protection	PCB/Pattern			Series/Parallel operation availability	
						Material	Single sided	Double sided	Series operation	Parallel operation
ZS1R5 ZW1R5	Flyback converter	350~1300	*1	Refer to table No.1	—	glass fabric base, epoxy resin		Yes	*2	*2
ZS3 ZW3	Flyback converter	250~1400			—	glass fabric base, epoxy resin	Yes		*2	*2
ZS6 ZW6	Flyback converter	250~1500			—	glass fabric base, epoxy resin	Yes		*2	*2
ZS10 ZW10	Single ended forward converter	250~ 400			—	glass fabric base, epoxy resin		Yes	*2	*2

*1 Refer to Specification.

*2 Refer to Instruction Manual.

Table 1. Rated Input Fuse

Output Power	Input Voltage			
	5V	12V	24V	48V
1.5W	63V 1.2 A	63V 0.8 A	63V 0.8 A	63V 0.8A
3 W	72V 2.0 A	72V 1.2 A	72V 0.8 A	72V 0.8A
6 W	125V 3.15A	125V 3.15A	125V 3.15A	125V 1.0A
10 W	125V 5.0 A	125V 3.15A	125V 3.15A	125V 1.0A