

**FEATURES:**

- Wide input range
- Continuous short-circuit protection, self recover
- I/O isolation voltage 1.5KV
- Working temperature: -40°C~+85°C
- No additional components required
- Stable performance and high reliability (MTBF≥1000K hours)
- Industry standard pin-out
- Metal case
- DIP package



**Selection Guide**

Part No.	INPUT		OUTPUT			Full Load Efficiency (%) / Typ.	Capacitive Load (μF)
	Normal (Vdc)	Range (Vdc)	Voltage (V1dc)	Current Min (mA)	Current Max (mA)		
VRA0505ZP-6WR3	5	4.5-9	±5	0	±600	78	1000
VRA0512ZP-6WR3			±12	0	±250	84	470
VRA0515ZP-6WR3			±15	0	±200	84	220
VRA0524ZP-6WR3			±24	0	±125	84	100
VRB0505ZP-6WR3			5	0	1200	78	1000
VRB0512ZP-6WR3			12	0	500	84	470
VRB0515ZP-6WR3			15	0	400	84	220
VRB0524ZP-6WR3			24	0	250	84	100
VRA1205ZP-6WR3	12	9-18	±5	0	±600	80	680
VRA1209ZP-6WR3			±12	0	±250	84	330
VRA1212ZP-6WR3			±15	0	±200	85	220
VRA1215ZP-6WR3			±24	0	±125	84	100
VRA1224ZP-6WR3			3.3	0	1500	75	1800
VRB1205ZP-6WR3			5	0	1200	80	1000
VRB1212ZP-6WR3			12	0	500	84	470
VRB1215ZP-6WR3			15	0	400	84	220
VRB1224ZP-6WR3	24	0	250	85	100		
VRA2405ZP-6WR3	24	18-36	±5	0	±600	83	680
VRA2412ZP-6WR3			±12	0	±250	86	330
VRA2415ZP-6WR3			±15	0	±200	87	220
VRA2424ZP-6WR3			±24	0	±125	85	100
VRB2403ZP-6WR3			3.3	0	1500	78	1800
VRB2405ZP-6WR3			5	0	1200	82	1000
VRB2412ZP-6WR3			12	0	500	85	470
VRB2415ZP-6WR3			15	0	400	86	220
VRB2424ZP-6WR3	24	0	250	86	100		
VRA4805ZP-6WR3			±5	0	±600	83	680
VRA4812ZP-6WR3			±12	0	±250	87	330

VRA4815ZP-6WR3	48	36-72	±15	0	±200	85	220
VRA4824ZP-6WR3			±24	0	±125	85	100
VRB4803ZP-6WR3			3.3	0	1500	79	1800
VRB4805ZP-6WR3			5	0	1200	83	1000
VRB4812ZP6WR3			12	0	500	87	470
VRB4815ZP-6WR3			15	0	400	88	220
VRB4824ZP-6WR3			24	0	250	87	100

\*\*customized accepted,pls contact sales for details\*\*

## Input Specifications

Input Voltage Range	Input Voltage Range (Vdc)	Nom(Vdc)	Max (Vdc)
	4.5-9	5	9
	9-18	12	18
	18-36	24	36
	36-72	48	72
Input Filter	Capacitive Filter		
Ctrl	NONE		
	NONE		
Hot Plug	Unavailable		

## Output Specifications

Item	Typ	Max	Test Conditions
Voltage Accuracy	±1%	±3%	5%-100% load
Line Regulation	±0.5%	±1%	Input voltage variation from low to high at full load
Load Regulation	±0.5%	±1%	5%-100% load
Ripple&Noise	100mVp-p	-	20MHz Bandwidth, full load

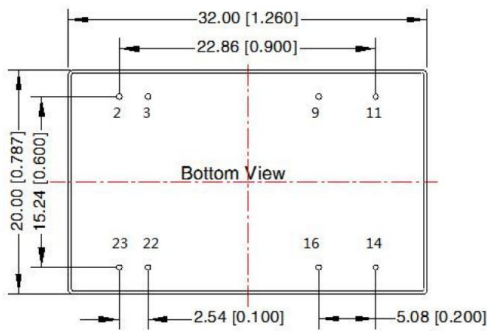
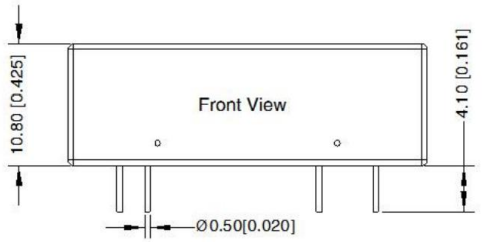
## General Specifications

Switching Frequency	250KHz(Typ)	100% full load, nominal input voltage
Short-Circuit Protection	Continuous, self-recovery	
Case Temperature Rise	25°C (Typ)	
Temperature Coefficient	0.03%/°C	100% full load
Pin Soldering Resistance Temperature	300°C	Soldering spot is 1.5mm away from case for 10 seconds
Isolation (Input-Output)	1.5KVDC	Input-output electric strength test for 1 minute with a leakage current
Insulation Resistance (Input-Output)	1000MΩ	Input-output resistance 500Vdc
Operating Temperature	-40~+85°C	
Storage Temperature	-55~+125°C	
Storage Humidity	<95%RH	Non-condensing
Cooling Method	Free air convection	
Case Material	Aluminum alloy	
Weight	12g (Typ)	

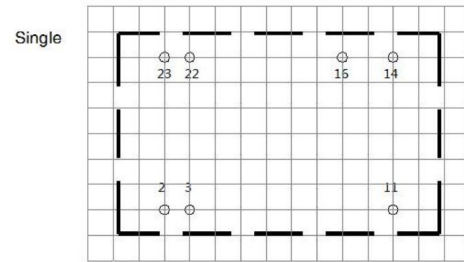
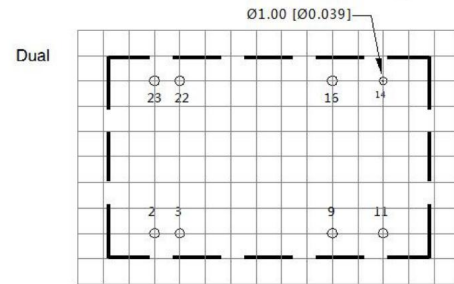
\*\*Unless specified, otherwise all other parameters are tested under the following conditions: nominal input voltage, pure

resistive load, 25°C room temperature environment.

**Dimensions and Recommended Layout**



Note:  
Unit: mm[inch]  
Pin diameter tolerances:  $\pm 0.10 [\pm 0.004]$   
General tolerances:  $\pm 0.50 [\pm 0.020]$

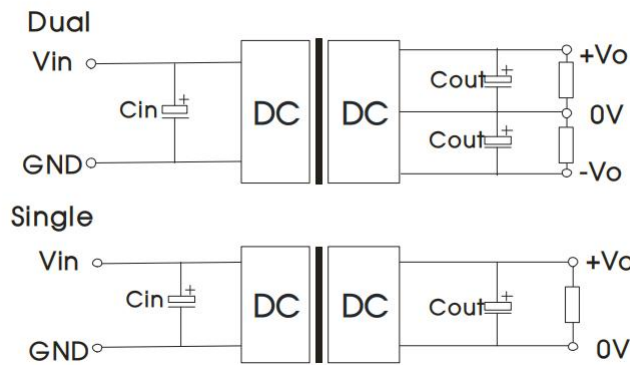


Note: Grid 2.54\*2.54mm

**Pins**

Pin	Single	Dual	
2,3	GND	GND	
9	No Pin	0V	
11	NC	-Vo	
14	+Vo	+Vo	
16	0V	0V	
22,23	Vin	Vin	

**Recommended Circuit**



**Recommended input and output capacitor values**

Vin	Vout	Cin	Cout	
5	5/±5	100uF/16V	10μF/16V	
	12/15/±12/±15		10μF/25V	
	24/±24		10μF/50V	
12	3.3/5/±5	100uF/35V	10μF/16V	
	12/15/±12/±15		10μF/25V	
	24/±24		10μF/50V	
24	3.3/5/±5	10uF/50V	10μF/16V	
	12/15/±12/±15		10μF/25V	
	24/±24		10μF/50V	
48	3.3/5/±5	10uF-47uF/100V	10μF/16V	
	12/15/±12/±15		10μF/25V	
	24/±24		10μF/50V	

**Noted**

1. Input current: Ensure that the output current of the power supply meets the instantaneous starting current of the power module (that is, twice the average input current of the power module).
2. Output load requirements: Avoid no-load use. When the actual power consumption of the load is less than 10% of the rated output power of the module or no load occurs, connect an external resistance to the output end (the sum of the external resistance and the load power is greater than or equal to 10% of the rated load) or select a module with a smaller rated power.
3. The external capacitance of the output end should not be too large; otherwise, the module may be overcurrent or poorly started. For details, see the external capacitance recommendation table.
4. External LC filter circuit can be connected for occasions with high ripple noise requirements.

\*The final interpretation right of the product belongs to ECCO ELECTRONICS.