ECCO Electronics Technology Co.,ltd

2W series DC/DC converter

Typical Performance

FEATURES

- Fixed Input, isolation, Unregulated Output,2W
- DIP package
- Efficiency :up to 80%
- Working temperature -40℃~+85℃
- MTBF≥35x10^{5}Hrs
- Industry standard pinout
- Isolation capacitance:90PF
- No external component required
- In line with RoHS codes
- Relative Humidity:95%RH
- Line regulation (for Vin change of ±1%): ±1.2%(max)
- Load regulation (10%-100% load) 15%
- Ripple and noise (20MHz Band width) <75mVp-p
- Temperature drift(100% full load):±0.03%/℃(max)
- Temperature drift(100% full load):±0.03%/℃(max)
- Switching Frequency(Full load,nominal input):100Khz(typ)
- Storage Temperature:-55℃~+125℃
- Isolation Resistance:1000MΩ/1min
- Isolation capacitance:60Pf(typ)
- Cooling:Free aire converction



3-Years Product Warranty

QR 2	XX	S	XX	S/S3
①②	③	④	⑤	⑥

① Series name
②Output watt
③Normal input voltage
④Single output
⑤Output voltage
⑥I/O isolation(S:1KV,no S:1.5KV,S3:3KV)

Product Program

Part #	Input voltage range	Nominal output voltage / output current						Efficiency (%, typ)
		VO1			VO2			
		Voltage (VDC)	Min (mA)	Max (mA)	Voltage (VDC)	Min (mA)	Max (mA)	
QR2-03S3V3	3V(3~3.6V)	3.3	60.6	606				72
QR2-03S05		5	40	400				74
QR2-05S05	5V(4.5~5,.5V)	5	40	400				70
QR2-05S09		9	22	222				78
QR2-05S12		12	16.6	166				78
QR2-05S15		15	13.6mA	136mA				80
QR2-05S24		24	8.4mA	84mA				81

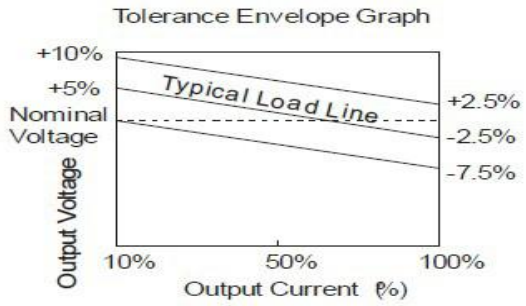
QR2-05D05		±5	+20mA	+200mA	-5V	-20mA	-200mA	72
QR2-05D09		±9	+11mA	+110mA	-9V	-11mA	-110mA	78
QR2-05D12		±12	+8mA	+80mA	-12V	-8mA	-80mA	79
QR2-05D15		±15	+6.6mA	+66mA	-15V	-6.6mA	-66mA	80
QR2-12S3V3	12V(10.8~13.2V)	3.3	60	606				73
QR2-12S05		5	40	400				71
QR2-12S09		9	22	222				76
QR2-12S12		12	16.6	166				78
QR2-12S15		15	13.6mA	136mA				79
QR2-12D05		±5	+20mA	+200mA	-5V	-20mA	-200mA	78
QR2-12D09		±9	+11mA	+110mA	-9V	-11mA	-110mA	78
QR2-12D12		±12	+8.3mA	+83mA	-12V	-8.3mA	-83mA	79
QR2-12D15		±15	+6.6mA	+66mA	-15V	-6.6mA	-66mA	78
QR2-15S05	15V(13.5~16.5V)	5	40	400				79
QR2-15D05		±5	+20mA	+200mA	-5V	-20mA	-200mA	78
QR2-24S05	24V(21.6~26.4V)	5	5	40	400			79
QR2-24S09		9	11	111				78
QR2-24S12		12	8.3	83				79
QR2-24S15		15	6.8mA	68mA				78
QR2-24S24		24	4.2mA	42mA				79
QR2-24D05		±5	+10mA	+100mA	-5V	-10mA	-100mA	78
QR2-24D09		±9	+5.5mA	+55mA	-9V	-5.5mA	-55mA	79
QR2-24D12		±12	+4mA	+40mA	-12V	-4mA	-40mA	78
QR2-24D15		±15	+3.3mA	+33mA	-15V	-3.3mA	-33mA	79

□ Shows the nominal value of input voltage,due to space limitations ,the above list is only for some products,If other than a list of products, please contact the Company's sales department.

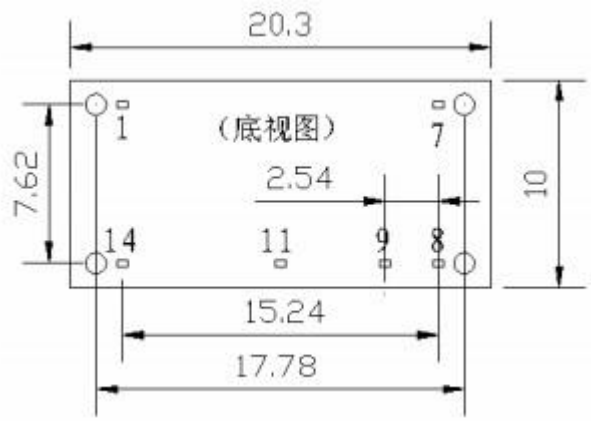
Mechanical Data

Output Power	L x W x H ： mm	Packing No.
2W	20.3*10*7	

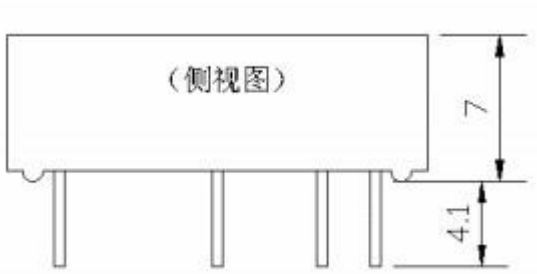
Typical Temperature Curve



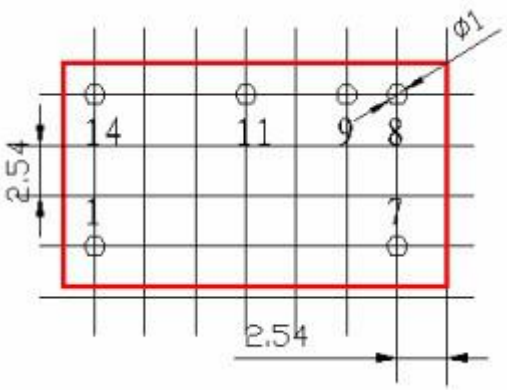
Mechanical Dimension



BOTTON VIEW



LATERAL VIEW



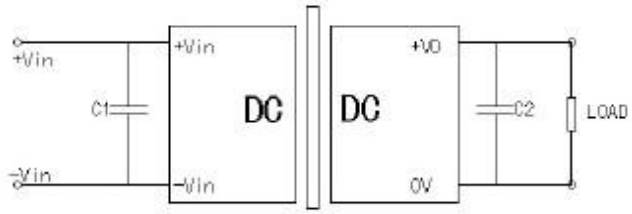
Recommended PCB Layout

UNIT:mm

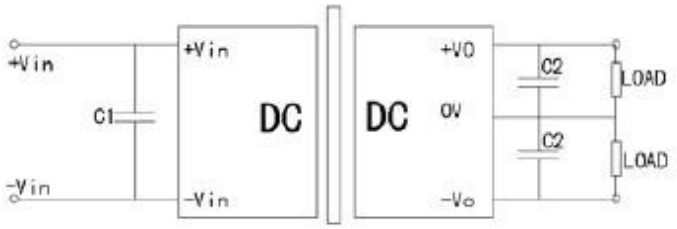
Pin Assignment

PIN	1	7	8	9	11	14				
S	GND	NC	0V	+Vo	NO pin	Vin				
D	GND	NC	0V	+Vo	-Vo	Vin				

Recommend Circuit



Single O/P



Dual O/P

C1、C2 select

INPUT VOLTAGE	C1	DUAL O/P VOLTAGE	C2	SINGLE O/P VOLTAGE	C2
3.3VDC	4.7uF	±5VDC	4.7uF	3.3VDC	10uF
5VDC	4.7uF	±9VDC	2.2uF	5VDC	10uF
12VDC	2.2uF	±12VDC	1uF	9VDC	4.7uF
15VDC	2.2uF	±15VDC	0.47uF	12VDC	2.2uF
24VDC	1uF	±24VDC	0.47uF	15/24VDC	1uF

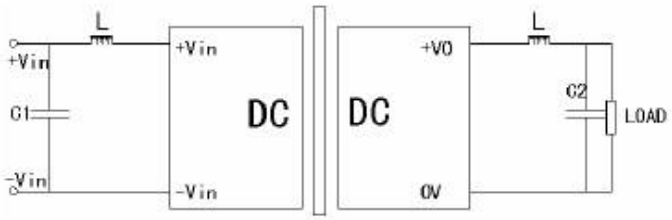
Application Note

(1)Pls don't use under no load: when the load power is less than 10% of the rated power ,we advise to connect the resistance following the output or the selection the smaller rated power module,for the resistance,the value is 5~10% of the rated power,resistance=U_2/（10%×2W）

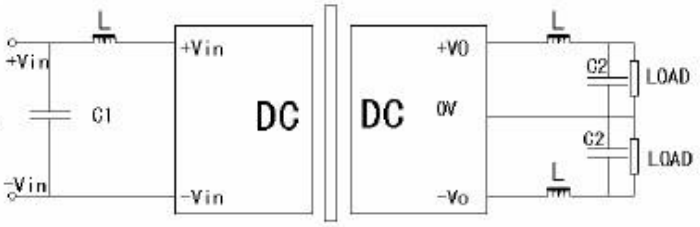
(2)Pls don't connect the excessive capacitor in external circut :output connects C2's value can't be too big,, otherwise easily lead to module startup flow or poor starting,

According to the external table to select the capacitance

(3)For the ripple&noise with higher requirements ,we advise to connect the LC filter, the frequency of LC filter is far smaller than the DC / DC module switching frequency, prevent mutual interference, resulting in increased the ripple damage the power module,pls see below



Single O/P



Dual O/P

*Note：The power modules such as the definition of the pin does not match with the hand book,please refer to the actual item.