FEATURES：

- Wide input range
- Continuous short-circuit protection,self recover
- I/O isolation voltage 1.5KV
- Working temperature：-40℃～+85℃
- No additional components required
- Stable performance and high reliability (MTBF≥2X10^{5}Hrs)
- Industry standard pin-out
- Metal case
- DIP package

Selection Guide

Part No.	INPUT		OUTPUT				CapacitiveLoad(μF)
	Norminal (Vdc)	Range (Vdc)	Voltage (V1dc)	current (mA)	Voltage (V2dc)	current (mA)	
LD20-12S05A	12	9-18	5	4000			
LD20-12S09A			9	2222			
LD20-12S12A			12	1667			
LD20-12S15A			15	1333			
LD20-12S24A			24	834			
LD20-12D05A			+5	2000	-5	2000	
LD20-12D09A			+9	1111	-9	1111	
LD20-12D12A			+12	834	-12	834	
LD20-12D15A			+15	667	-15	667	
LD20-12D24A			+24	417	-24	417	
LD20-18S05A	18	9-36	5	4000			
LD20-18S09A			9	2222			
LD20-18S12A			12	1667			
LD20-18S15A			15	1333			
LD20-18S24A			24	834			
LD20-18D05A			+5	2000	-5	2000	
LD20-18D09A			+9	1111	-9	1111	
LD20-18D12A			+12	834	-12	834	
LD20-18D15A			+15	667	-15	667	
LD20-18D24A			+24	417	-24	417	
LD20-24S3X3A	24	18-36	3.3	5000			
LD20-24S05A			5	4000			
LD20-24S09A			9	2222			
LD20-24S12A			12	1667			
LD20-24S15A			15	1333			
LD20-24S24A			24	834			
LD20-24D05A			+5	2000	-5	2000	
LD20-24D09A			+9	1111	-9	1111	

LD20-24D12A			+12	834	-12	834	
LD20-24D15A			+15	667	-15	667	
LD20-24D24A			+24	417	-24	417	
LD20-36S3X3A	36	18-75	3.3	5000			
LD20-36S05A			5	4000			
LD20-36S09A			9	2222			
LD20-36S12A			12	1667			
LD20-36S15A			15	1333			
LD20-36S24A			24	834			
LD20-36D05A			+5	2000	-5	2000	
LD20-36D09A			+9	1111	-9	1111	
LD20-36D12A			+12	834	-12	834	
LD20-36D15A			+15	667	-15	667	
LD20-36D24A			+24	417	-24	417	
LD20-48S3X3A	48	36-72	3.3	5000			
LD20-48S05A			5	4000			
LD20-48S09A			9	2222			
LD20-48S12A			12	1667			
LD20-48S15A			15	1333			
LD20-48S24A			24	834			
LD20-48D05A			+5	2000	-5	2000	
LD20-48D09A			+9	1111	-9	1111	
LD20-48D12A			+12	834	-12	834	
LD20-48D15A			+15	667	-15	667	
LD20-48D24A			+24	417	-24	417	
LD20-110S05A	110	40-160	5	4000			
LD20-110S09A			9	2222			
LD20-110S12A			12	1667			
LD20-110S15A			15	1333			
LD20-110S24A			24	834			
LD20-110D05A			+5	2000	-5	2000	
LD20-110D09A			+9	1111	-9	1111	
LD20-110D12A			+12	834	-12	834	
LD20-110D15A			+15	667	-15	667	
LD20-110D24A			+24	417	-24	417	

customized accepted ,pls contact sales for details

Input Specifications

	Input Voltage Range（Vdc）	Nom(Vdc)	Max（Vdc）
Input Voltage	9-18	12	18
	9-36	18	36
	18-36	24	36

	18-75	36	75
	36-72	48	72
	40-160	110	160
Hot Plug	Unavailable		

Output Specifications

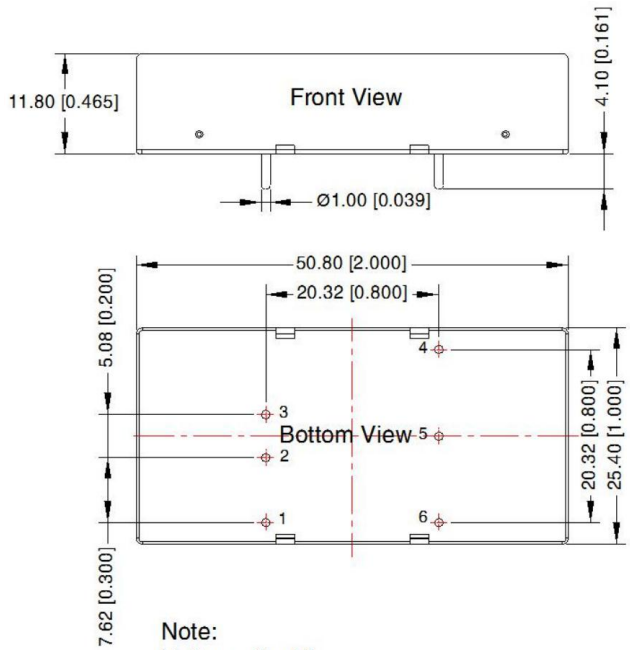
Item	Typ	Max	Test Conditions
Voltage Accuracy	±1%	±2%	0-100% load
Line Regulation	±0.2%	±0.5%	Input voltage variation from low to high at full load
Load Regulation	±0.5%	±1%	5%-100% load
Ripple&Noise	60mVp-p	80mVp-p	20MHz bandwidth, 5%-100% load
Startup delay time	50ms	-	
Over-voltage Protection	-	160%Vo	110%Vo(Min)
Over-current Protection	-	200%Io	110%Io(Min)
Short-circuit Protection			Continuous, self-recovery

Gerneral Specifications

Switching Frequency	280KHz(Typ)	PWM mode
MTBF	$2X10^5$Hrs	MIL-HDBK-217F@25℃
Isolation（Input-Output）	1.5KVDC	
Operating Temperature	-40～+85℃	
Storage Temperature	-55～+125℃	
Storage Humidity	5-95%RH	Non-condensing
Cooling Method	Free air convection	
Case Material	Aluminum alloy	
Weight	15g（Typ）	

**Unless specified, otherwise all other parameters are tested under the following conditions: nominal input voltage, pure resistive load, 25℃ room temperature environment.

Dimensions and Recommended Layout

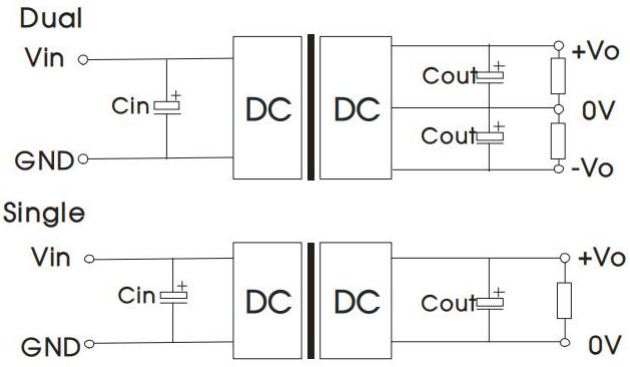


Note:
Unit: mm[inch]
Pin diameter tolerances: ± 0.10[± 0.004]
General tolerances: ± 0.50[± 0.020]

Pins

Pin	Single	Dual	
1	Ctrl	Ctrl	
2	GND	GND	
3	Vin	Vin	
4	+Vo	+Vo	
5	TRIM	0V	
6	0V	-Vo	

Recommended Circuit



Recommended input and output capacitor values

Vin	Cin	Cout		
5	100uF/16V			
12	100uF/25V			
24	10uF/50V-47uF/50V			
48	10uF/100V-47uF/100V			

Noted

1. The product should be used within the specified range; otherwise, it may cause permanent damage to the product.
2. If the product operates beyond its load range, it cannot be guaranteed that all performance indicators of the product comply with those in this manual.
3. Unless otherwise specified, all the above data were measured at Ta=25℃, humidity <75%, input nominal voltage and output rated load (pure resistance load).
4. The above are all performance indicators of the product models listed in this manual. Some indicators of non-standard models may exceed the above requirements. For specific situations, you can directly contact our technical personnel.
5. Product specification changes will not be notified separately. Please pay attention to the latest manual published on our company's official website.

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