

### FEATURES

- High efficiency, low output ripple and noise
- Super wide voltage input 4:1
- No external element required
- Continuous short circuit protection and self-recovery
- Operating temperature range: -40 ~ +85
- Isolation Voltage: 1500VDC
- Metal shield package
- High Reliability (MTTF ≥ 100 ten thousand hours)
- International standard pin mode
- 100% full load aging



**RoHS**  
Isolate/Stabilize  
Super wide voltage input

### PRODUCT MODEL LIST

Order Code	Nominal Input Voltage (V)			Nominal Output Voltage			Efficiency (%)		Capacitive Load [Max] (uF)			
	Nominal	Range	Max	Voltage (V)	Current (mA)		Min	Typ				
					Min	Max						
J10W24D03A	24	9~36	40	±3.3	0	±1515	78	80	3300			
J10W24D05A				±5	0	±1000	81	83	2200			
J10W24D09A				±9	0	±556	83	85	1000			
J10W24D12A				±12	0	±417	84	86	680			
J10W24D15A				±15	0	±333	85	87	470			
J10W24D24A				±24	0	±208	85	87	220			
J10W24S03A				3.3	0	3030	78	80	4700			
J10W24S05A				5	0	2000	80	82	3300			
J10W24S09A				9	0	1111	83	85	2200			
J10W24S12A				12	0	833	84	86	1000			
J10W24S15A				15	0	667	85	87	680			
J10W24S24A				24	0	417	86	88	470			
J10W48D03A				48	18~72	75	±3.3	0	±1515	78	80	3300
J10W48D05A							±5	0	±1000	81	83	2200
J10W48D09A	±9	0	±556				83	85	1000			
J10W48D12A	±12	0	±417				84	86	680			
J10W48D15A	±15	0	±333				85	87	470			
J10W48D24A	±24	0	±208				85	87	220			
J10W48S03A	3.3	0	3030				78	80	4700			
J10W48S05A	5	0	2000				81	83	3300			
J10W48S09A	9	0	1111				84	85	2200			
J10W48S12A	12	0	833				85	87	1000			
J10W48S15A	15	0	667				86	88	680			
J10W48S24A	24	0	417				87	89	470			

Ps : \*The positive and negative output capacitive loads are the same.

### OUTPUT CHARACTERISTICS

Parameter	Conditions	Min.	Typ.	Max.	Units
Output Power		0		10	W
Output Positive Voltage Accuracy			±1	±2	%
Output Negative Voltage Accuracy			±2	±3	
Line Voltage Regulation	Full load, input voltage change from low to high		±0.2	±0.5	

All Specifications Subject To Change Without Notice

OUTPUT CHARACTERISTICS					
Parameter	Conditions	Min.	Typ.	Max.	Units
Load Regulation	Load varies from 5% to 100% at nominal input		±0.5	±1	%
Temps Drift Coefficient	Rated load			±0.03	%/
Ripple & Noise	At 20MHz bandwidth		50	100	mVp-p
Switching Frequency	Rated input voltage		320	350	KHz
Output Short Circuit Protection	Sustainable and automatic restoration				
Input Filter	π-type filtering				
Hot Plug	Nonsupport				

INPUT CHARACTERISTICS					
Parameter	Conditions	Min.	Typ.	Max.	Units
Input Undervoltage Protection	Input 24VDC	6.6	7.3		VDC
	Input 48VDC	13.5	14.8		
Starting Voltage	Input 24VDC		8.2	9	
	Input 48VDC		16.2	18	
Impulse Voltage (1sec. max)	Input 24VDC	-0.7		50	
	Input 48VDC			100	
No-load Current	Input 24VDC		5	10	mA
	Input 48VDC		3	5	

EMC CHARACTERISTICS				
EMI	CE	CISPR32/EN55032 CLASS B ( see EMI recommended circuit )		
	RE	CISPR32/EN55032 CLASS B ( see EMI recommended circuit )		
EMS	ESD	IEC/EN61000 - 4 - 2 CONTACT ± 4KV		perf. Criteria B
	RS	IEC/EN61000 - 4 - 3 10V/M		perf. Criteria A
	EFT	IEC/EN61000 - 4 - 4 ± 2KV ( see EMS recommended circuit )		perf. Criteria B
	Surge	IEC/EN61000 - 4 - 5 LINE TO LINE ± 2KV ( see EMS recommended circuit )		perf. Criteria B
	CS	IEC/EN61000 - 4 - 6 3 VR.M.S		perf. Criteria A
	Voltage sag, drop and short - time interrupt immunity	IEC/EN61000 - 4 - 29 0% , 70%		perf. Criteria B

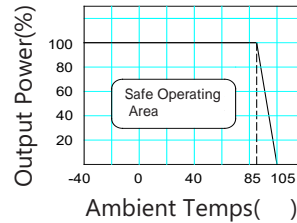
Insulation Characteristic					
Parameter	Conditions	Min.	Typ.	Max.	Units
Insulation Resistance	Input- output, 500VDC	1000			M
Insulation Voltage	Input- output, test time 1 minute, leakage current less than 1 mA	1500			VDC
	Input、 output-shell, test time 1 minute, leakage current less than 1 mA	1000			

General Characteristic					
Parameter	Conditions	Min.	Typ.	Max.	Units
Storage Humidity		5		95	%
Operating Temps		-40		85	
Storage Temps		-55		125	
Operating Case Temps			20	35	
Pin Welding Temps	Welding joint 1.5mm from case,10 seconds operation			300	
MTTF	MIL - HDBK - 217@25	100			10000 hours
Weight			18		g

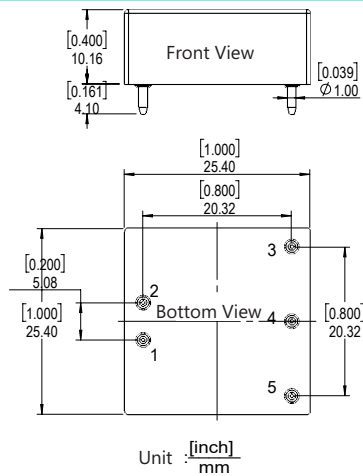
All Specifications Subject To Change Without Notice

General Characteristic					
Parameter	Conditions	Min.	Typ.	Max.	Units
Cooling	Free air convection				
Case Material	Black metal shell				

Temps Curve



### Shape & Pin Dimensions

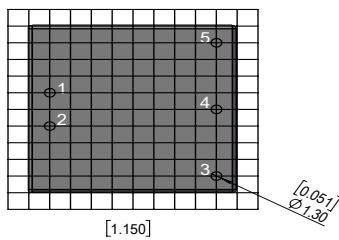


Pin	Single	Double
1	GND	GND
2	Vin	Vin
3	+Vo	+Vo
4	NP	0V
5	0V	-Vo

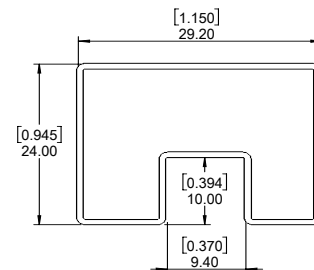
ps:  
 NP: no pin  
 Terminal Spec.: 1.0  
 Unit: MM  
 Terminal section tolerance:  $\pm 0.10$  [ $\pm 0.004$ ]  
 Unmarked tolerance:  $\pm 0.50$  [ $\pm 0.020$ ]

### PCB

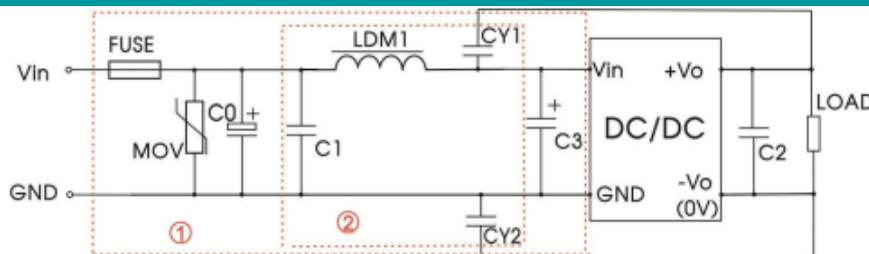
[0.1inch]2.54mm square grid



### Package Dimensions



### EMC 推荐电路



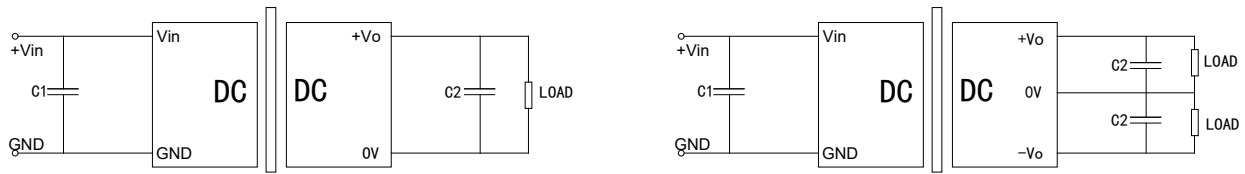
Notes : The first red frame is for EMS test, the second red frame is for EMI test. Select as needed.

INPUT	FUSE	MOV	C0、C3	C1	C2	LDM1	CY1、CY2
24VDC	see remarks	20D470K	330uF/50V	1uF/50V	see remarks	4.7uH	1nF/2kV
48VDC		14D101K	330uF/100V	1uF/100V			

Notes :  
 FUSE: selection is according to customer's actual input current  
 C2: refer to the output parameters in the application circuit.

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**Basic Application Circuit**



**Options of C1、C2:**

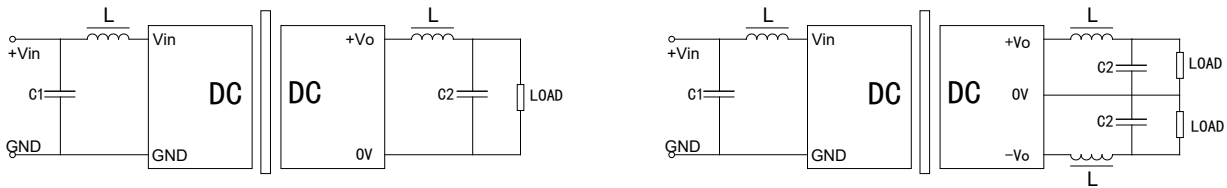
Input Voltage	External Capacitance C1	Single Output Voltage	External Capacitance C2	Double Output Voltage	External Capacitance C2
24VDC	100uF/50V	3.3/5VDC	470uF/16V	± 5VDC	100uF/16V
48VDC	47uF/100V	9VDC	220uF/16V	± 9VDC	100uF/16V
--	--	12/15VDC	100uF/25V	± 12/ ± 15VDC	100uF/25V
--	--	24VDC	100uF/50V	± 24VDC	47uF/50V

**Note**

**Avoid Excessive Output External Capacitance:** The capacity value of the output external capacitor C2 should not be too large, otherwise it is easy to cause overcurrent or bad startup when the module is started. The specific value should be selected according to the external capacitor table.

The input of this series does not support parallel use of hot plug and output.

For situations requiring high ripple noise, external LC filter circuit should be connected, and the resonant frequency of LC filter should be far less than the switching frequency of DC/DC module to prevent mutual interference, resulting in output ripple increase or module damage, as shown in the figure:



**Naming Logic Of Constant Voltage Products**

