

FEATURES

- High efficiency, low output ripple and noise
- Wide voltage input 2:1
- 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/Stabilivolt
Wide voltage input

PRODUCT MODEL LIST

Order Code	Normal Input Voltage (V)			Normal Output Voltage			Efficiency (%)		Capacitive Load [Max] (uF)
	Normal	Range	Max	Voltage (V)	Current (mA)		Min	Typ	
					Min	Max			
J06M05D03B	5	4.5~9	10	±3.3	0	±909	78	80	2200
J06M05D05B				±5	0	±600	79	81	2200
J06M05D09B				±9	0	±333	79	81	820
J06M05D12B				±12	0	±250	81	83	470
J06M05D15B				±15	0	±200	81	83	220
J06M05D24B				±24	0	±125	82	84	100
J06M05S03B				3.3	0	1800	76	78	4700
J06M05S05B				5	0	1200	78	80	3300
J06M05S09B				9	0	667	79	81	1000
J06M05S12B				12	0	500	81	83	680
J06M05S15B				15	0	400	82	84	470
J06M05S24B				24	0	250	82	84	220
J06M12D03B				12	9~18	20	±3.3	0	±909
J06M12D05B	±5	0	±600				79	81	2200
J06M12D09B	±9	0	±333				83	85	820
J06M12D12B	±12	0	±250				84	86	470
J06M12D15B	±15	0	±200				84	86	220
J06M12D24B	±24	0	±125				84	86	100
J06M12S03B	3.3	0	1800				77	79	4700
J06M12S05B	5	0	1200				79	81	3300
J06M12S09B	9	0	667				82	84	1000
J06M12S12B	12	0	500				83	85	680
J06M12S15B	15	0	400				84	86	470
J06M12S24B	24	0	250				84	86	220
J06M24D03B	24	18~36	40				±3.3	0	±909
J06M24D05B				±5	0	±600	80	82	2200
J06M24D09B				±9	0	±333	82	84	820
J06M24D12B				±12	0	±250	84	86	470
J06M24D15B				±15	0	±200	85	87	220
J06M24D24B				±24	0	±125	83	85	100
J06M24S03B				3.3	0	1800	79	81	4700
J06M24S05B				5	0	1200	80	82	3300
J06M24S09B				9	0	667	83	85	1000

All Specifications Subject To Change Without Notice

PRODUCT MODEL LIST

Order Code	Nominal Input Voltage (V)			Nominal Input Voltage			Efficiency (%)		Capacitive Load [Max] (uF)
	Nominal	Range	Max	Voltage (V)	Current (mA)		Min	Typ	
					Min	Max			
J06M24S12B	24	18~36	40	12	0	500	83	85	680
J06M24S15B				15	0	400	85	87	470
J06M24S24B				24	0	250	85	87	220
J06M48D03B	48	36~72	75	±3.3	0	±909	78	80	2200
J06M48D05B				±5	0	±600	81	83	2200
J06M48D09B				±9	0	±333	82	84	820
J06M48D12B				±12	0	±250	85	87	470
J06M48D15B				±15	0	±200	85	87	220
J06M48D24B				±24	0	±125	85	87	100
J06M48S03B				3.3	0	1800	77	79	4700
J06M48S05B				5	0	1200	81	83	3300
J06M48S09B				9	0	667	84	86	1000
J06M48S12B				12	0	500	85	87	680
J06M48S15B				15	0	400	85	87	470
J06M48S24B				24	0	250	85	87	220

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

OUTPUT CHARACTERISTICS

Parameter	Conditions	Min.	Typ.	Max.	Units
Output Power		0		6	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	
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

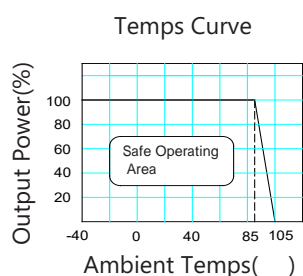
Parameter	Conditions	Min.	Typ.	Max.	Units
Input Undervoltage Protection	Input 5VDC	3	3.8		VDC
	Input 12VDC	6.6	7.3		
	Input 24VDC	13.5	14.8		
	Input 48VDC	27	30		
Starting Voltage	Input 5VDC		4	4.5	
	Input 12VDC		8.2	9	
	Input 24VDC		16.2	18	
	Input 48VDC		33	36	

INPUT CHARACTERISTICS					
Parameter	Conditions	Min.	Typ.	Max.	Units
Impulse Voltage (1sec. max)	Input 5VDC	-0.7		12	VDC
	Input 12VDC			25	
	Input 24VDC			50	
	Input 48VDC			100	
No-load Current	Input 5VDC		20	35	mA
	Input 12VDC		5	10	
	Input 24VDC		4	8	
	Input 48VDC		3	6	

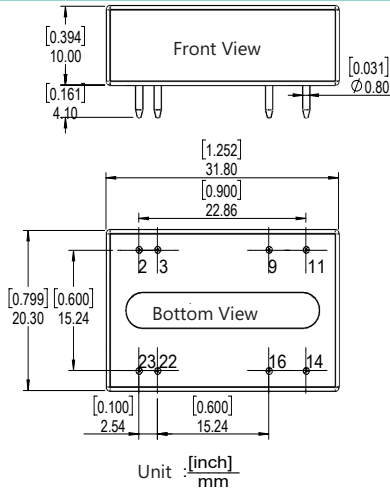
EMC CHARACTERISTICS		
EMI	CE	CISPR32/EN55032 CLASS B (see EMI recommended circuit)
	RE	CISPR32/EN55032 CLASS B (see EMI recommended circuit)
EMS	ESD	IEC/EN61000 - 4 - 2 CONTACT \pm 4KV perf. Criteria B
	RS	IEC/EN61000 - 4 - 3 10V/M perf. Criteria A
	EFT	IEC/EN61000 - 4 - 4 \pm 2KV (see EMS recommended circuit) perf. Criteria B
	Surge	IEC/EN61000 - 4 - 5 LINE TO LINE \pm 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	30	
Pin Welding Temps	Welding joint 1.5mm from case,10 seconds operation			300	
MTTF	MIL - HDBK - 217@25	100			10000 hours
Weight			12		g
Cooling	Free air convection				
Case Material	White metal shell				



Shape & Pin Dimensions

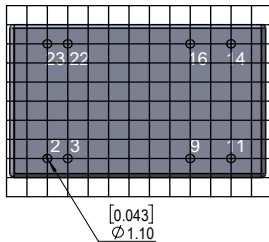


Pin	Single	Double
2,3	GND	GND
9	NC	0V
11	NC	-Vo
14	+Vo	+Vo
16	0V	0V
22,23	Vin	Vin

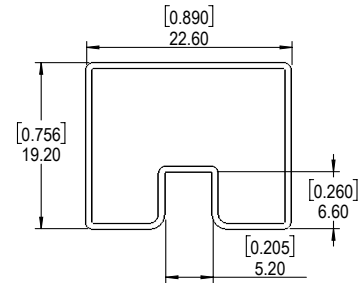
ps:
 NC: can't connect to any external circuit
 Terminal Spec.: 0.6
 Unit: MM
 Terminal section tolerance: ±0.10 [±0.004]
 Unmarked tolerance: ±0.50 [±0.020]

PCB

[0.1inch]2.54mm square grid

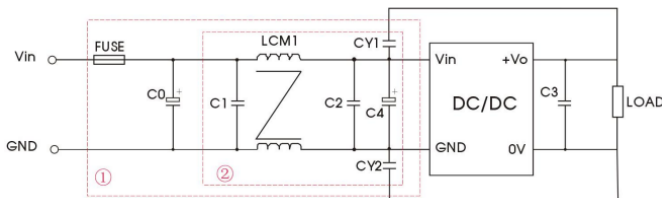


Package Dimensions

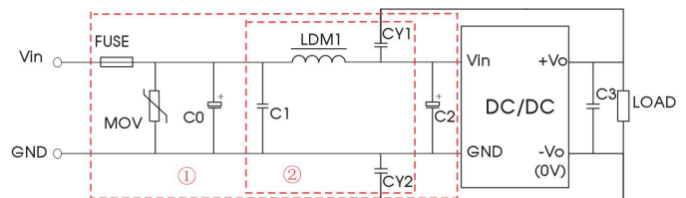


EMC Recommended Circuit

5VDC INPUT



12、24、48VDC INPUT



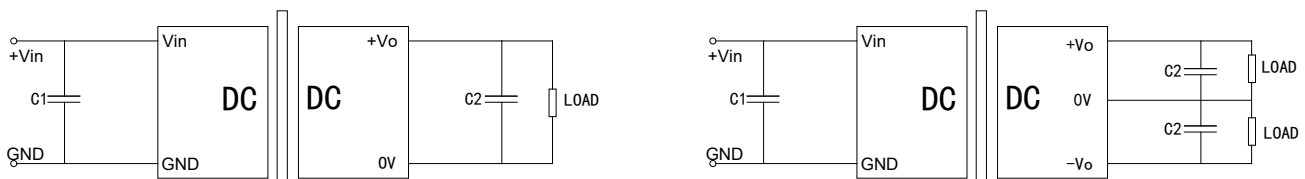
Notes : The first red frame is for EMS test, the second red frame is for EMI test. Select as needed.

INPUT	FUSE	C0	C1/C2	C3	C4	LCM1	CY1/CY2
5VDC	See remarks	2200uF/35V	4.7uF/25V	See remarks	100uF/35V	FL2D - 30 - 222	2.2nF/2kV

INPUT	FUSE	MOV	C0	C2	C1	C3	LDM1	CY1/CY2
12VDC	See remarks	14D330K	1000uF/35V	100uF/35V	1uF/50V	See remarks	4.7uH	1nF/2kV
24VDC		20D470K	1000uF/50V	100uF/50V				
48VDC		14D101K	680uF/100V	100uF/100V	1uF/100V			

Notes :
 FUSE: selection is according to customer's actual input current
 C3: refer to the output parameters in the application circuit.

Basic Application Circuit



Options of C1、C3:

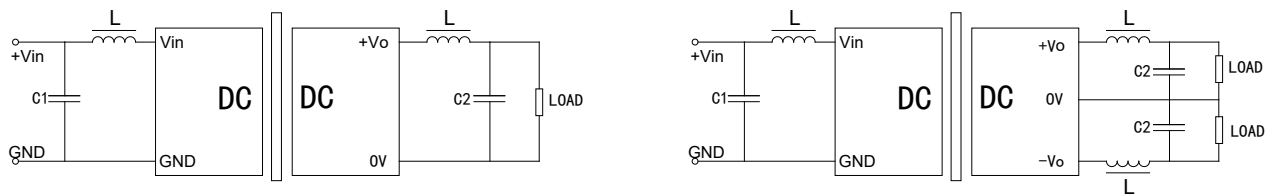
Input Voltage	External Capacitance C1	Single Output Voltage	External Capacitance C2	Double Output Voltage	External Capacitance C2
5VDC	100uF/16V	5VDC	10uF/16V	± 5VDC	10uF/16V
12VDC	100uF/25V	9VDC	10uF/16V	± 9VDC	10uF/16V
24VDC	100uF/50V	12/15VDC	10uF/25V	± 12/ ± 15VDC	10uF/25V
48VDC	47uF/100V	24VDC	10uF/50V	± 24VDC	10uF/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

