FranMar 10W DC-DC Regulated Single Output **NSD10-S series**

■ Features :

- Wide 4:1 DC input range
- Protections: Short circuit / Overload / Over voltage
- 1000VDC I/O isolation
- Built-in EMI filter
- Cooling by free air convection
- Built-in remote ON-OFF control
- 100% full load burn-in test
- Low cost
- High reliability
- 2 years warranty

SPECIFICATION

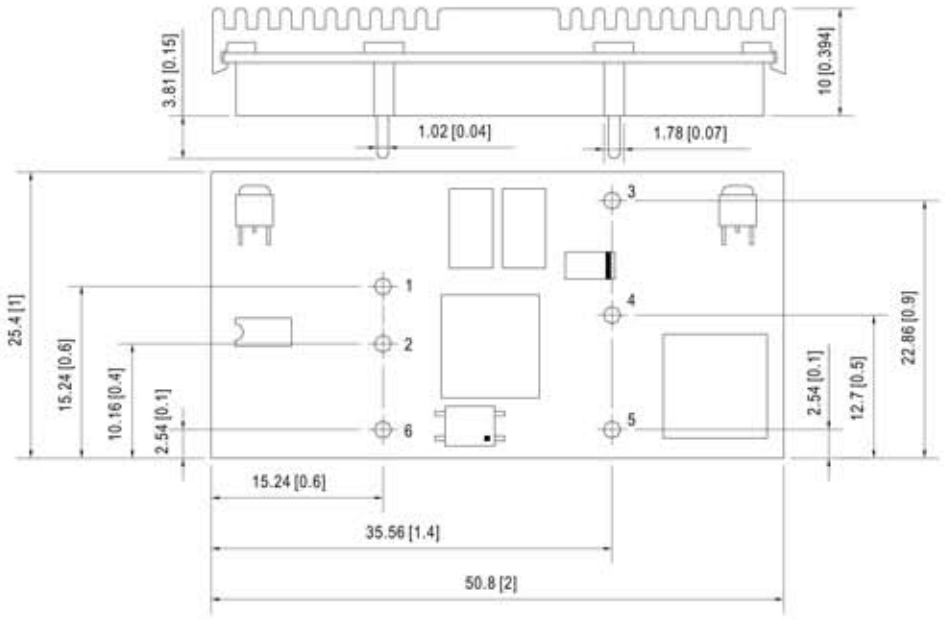
MODEL		NSD10-12S3	NSD10-12S5	NSD10-12S9	NSD10-12S12	NSD10-12S15	NSD10-48S3	NSD10-48S5	NSD10-48S9	NSD10-48S12	NSD10-48S15
OUTPUT	DC VOLTAGE	3.3V	5V	9V	12V	15V	3.3V	5V	9V	12V	15V
	RATED CURRENT	2.5A	2A	1.1A	0.83A	0.67A	2.5A	2A	1.1A	0.83A	0.67A
	CURRENT RANGE	0.12 ~ 2.5A	0.1 ~ 2A	0.05 ~ 1.1A	0.04 ~ 0.83A	0.03 ~ 0.67A	0.12 ~ 2.5A	0.1 ~ 2A	0.05 ~ 1.1A	0.04 ~ 0.83A	0.03 ~ 0.67A
	RATED POWER	8.25W	10W	9.9W	9.96W	10.05W	8.25W	10W	9.9W	9.96W	10.05W
	CAPACITIVE LOAD (max.)	3300uF									
	RIPPLE & NOISE (max.) Note.2	75mVp-p									
	VOLTAGE TOLERANCE Note.3	±2.0% max.									
	LINE REGULATION	±1.0%									
	LOAD REGULATION	±2.0%	±1.0%	±1.0%	±1.0%	±1.0%	±2.0%	±1.0%	±1.0%	±1.0%	±1.0%
INPUT	RATED DC INPUT	12VDC					48VDC				
	VOLTAGE RANGE	9.8 ~ 36VDC					22 ~ 72VDC				
	EFFICIENCY (Typ.)	72%	75%	78%	79%	80%	74%	77%	78%	79%	80%
	DC CURRENT	1.4A/12VDC					0.4A/48VDC				
	SHUTDOWN IDLE CURRENT	20mA/12VDC									
PROTECTION	OVERLOAD	Above 105% rated output power									
		Protection type : Over power limiting, recovers automatically after fault condition is removed									
	OVER VOLTAGE(CLAMP)	3.8 ~ 4.95V	5.75 ~ 7.5V	10.4 ~ 13.5V	13.8 ~ 18V	17.3 ~ 22.5V	3.8 ~ 4.95V	5.75 ~ 7.5V	10.4 ~ 13.5V	13.8 ~ 18V	17.3 ~ 22.5V
	SHORT CIRCUIT Note.4	Recovers automatically after fault condition is removed									
FUNCTION	ON/OFF CONTROL	Logic "1" OPEN: ON logic "0" GND: OFF									
ENVIRONMENT	WORKING TEMP.	-25 ~ +70℃									
	WORKING HUMIDITY	0% ~ 95% RH max.									
	STORAGE TEMP., HUMIDITY	-40 ~ +85℃, 0 ~ 95% RH									
	TEMP. COEFFICIENT	±0.03%/℃ (0~60℃)									
SAFETY & EMC (Note 5)	SAFETY STANDARDS	UL60950-1 approved, Design refer to TUV EN60950-1									
	ISOLATION VOLTAGE	I/P-O/P:1KVDC									
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25℃/ 70% RH									
	EMC EMISSION	Compliance to EN55022 (CISPR22) Class B									
	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,6,8; EN55024, light industry level, criteria A									
OTHERS	MTBF	2138.2K hrs min. MIL-HDBK-217F (25℃)									
	DIMENSION	50.8*25.4*10mm (2"*1"*0.394") (L*W*H)									
	PACKING	0.02Kg; 300pcs/7Kg/0.97CUFT									

NOTE

1. All parameters NOT specially mentioned are measured at 12, 48VDC input, rated load and 25℃ of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. Short circuit not more than 60 seconds.
5. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on http://www.meanwell.com)
6. To insure proper operation, a 220uF/100V electrolytic capacitor with Esr <1 Ω must be added to the input line.
7. EMC filter suggestion:

■ Mechanical Specification

Unit:mm[inch]

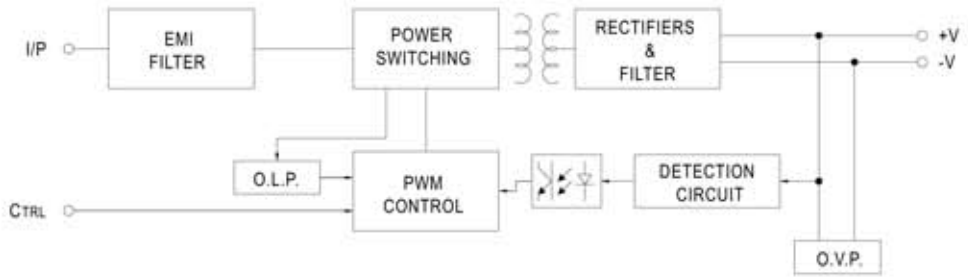


Pin. No Assignment

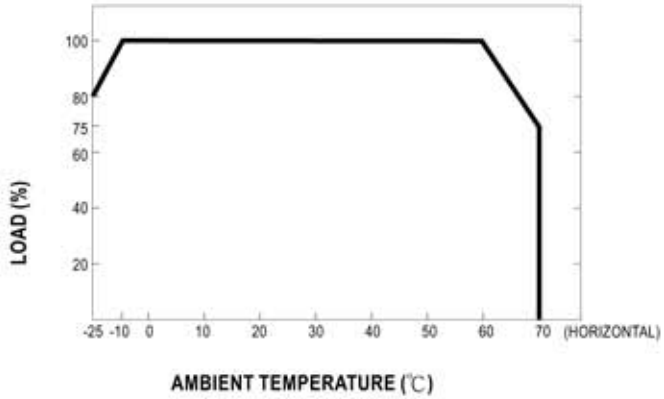
Pin No.	Assignment	Pin No.	Assignment
1	+INPUT	4	N/C
2	-INPUT(GND)	5	-OUT
3	+OUT	6	CONTROL

■ Block Diagram

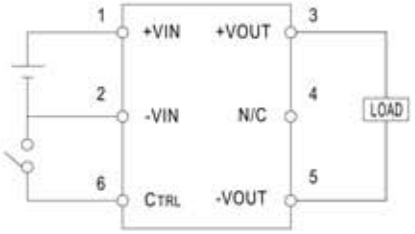
fosc : 350KHz



■ Derating Curve



■ ON/OFF Control



CONTROL INPUT.....PIN6

CONTROL COMMON.....PIN2

LOGIC COMPATIBILITY.....CMOS OR OPEN COLLECTOR TTL

CONTROL VOLTAGE

ON.....+5.5VDC min. OR OPEN CIRCUIT

OFF.....+2.5VDC max. OR SHORT TO PIN2

FranMar 10W DC-DC Regulated Dual Output

NSD10-D series

■ Features :

- Wide 4:1 DC input range
- Protections: Short circuit / Overload / Over voltage
- 1000VDC I/O isolation
- Built-in EMI filter
- Cooling by free air convection
- Built-in remote ON-OFF control
- 100% full load burn-in test
- Lost cost
- High reliability
- 2 years warranty

SPECIFICATION

MODEL		NSD10-12D5		NSD10-12D12		NSD10-12D15		NSD10-48D5		NSD10-48D12		NSD10-48D15	
OUTPUT	DC VOLTAGE	5V	-5V	12V	-12V	15V	-15V	5V	-5V	12V	-12V	15V	-15V
	RATED CURRENT	1A	1A	0.42A	0.42A	0.33A	0.33A	1A	1A	0.42A	0.42A	0.33A	0.33A
	CURRENT RANGE	0.05 ~ 1A	0.05 ~ 1A	0.02 ~ 0.42A	0.02 ~ 0.42A	0.016 ~ 0.33A	0.016 ~ 0.33A	0.05 ~ 1A	0.05 ~ 1A	0.02 ~ 0.42A	0.02 ~ 0.42A	0.016 ~ 0.33A	0.016 ~ 0.33A
	RATED POWER	10W		10.08W		9.9W		10W		10.08W		9.9W	
	CAPACITIVE LOAD (max.)	±1000uF											
	RIPPLE & NOISE (max.) Note.2	75mVp-p(10% ~ 100% load)											
	VOLTAGE TOLERANCE Note.3	±4.0%		±2.0%		±2.0%		±3.0%		±2.0%		±2.0%	
	LINE REGULATION	±1.0%											
	LOAD REGULATION	±3.0%		±2.0%		±1.0%		±2.0%		±2.0%		±1.0%	
INPUT	RATED DC INPUT	12VDC						48VDC					
	VOLTAGE RANGE	9.8 ~ 36VDC						22 ~ 72VDC					
	EFFICIENCY (Typ.)	76%		77%		77%		78%		77%		77%	
	DC CURRENT	1.4A/12VDC						0.4A/48VDC					
	SHUTDOWN IDLE CURRENT	20mA/12VDC											
PROTECTION	OVERLOAD	Above 105% rated output power											
		Protection type : Over power limiting, recovers automatically after fault condition is removed											
	OVER VOLTAGE(CLAMP)	5.75 ~ 7.5V	-5.75 ~ -7.5V	13.8 ~ 18V	-13.8 ~ -18V	17.3 ~ 22.5V	-17.3 ~ -22.5V	5.75 ~ 7.5V	-5.75 ~ -7.5V	13.8 ~ 18V	-13.8 ~ -18V	17.3 ~ 22.5V	-17.3 ~ -22.5V
	SHORT CIRCUIT Note.4	Recovers automatically after fault condition is removed											
FUNCTION	ON/OFF CONTROL	Logic "1" OPEN: ON logic "0" GND: OFF											
ENVIRONMENT	WORKING TEMP.	-25 ~ +70℃											
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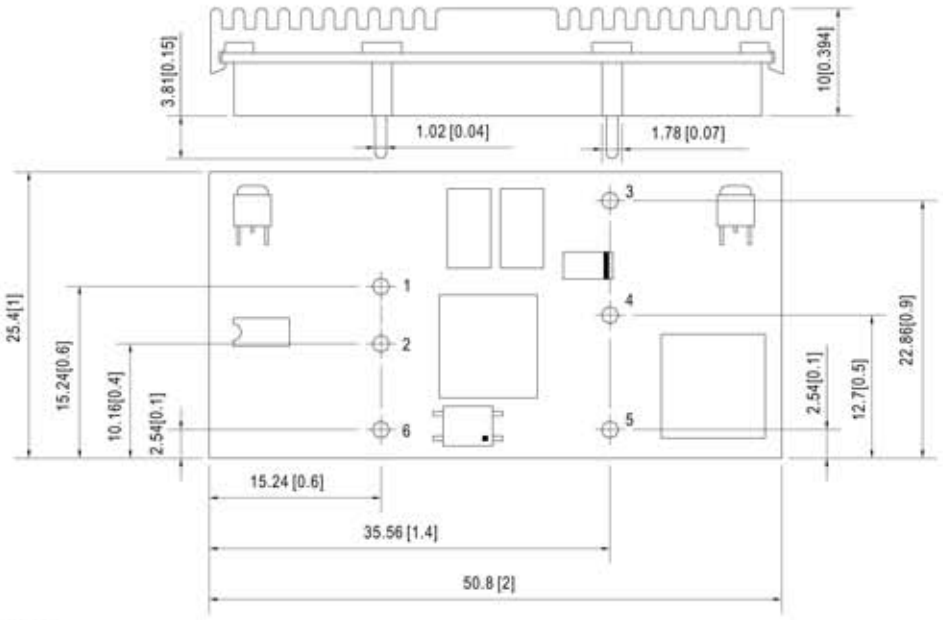

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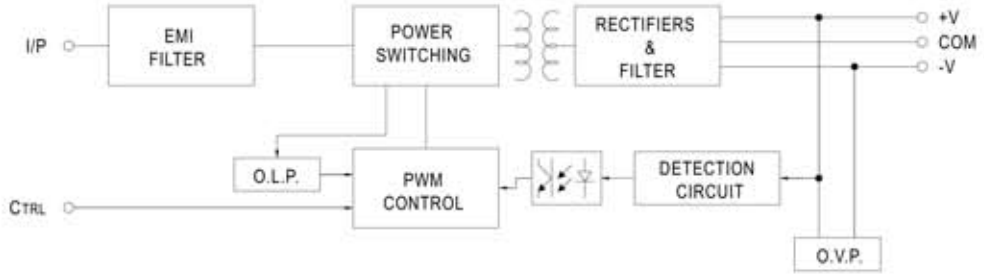
■ Block Diagram

fosc : 350KHz



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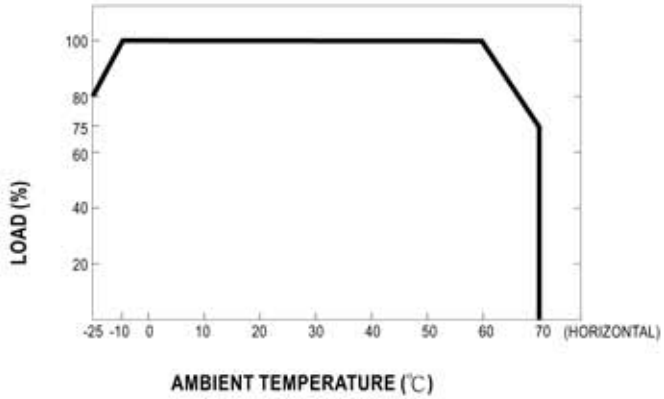
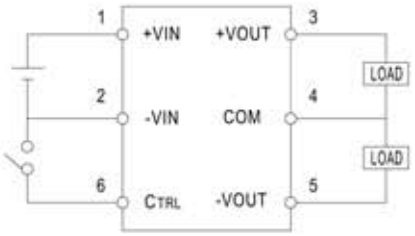


■ ON/OFF Control



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