

NFM-10 Series

10W Single Output Switching Power Supply



Case No:
65 x 45 x 22 mm

Features

- Universal AC input/ Full range
- Protections: Short circuit/Overload/Over voltage/Over Temperature
- Ultra-miniature size, light weight
- Cooling by free air convection
- Isolation class II
- ANSI/AAMI ES60601-1/IEC60601-1/EN60601-1 Medical safety approved
- No load power consumption <0.5W
- 100% full load burn-in test
- Fixed switching frequency at 67KHz



Specification

INPUT	Voltage	85V ~ 264VAC universal full range or 120V ~ 370VDC.				
	Frequency	47 ----- 440 Hz				
	Current	<0.25A@115VAC; 0.08A@230VAC full load				
	Inrush Current	<25A@115VAC; 45A@230VAC input, Cold start				
	Leakage Current	Touch leakage current <80µA@264VAC input				
OUTPUT	MODEL No.	NFM-10-3.3	NFM-10-5	NFM-10-12	NFM-10-15	NFM-10-24
	Voltage	3.3V	5V	12V	15V	24V
	Rated Current	2.5A	2A	0.85A	0.67A	0.42A
	Current Range	0~2.5A	0~2A	0~0.85A	0~0.67A	0~0.42A
	Voltage Adj. Range	3~3.63V	4.5~5.5V	10.8~13.2V	13.5~16.5V	21.6~26.4V
	Output Tolerance	± 2%	± 2%	± 1%	± 1%	± 1%
	Line Regulation	± 1%	± 1%	± 0.5%	± 0.5%	± 0.5%
	Load Regulation	± 1%	± 1%	± 0.5%	± 0.5%	± 0.5%
	Ripple Noise MAX.	150mV	150mV	150mV	150mV	240mV
	Efficiency (TYP.)	66%	74%	78%	79%	79%
	Rated Power	8.25W	10W	10.2W	10.05W	10.08W
	PROTECTION	Over Voltage	3.8~4.95V	5.75~6.75V	13.8~16.2V	17.25~20.25V
		Shutoff o/p voltage by clamping of the zener diode				
Over Load		Above 105% rated output power; Hiccup mode, recovers automatically after fault condition is removed				
ELEC. CHAR.	Rise Time	<20mS @ 115~230VAC at full load				
	Hold up Time	>100mS@ 230V; 24mS@115VAC at full load				
	Setup Time	<1.8 Sec @ 115~230VAC, full load				
ENVIRONMENT	Temperature	Operating: -20 ~ +70°C ; Storage: -40~ +85°C				
	Humidity	Operating: 20% ~ 90% RH (non condensing); Storage: 10% ~ 95% RH (non condensing)				
SAFETY	Withstand Voltage	I/P-O/P:4KVAC				
	Isolation Resistance	I/P-O/P 100MΩ/500VDC				
	Safety Standard	ANSI/AAMI ES60601-1, TUV EN60601-1, IEC60601-1 Approved				
EMC	EMI	EN55011 (CISPR11), EN55022 (CISPR22) Class B; EN61000-3-2,3				
	EMS	EN61000-4-2,3,4,5,6,8,11; EN55024, EN60601-1-2, EN61204-3, medical level, criteria A				
OTHERS	Cooling	Cooling by free air convection				
	M.T.B.F.	723.2K hrs min. MIL-HDBK-217F (°C)				
	Packing	0.045Kg; 120pcs/6.4Kg/0.97CUFT				

1 All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature

2 Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1µf & 47µf parallel capacitor

3 Tolerance: includes set up tolerance, line regulation and load regulation

4 The power supply is considered a component which will be installed into final equipment. The final equipment must be re-confirmed that it still meets EMC directives

5 The over temperature protection (OTP) is the built-in function of the control IC (U1). The activating level described above is based on the specification provided by the IC manufacturer

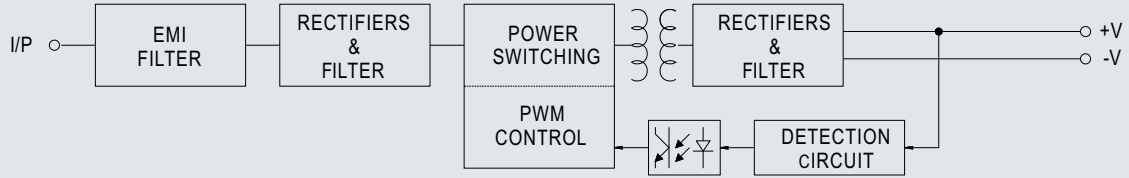
6 Touch current was measures from primary input to DC output

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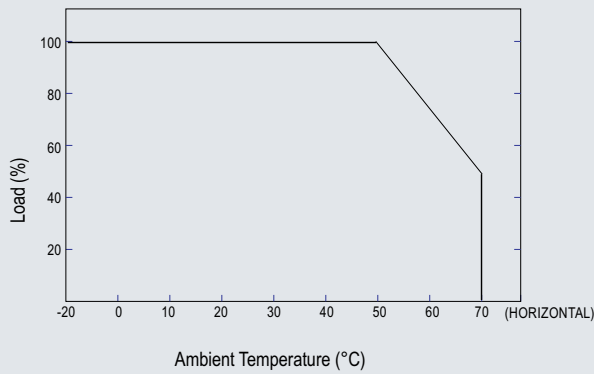
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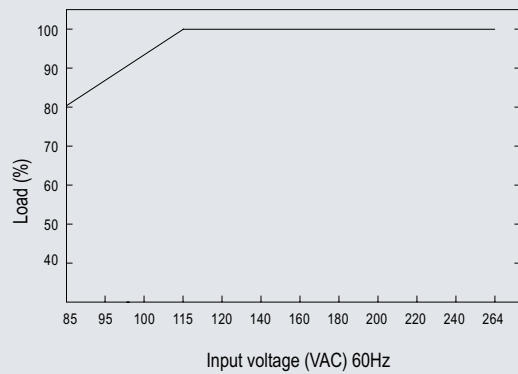
Block Diagram



De-Rating Curve



Output De-Rating Vs. Input Voltage



Dimensions

