LFM750S SERIES
750 WATT AC-DC POWER SUPPLY WITH PFC

Features

- Universal Input Range 85~264Vac
- Universal Input Range 120~368Vdc
- High Efficiency up to 94%
- Class I & Class II
- 25.4mm Low Profile Package
- No Load Input Power Consumption<0.6W
- No Load Input Power Consumption<0.7W for 54V
- Approval IEC/EN/UL 62368-1 Ed 3.0
- Approval EN 55032 and CISPR/FCC Class B
- Meets IEC/EN 60335-1
- Operating Altitude OVC II 5000m & OVC III 2000m
- Continuous Short Circuit Protection
- Over Voltage Protection
- Over Temperature Protection
- High Power Density 37.43W/Inches^3
- Active PFC Function

E176177

MODEL NUMBER	OUTPUT VOLTAGE	OUTPUT CURRENT				RIPPLE & NOISE NOTE1	VOLTAGE ACCURACY NOTE2	VOLTAGE ADJ. RANGE	LINE REGULATION NOTE3	LOAD REGULATION NOTE4	% EFF. (Typ.) NOTE5
		With Fan @230V_{ac}	Without Fan @230V_{ac}	With Conduction Cooling							
				Fan	Without Fan @230V_{ac}						
		NOTE6		NOTE6&7	NOTE7						
LFM750S120C	12 V	58.34 A	26.66 A	62.50 A	50.00 A	150 mV	±1%	11.4-12.6 V	±0.5%	±1%	91.5%
LFM750S150C	15 V	46.67 A	21.33 A	50.00 A	40.00 A	150 mV	±1%	14.25-15.75 V	±0.5%	±1%	92.0%
LFM750S240C	24 V	29.17 A	13.33 A	31.25 A	25.00 A	240 mV	±1%	22.8-25.2 V	±0.5%	±1%	92.5%
LFM750S280C	28 V	25.00 A	11.42 A	26.78 A	21.43 A	280 mV	±1%	28-29.4 V	±0.5%	±1%	92.5%
LFM750S300C	30 V	23.33 A	10.66 A	25.00 A	20.00 A	300 mV	±1%	28.5-31.5 V	±0.5%	±1%	93.0%
LFM750S360C	36 V	19.44 A	8.88 A	20.83 A	16.66 A	360 mV	±1%	34.2-37.8 V	±0.5%	±1%	93.0%
LFM750S480C	48 V	14.58 A	6.66 A	15.62 A	12.50 A	480 mV	±1%	45.6-50.4 V	±0.5%	±1%	93.5%
LFM750S540C	54 V	12.96 A	5.92 A	13.88 A	11.11 A	540 mV	±1%	51.3-55.0 V	±0.5%	±1%	94.0%

Note:

1. Add a 0.1uF ceramic capacitor and a 10uF E.L. capacitor to output for ripple & noise measuring @20MHz BW.
2. Voltage accuracy is set at full load.
3. Line regulation is measured from 100V_{ac} to 240V_{ac} with full load.
4. Load regulation is measured from 10% to 100% full load.
5. Typical efficiency at 230 V_{ac} and full load at 25°C.
6. Forced air convection with 22 CFM above.
7. With additional cooling conduction plate. 43.18 cm by 43.18cm with min. 0.3cm thick.

PART NUMBER

Series	Number of Outputs	Nominal Output Voltage	Type	Mounting Inserts
LFM750	O	XXX	X	-YZ
LFM750	S：Single	120：12V 150：15V 240：24V 280：28V 300：30V 360：36V 480：48V 540：54V	C：With Cover	Blank：Through Hole C0：Threaded Hole

Part Number Example:

LFM750S120C: With Cover 750W, Single 12V_{dc} Output, Through Hole

LFM750S120C-C0: With Cover 750W, Single 12V_{dc} Output, Threaded Hole

TECHNICAL SPECIFICATIONS

(All specifications are typical at nominal input, full load at 25℃ unless otherwise noted.)

ABSOLUTE MAXIMUM RATINGS

PARAMETER	NOTES and CONDITIONS	Device	Min.	Typ.	Max.	Units
Input Voltage		All	85 120		264 368	V_{ac} V_{dc}
Operating Temperature	**See derating curve**	All	-40		80	℃
Operating Case Temperature	At the center of base plate (T_c = Case temperature)	All	-40		90	℃
Storage Temperature		All	-40		85	℃
Operating Altitude	IEC/EN/UL 62368 OVC II IEC/EN/UL 62368 OVC III	All			5000 2000	m

INPUT CHARACTERISTICS

PARAMETER	NOTES and CONDITIONS	Device	Min.	Typ.	Max.	Units
Operating Voltage Range		All	100 120		240 368	V_{ac} V_{dc}
Input Frequency Range		All	47		63	Hz
Maximum Input Current	100% Load, V_{in}=100V_{ac}	All			10	A
Leakage Current	Contact leakage current Earth leakage current	All			100 300	uA
Inrush Current	V_{in}=240V_{ac}, Cold start @25℃	All		30		A
Under Voltage Protection		All	65		75	V_{ac}
Power Factor	230V_{ac} @ Full load	All		0.98		

OUTPUT CHARACTERISTICS

PARAMETER	NOTES and CONDITIONS	Device	Min.	Typ.	Max.	Units
Output Voltage Set Point	V_{in}=Nominal V_{in}, I_o=I_o max., T_c=25℃	LFM750S120	11.88	12	12.12	V_{dc}
		LFM750S150	14.85	15	15.15	
		LFM750S240	23.76	24	24.24	
		LFM750S280	28	28	28.28	
		LFM750S300	29.7	30	30.3	
		LFM750S360	35.64	36	36.36	
		LFM750S480	47.52	48	48.48	
		LFM750S540	53.46	54	54.54	
Operating Output Current Range	V_{in}=85V_{ac}~264V_{ac}, **See derating curve**	LFM750S120			62.5	A
		LFM750S150			50	
		LFM750S240			31.25	
		LFM750S280			26.78	
		LFM750S300			25	
		LFM750S360			20.83	
		LFM750S480			15.62	
		LFM750S540			13.88	
Holdup Time	V_{in}=115V_{ac}	All	10			ms
Output Voltage Regulation						
Load Regulation	10% Load to full load	All			±1	%
Line Regulation	V_{in}=High line to low line	All			±0.5	%
Output Voltage Adjustment	P_o≦max. rated power, I_o≦I_o max.	LFM750S280	0		+5	%
	P_o≦max. rated power, I_o≦I_o max.	LFM750S540	-5		+2	
	P_o≦max. rated power, I_o≦I_o max.	Others	-5		+5	

PARAMETER	NOTES and CONDITIONS	Device	Min.	Typ.	Max.	Units
Over Voltage Protection	Latch off (AC recycle to reset)	LFM750S120		16		V_{dc}
		LFM750S150		25		
		LFM750S240		35		
		LFM750S280		35		
		LFM750S300		35		
		LFM750S360		50		
		LFM750S480		60		
		LFM750S540		63		
Over Current Protection	Auto recovery (Output is rated load)	All	150		220	%
Short Circuit Protection	Auto recovery	All				
Over Temperature Protection	Auto recovery	All				
Output Ripple and Noise	1. Add a 0.1uF ceramic capacitor and a 10uF aluminum electrolytic capacitor to output 2. Oscilloscope is 20MHz band width 3. Ambient temperature=25℃	LFM750S120			150	mV
		LFM750S150			150	
		LFM750S240			240	
		LFM750S280			280	
		LFM750S300			300	
		LFM750S360			360	
		LFM750S480			480	
		LFM750S540			540	
Load Capacitance	1. V_{in}=115V_{ac} and 230V_{ac} 2. Output is max. load 3. Ambient temperature=25℃	LFM750S120			46800	uF
		LFM750S150			37500	
		LFM750S240			23400	
		LFM750S280			20000	
		LFM750S300			18750	
		LFM750S360			15600	
		LFM750S480			8100	
		LFM750S540			10400	
Efficiency	1. Input voltage is 230V_{ac} 2. Output is rated load 3. Ambient temperature=25℃	LFM750S120		91.5		%
		LFM750S150		92		
		LFM750S240		92.5		
		LFM750S280		92.5		
		LFM750S300		93		
		LFM750S360		93		
		LFM750S480		93.5		
		LFM750S540		94		

ISOLATION CHARACTERISTICS

PARAMETER	NOTES and CONDITIONS	Device	Min.	Typ.	Max.	Units
Input to Output	1 Minute (without dielectric breakdown)	All			4250	V_{ac}
Input to Earth (Ground)	1 Minute (without dielectric breakdown)	All			2000	V_{ac}
Output to Earth (Ground)	1 Minute (without dielectric breakdown)	All			2000	V_{ac}
Isolation Resistance	Input to output	All	100			MΩ

FEATURE CHARACTERISTICS

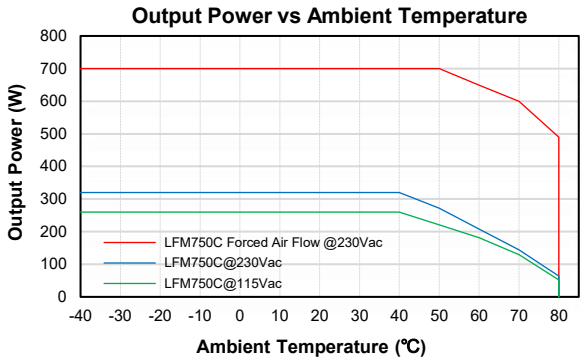
PARAMETER	NOTES and CONDITIONS	Device	Min.	Typ.	Max.	Units
Switching Frequency		All		78		kHz

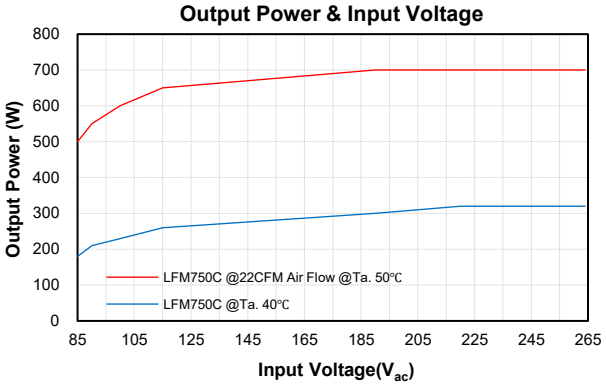
GENERAL SPECIFICATIONS

PARAMETER	NOTES and CONDITIONS	Device	Min.	Typ.	Max.	Units
MTBF	I_o=100%; T_a=25℃ per MIL-HDBK-217F I_o=100%; T_a=25℃ per Telcordia SR332	All	280 940			k hours
Life Time	@75% Load, 40℃ With base plate	All	74			k hours
Humidity	Non-condensing	All			95	% RH
Shock	Meet MIL-STD-810F Table 516.5,Table 516.5-I 10ms, each axis 3 times(±X、±Y、±Z axis)	All		75		g
Vibration	Meet MIL-STD-810F Table 514.5C-VIII,15~2000Hz, X、Y、Z axis, 1 hour (each axis),. Total 3 hrs.	All		4		g
Weight		All		600		grams
Dimensions		All	6.09x3.29x1.00 Inches (154.8x83.5x25.4 mm)			
Safety	Class I, Class II, IEC/EN/UL 62368-1					Ed. 3.0
EMC Emission	EN 55032 Class B, EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4, EN 61204-3, EN 61000-3-2, EN 61000-3-3 47 CFR FCC Part 15 Subpart B					
Conducted Disturbance	EN 55032, 47 CFR FCC Part 15					Class B
Radiated Disturbance	EN 55032, 47 CFR FCC Part 15					Class B
Harmonic Current Emissions	EN 61000-3-2					Class A, C
Voltage Fluctuations & Flicker	EN 61000-3-3					Criterion A
EMC Immunity	EN 55035, EN 61204-3, EN 61000-6-1, EN 61000-6-2, IEC 61000-4-2, 3, 4, 5, 6, 8, 11					
Electrostatic Discharge (ESD)	IEC 61000-4-2, Level 3: Air Discharge: ±8kV, Contact Discharge: ±4kV					Criterion A
Radio-Frequency, Continuous Radiated Disturbance	IEC 61000-4-3, Level 3: 80 to 1000 MHz, 3V/m					Criterion A
Electrical Fast Transient (EFT)	IEC 61000-4-4, Level 3: ±2kV					Criterion A
Surge	IEC 61000-4-5, Level 4: L-N, ±2kV, Level 4: L-E (Ground), ±4kV					Criterion A
Conducted Disturbances, Induced by RF Fields	IEC 61000-4-6, Level 3					Criterion A
Power Frequency Magnetic Field	IEC 61000-4-8, Level 4					Criterion A
Voltage Dips	IEC 61000-4-11, Dip 70% Residual					Criterion A
Voltage Interruptions	IEC 61000-4-11, <5% Residual					Criterion B
Application Note Link						LFM750S Series App Notes

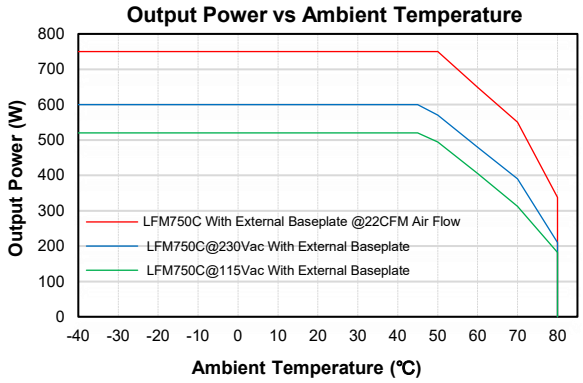
CHARACTERISTIC CURVE

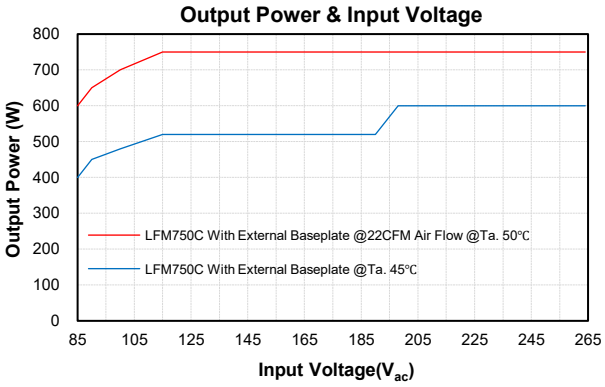
Power Derating Curve

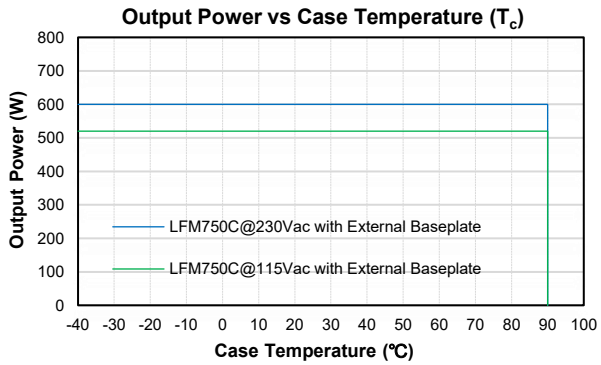




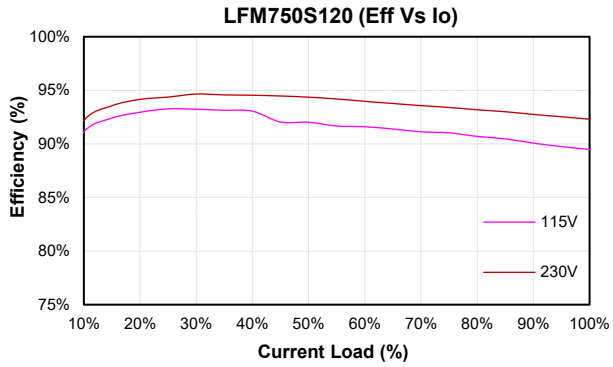
Conduction Convection with External Baseplate (43.18cmx43.18cmx0.3cm)

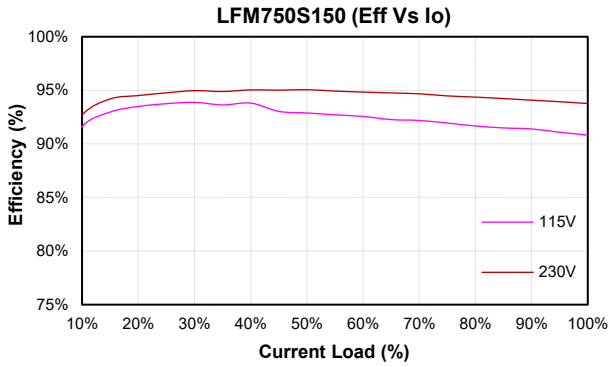


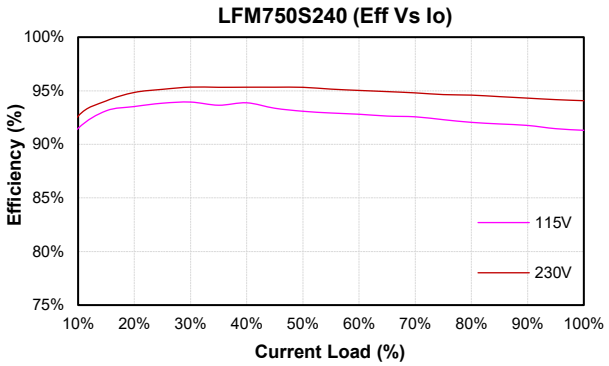


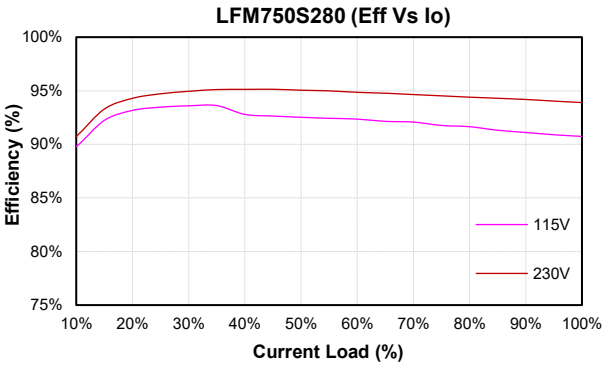


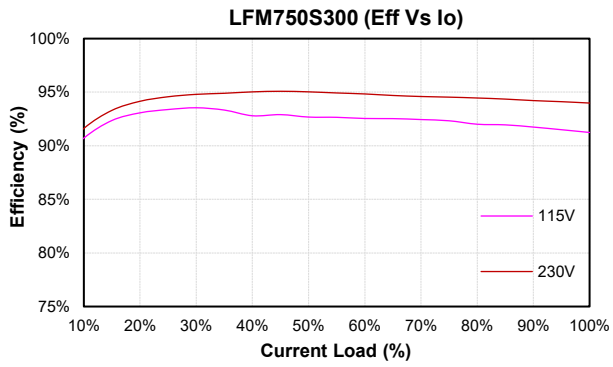
Performance Data

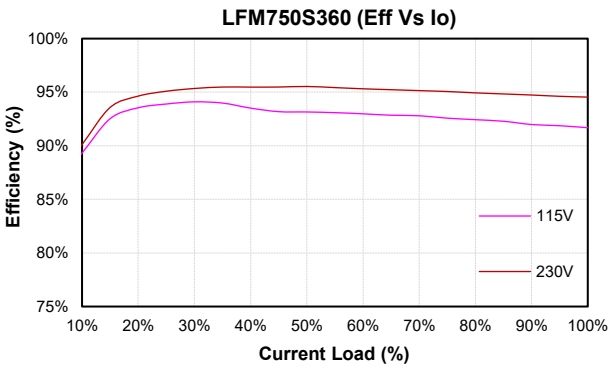


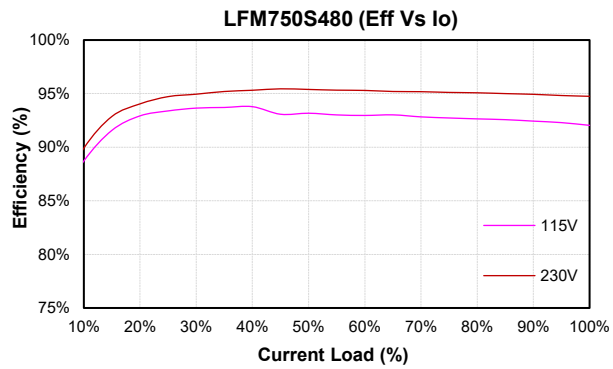


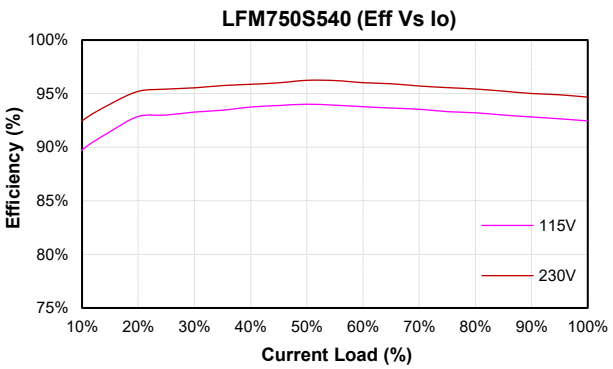




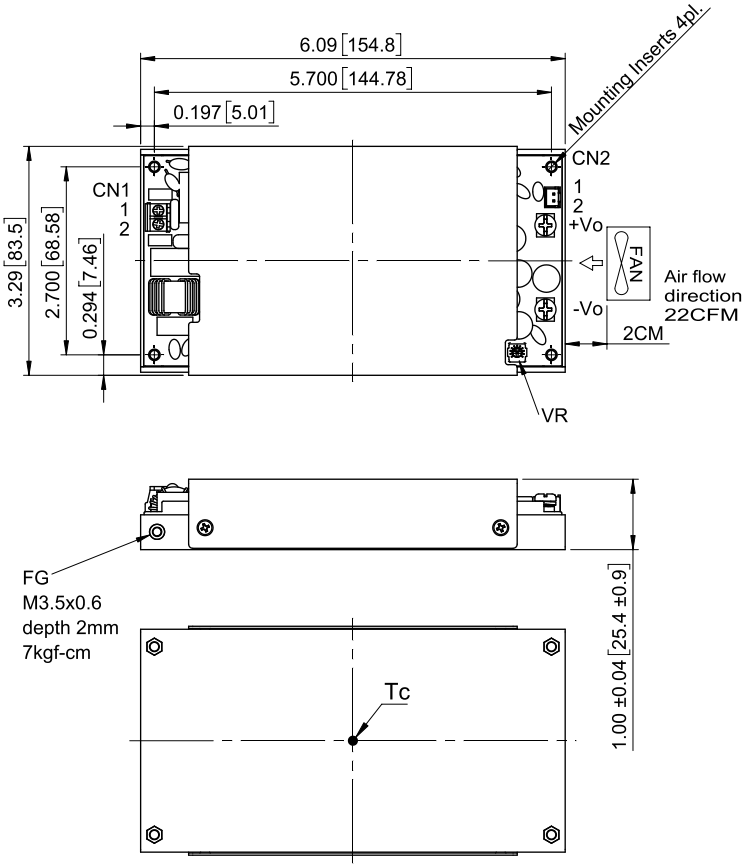








MECHANICAL SPECIFICATION



LFM750SXXXC
LFM750SXXXC-C0

All Dimensions in Inches[mm]
Tolerance Inches: x.xx=±0.03, x.xxx=±0.020
Millimeters: x.x=±0.7, x.xx=±0.50

AC Input Connector(CN1):ECE ETB22

Pin	Function	Mating Wire Range
1	ACL	14~16 AWG
2	ACN	

DC Output Connector(CN2):TKP 8822-02-NHB or equivalent

Pin	Function	Mating Housing	Terminal
1	Rs+	JST XHP-2 or equivalent	JST SXH-001T-P0.6N or equivalent
2	Rs-		

DC Output Connector:KANG YANG PCB-58M4

Function	The screw locked torque
+Vo	M4 7kgf-cm
-Vo	

Mounting Inserts

Series	Option
Blank	∅3.2 Through depth 10.5mm
-C0	M3x0.5 Threaded depth 10.5mm

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