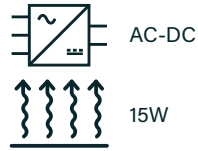


LS15-13BxxSS SERIES



DIMENSIONS:



1.752 x 0.945 x 0.591" (44.50 x 24.00 x 15.00mm)



85-305VAC

-40°C to 85°C
OPERATION

NO-LOAD 0.1W

Part numbers

LS15	-13B	12	SS	-F
Series	Input voltage	Output voltage	Version	Orientation
	85-305VAC	03 = 3.3VDC 05 = 5VDC 09 = 9VDC 12 = 12VDC 15 = 15VDC 24 = 24VDC		Blank = vertical -F = horizontal

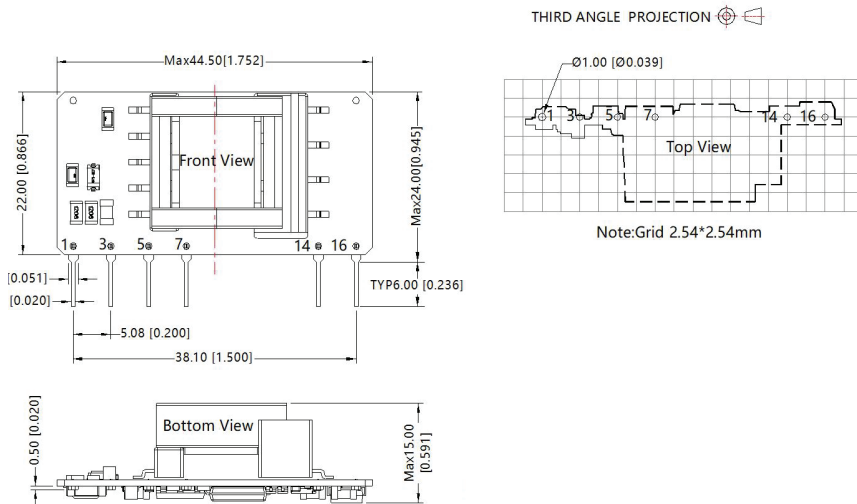
Key specifications

Input range	Safety certification	Efficiency	Environmental performance
85-305VAC	UL/IEC/EN 62368-1 Designed to meet EN 60335-1	75-85%	Operational: -40 to 85°C

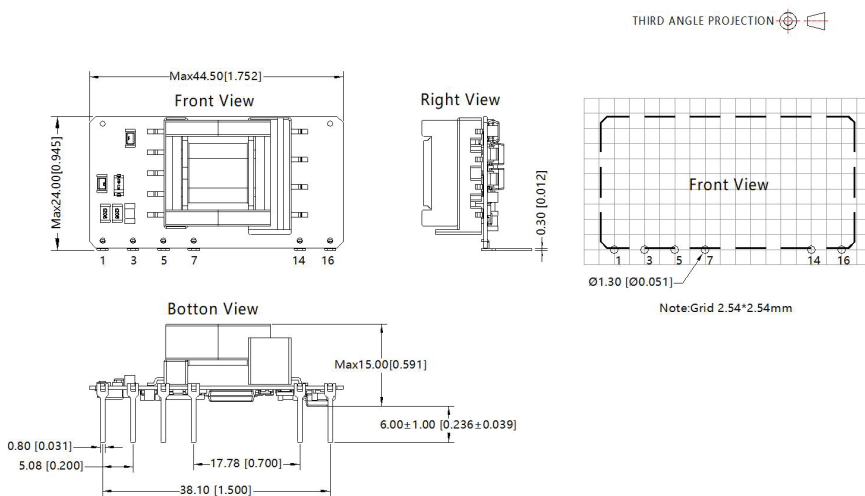
LS15-13BxxSS SERIES

Mechanical

LS15-13BxxSS



LS15-13BxxSS-F



Pin	Function
1	AC Neutral
3	AC Line
5	+V Cap
7	-V Cap
14	-V Out
16	+V Out

Notes

1. All dimensions shown in mm [Inch]
2. General tolerances ± 0.50 [± 0.020]
3. Pin tolerances ± 0.10 [± 0.004]
4. Add C1 between pin 5 & 7.
5. Add Pi circuits to the output
6. The distance of the primary and secondary isolation area $> 6.4\text{mm}$ to meet safety requirements. The whole layout including additional circuits meet safety requirements with conditions of the creepage distance $> 6.4\text{mm}$ and the electrical clearance $> 4\text{mm}$

Weight

11g

LS15-13BxxSS SERIES

Models & Ratings

Model Number (1)	Output voltage (2)	Output power	Output current	Efficiency	Max Capacitive Load
LS15-13B03SS	3.3V	9.9W	3000mA	75%	20000uF
LS15-13B05SS	5V	14W	2800mA	77%	15000uF
LS15-13B09SS	9V	15W	1670mA	82%	5000uF
LS15-13B12SS	12V	15W	1250mA	82%	4000uF
LS15-13B15SS	15V	15W	1000mA	84%	2000uF
LS15-13B24SS	24V	15W	625mA	85%	1000uF

1. Add suffix "-F" for horizontal package (vs. standard vertical mounting)
 2. Voltage after adding external recommended circuit

3. If used in application where vibration is present secure with RTV
 4. Unless stated, figures are at 25°C <75RH at nom 230VAC input and full nom load.

Input

Parameter	Min	Typical	Max	Unit	Notes/Conditions
Input voltage	85		305	VAC	100-430VDC also accepted. See page 5 for derating curve
Input frequency	47		63	Hz	
Input current (rms)	0.4		0.25	A	0.25A at 230VAC 0.4 at 115VAC
Inrush current	18		35	A	35A at 230VAC 18A at 115VAC
Leakage current			0.25	mA	277VAC 50HZ

Output

Parameter	Min	Typical	Max	Unit	Notes/Conditions
Output voltage	3.3		24	VDC	See Models & Ratings table
Set point accuracy		±2	±3	%	Between 10% and 100% load, ±3% for 3.3VDC, ±2 for all others
Line regulation		±0.5		%	At full load
Load regulation	±1	±1.5	±2	%	From 10% and 100% load ±2% 3.3V, ±1.5% 5V, ±1 all others
Ripple & noise		80	150	mV	All models measured with 0.1uF ceramic and 47uF low ESR electrolytic capacitor. 20 MHz bandwidth. At rated line and 10% to full load.
Minimum load	10			%	
Standby power		0.10	0.25	W	230 VAC
Hold up	10		40	ms	10ms at 115VAC 40ms at 230VAC

LS15-13BxxSS SERIES

Protections

Parameter	Min	Typical	Max	Unit	Notes/Conditions
Overload	110			%	Trip and restart. Automatic recovery
Short circuit					Trip and restart. Automatic recovery
Over voltage protections		3.3 / 5VDC 9VDC 12VDC 15VDC 24VDC			9VDC output voltage hiccup or clamp 12VDC output voltage hiccup or clamp 16VDC output voltage hiccup or clamp 20VDC output voltage hiccup or clamp 30VDC output voltage hiccup or clamp

Safety

Parameter	Notes/Conditions
Safety standards	IEC/UL62368-1 designed to meet EN/IEC60335-1 EN/IEC61558-1
Isolation: Input to output	3000 VAC 1min, leakage current <5mA

EMC: Immunity

	Standard	Test level	Criteria	Notes/Conditions
ESD	EN61000-4-2	3	B	±6kV contact
Radiated	EN61000-4-3	3	A	10V/m 80MHz-2.7GHz sine wave 80% AM 1kHz
EFT	EN61000-4-4	3	B	±4kV ⁽¹⁾
Surges	EN61000-4-5	Installation class 3	B	±2kV ⁽¹⁾
Conducted	EN61000-4-6	3	A	10Vrms
Voltage dips & interruptions	EN61000-4-11		B	

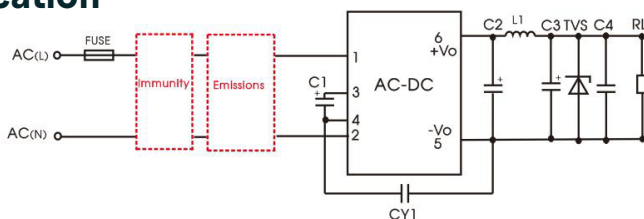
EMC: Emissions

	Standard	Test level	Criteria	Notes/Conditions
Conducted	EN55032	B		NOTE ⁽¹⁾
Radiated	EN55032	B		NOTE ⁽¹⁾

(1) Additional components required depending on application. Please contact your account manager or sales@fiduspower.com

LS15-13BxxSS SERIES

Typical application



Part no	Fuse	C1	C2	L1	C3	C4	CY1	TVS (optional)
LS15-13B03SS	1A/300V	33uF/450V	470uF/16V (solid state capacitor)	2.2uH/22mΩ	220uF/16V	0.1uF/50V	2.2nF/400VAC	SMBJ7.0A
LS15-13B05SS								SMBJ12A
LS15-13B09SS								SMBJ20A
LS15-13B12SS			680uF/25V		220uF/35V			SMBJ30A
LS15-13B15SS								
LS15-13B24SS								

Environmental

Parameter	Min	Typical	Max	Unit	Notes/Conditions
Operating temperature	-40		85	°C	See derating curve
Storage temperature	-40		105	°C	
Cooling					Free air
Temperature coefficient		±0.02		%/°C	
Storage Humidity			95	% RH	Non condensing
MTBF	1000			kHrs	As per MIL-HDBK-217F@25°C

