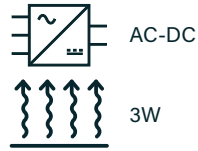
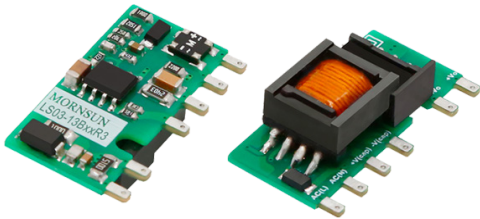
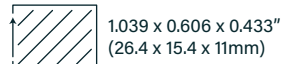


LS03-13BxxR3 SERIES



DIMENSIONS:



85-305VAC

-40°C to 85°C
OPERATION

NO-LOAD 0.1W

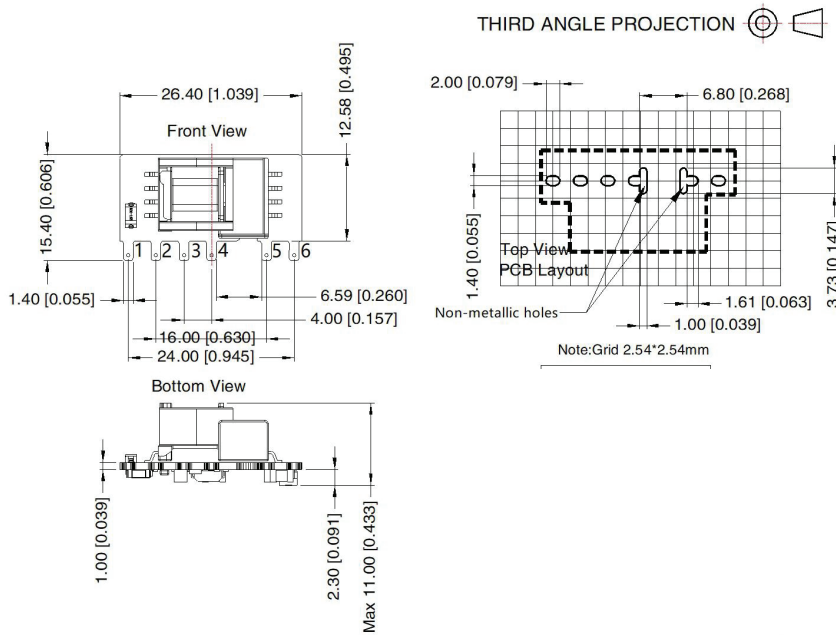
Part numbers

LS03	-13B	12	R3
Series	Input voltage	Output voltage	Version
	85-305VAC	03 = 3.3VDC 05 = 5VDC 09 = 9VDC 12 = 12VDC 15 = 15VDC 24 = 24VDC	

Key specifications

Input range	Safety certification	Efficiency	Environmental performance
85-305VAC	UL/IEC/EN 62368-1 Designed to meet EN 60335-1	67-80%	Operational: -40 to 85°C

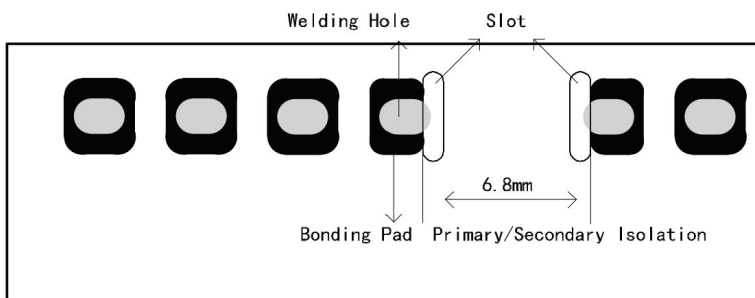
Mechanical



Pin	Function
1	AC Line
2	AC Neutral
3	+V Cap
4	-V Cap
5	-V Out
6	+V Out

Notes

- All dimensions shown in mm [Inch]
- General tolerances ± 1.00 [± 0.039]
- Pin tolerances ± 0.10 [± 0.004]



Weight

3.5g

LS03-13BxxR3 SERIES

Models & Ratings

Model Number	Output voltage (1)	Output power	Output current	Efficiency	Max Capacitive Load
LS03-13B03R3	3.3V	1.98W	600mA	67%	820uF
LS03-13B05R3	5V	3W	600mA	72%	680uF
LS03-13B09R3	9V	3W	333mA	76%	470uF
LS03-13B12R3	12V	3W	250mA	77%	470uF
LS03-13B15R3	15V	3W	200mA	78%	330uF
LS03-13B24R3	24V	3W	125mA	80%	200uF

1. Voltage after adding external recommended circuit
 2. If used in application where vibration is present secure with RTV

3. 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	70-430VDC also accepted. See page 5 for derating curve
Input frequency	47		63	Hz	
Input current (rms)	0.06		0.12	A	0.06A at 230VAC 0.12 at 115VAC
Inrush current	13		23	A	23A at 230VAC 13A at 115VAC

Output

Parameter	Min	Typical	Max	Unit	Notes/Conditions
Output voltage	3.3		24	VDC	See Models & Ratings table
Set point accuracy		±5		%	Between 10% and 100% load
Line regulation		±1.5		%	At full load
Load regulation		±3		%	From 10% and 100% load
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	0.15	W	

LS03-13BxxR3 SERIES

Protections

Parameter	Min	Typical	Max	Unit	Notes/Conditions
Overload	110			%	Trip and restart. Automatic recovery
Short circuit					Trip and restart. Automatic recovery

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	

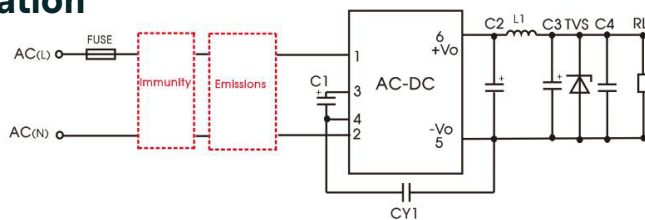
EMC: Emissions

	Standard	Test level	Criteria	Notes/Conditions
Conducted	EN55032/11	B		NOTE ⁽¹⁾
Radiated	EN55032/11	B		NOTE ⁽¹⁾

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

LS03-13BxxR3 SERIES

Typical application



Part no	C1	C2	L1	C3	C4 (optional)	CY1	TVS (optional)
LS03-13B03R3	10uF/450V (-25 °C to 85 °C, 85-305VAC input; -40 °C to 85 °C 165- 305VAC input)	470uF/6.3V (solid state capacitor)	4.7uh/60mΩ 2.2A	150uF/35V	0.1uF/50V	1.0nF/400VAC	SMBJ7.0A
LS03-13B05R3		270uF/16V (solid state capacitor)		4.7uF/35V			SMBJ12A
LS03-13B09R3	22uF/450V (-40 °C to 85 °C, 85-305VAC input)		220uF/35V		SMBJ20A		
LS03-13B12R3		SMBJ30A					
LS03-13B15R3							
LS03-13B24R3							

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		0.15		%/°C	
Storage Humidity			95	% RH	Non condensing
MBTF	1000			kHrs	As per MIL-HDBK-217F@25°C

