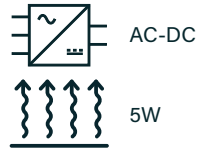
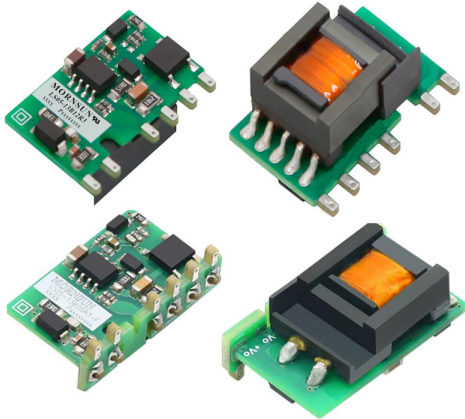


LS05-13BxxR3 SERIES



DIMENSIONS:



STANDARD VERSION:
1.039 x 0.579 x 0.433" (26.4 x 14.73 x 11mm)
F VERSION:
1.096 x 0.457 x 0.693 (27.84 x 11.6 x 17.6mm)



85-305VAC

-40°C to 85°C
OPERATION

NO-LOAD 0.1W

Part numbers

LS05	-13B	12	R3	-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

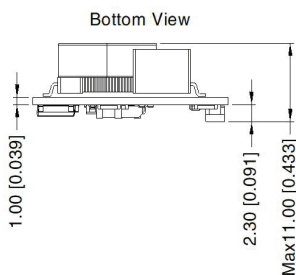
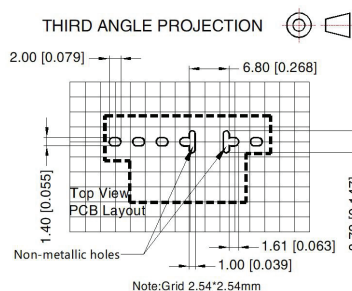
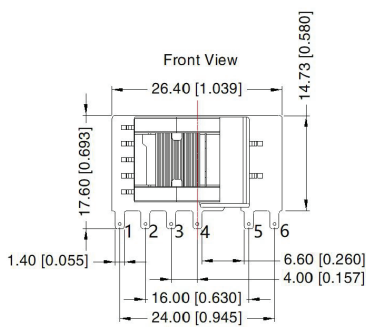
Key specifications

Input range	Safety certification	Efficiency	Environmental performance
85-305VAC	UL/IEC/EN 62368-1 Designed to meet EN 60335-1	69-81%	Operational: -40 to 85°C

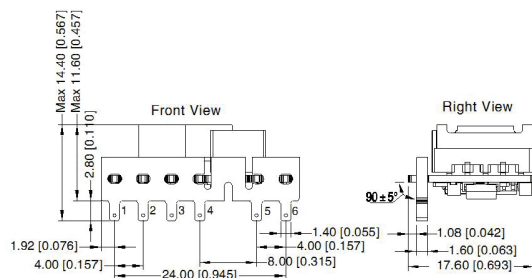
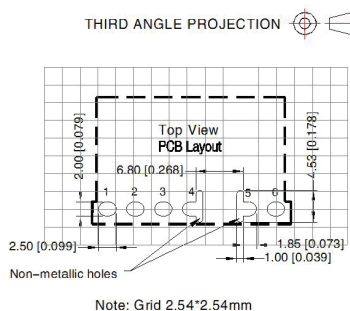
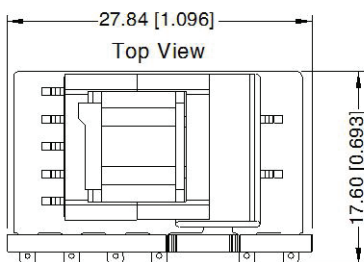
LS05-13BxxR3 SERIES

Mechanical

LS05-13BxxR3



LS05-13BxxR3-F



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

Notes

1. All dimensions shown in mm [Inch]
2. General tolerances ± 1.00 [± 0.039]
3. Pin tolerance ± 0.10 [± 0.004]

Weight

Standard	F version
5.2g	5.6g

LS05-13BxxR3 SERIES

Models & Ratings

Model Number (1)	Output voltage (2)	Output power	Output current	Efficiency	Max Capacitive Load
LS05-13B03R3	3.3V	3.3W	1000mA	69%	2200uF
LS05-13B05R3	5V	5W	1000mA	76%	1500uF
LS05-13B09R3	9V	5W	560mA	77%	680uF
LS05-13B12R3	12V	5W	420mA	79%	470uF
LS05-13B15R3	15V	5W	340mA	79%	330uF
LS05-13B24R3	24V	5W	210mA	81%	100uF

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	70-430VDC also accepted. See page 5 for derating curve
Input frequency	47		63	Hz	
Input current (rms)	0.1		0.2	A	0.1A at 230VAC 0.2 at 115VAC
Inrush current	20		40	A	40A at 230VAC 20A 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	230 VAC

LS05-13BxxR3 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	5000 VDC, 3600 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	

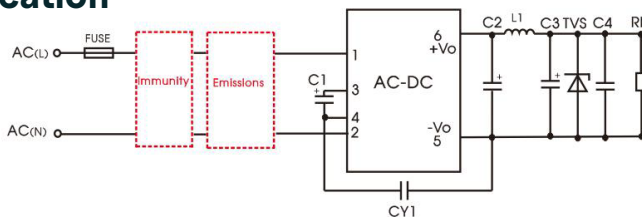
EMC: Emissions

	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

LS05-13BxxR3 SERIES

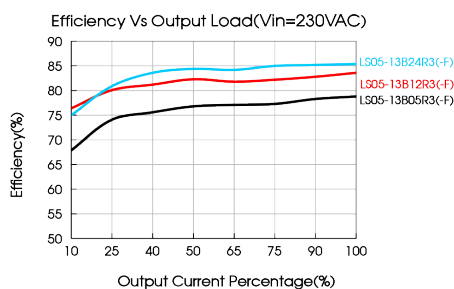
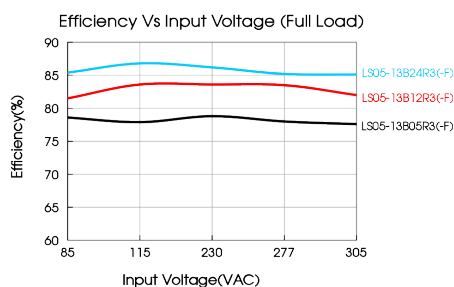
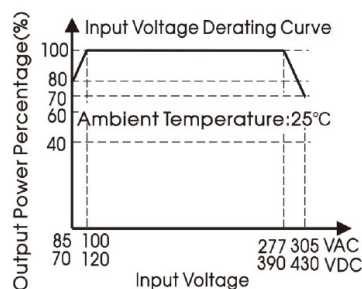
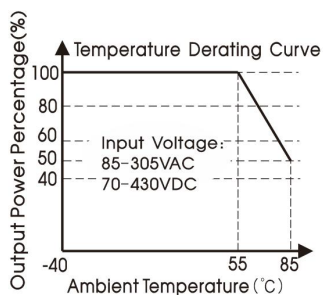
Typical application



Part no	C1	C2	L1	C3	C4 (optional)	CY1	TVS (optional)
LS05-13B03R3	10uF/450V (-25°C to 85°C, 85-305VAC input, -40°C to 85°C, 165- 305VAC input)	820uF/6.3V (solid state capacitor)	4.7uH/60mΩ 2.2A	100uF/35V	0.1uF/50V	1.0nF/400VAC	SMBJ7.0A
LS05-13B05R3		470uF/6.3V (solid state capacitor)					
LS05-13B09R3	270uF/16V (solid state capacitor)	SMBJ20A					
LS05-13B12R3				22uF/450V (-40°C to 85°C, 85-305VAC input)			SMBJ30A
LS05-13B15R3	220uF/35V						
LS05-13B24R3							

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
MTBF	1000			kHrs	As per MIL-HDBK-217F@25°C



16th October 2023