



25W, AC-DC converter



FEATURES

- Universal Input: 85 - 264VAC/100 - 370VDC
- Regulated output, low ripple & noise
- High efficiency up to 87%
- Output short circuit, over-current, over-voltage, protection
- Plastic case, meets UL94V-0
- IEC60950, UL60950, EN60950 approval
- Mounting: Chassis mounting



LH25 series features universal input voltage, taking both DC and AC input voltage, low power consumption, high efficiency, high reliability, safer isolation. It offers good EMC performance, which meet IEC/EN61000-4, CISPR22/EN55022, UL60950 and EN60950 standards, and it's widely used in industrial, office and civil applications.

Selection Guide

RS Stock No.	Part No.*	Output Power	Nominal Output Voltage and Current	Efficiency (230VAC, %/Typ.)	Max. Capacitive Load(μF)
1446269	LH25-10B05A2	20.5W	5V/4100mA	79	12240
1446270	LH25-10B12A2	25W	12V/2100mA	83	5400
1446271	LH25-10B15A2		15V/1600mA	84	2400
1446272	LH25-10B24A2		24V/1100mA	85	1440

Input Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Input Voltage Range	AC input	85	--	264	VAC
	DC input	100	--	370	VDC
Input frequency		47	--	63	Hz
Input current	115VAC	--	--	0.6	A
	230VAC	--	--	0.34	
Inrush current	115VAC	--	16	--	
	230VAC	--	30	--	
Leakage current		0.3mA RMS typ./230VAC/50Hz			
Chassis mounting package includes fuse		3.15A/250V, slow blow.			

Output Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit		
Output Voltage Accuracy	Main circuit	--	±2	--	%		
Line Regulation	Full load	--	±0.5	--			
Load Regulation	0%-100% load	Single output	±1	--			
Ripple & Noise*	Main circuit	20MHz bandwidth (peak-peak value)		--	50	100	mV
Temperature Coefficient	Main circuit	--	±0.02	--	%/°C		
Short Circuit Protection		Continuous, self-recovery					
Over-current Protection		≥110%Io self-recovery					
Over-voltage Protection	Main circuit	5VDC Output	≤7.5VDC				
		12VDC Output	≤20VDC				



Over-voltage Protection	Main circuit	15VDC Output	≤20VDC			
		24VDC Output	≤30VDC			
Min. Load	Single output models	0	--	--	%	
Hold-up Time	115VAC input	--	15	--	mS	
	230VAC input	--	80	--		

General Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Isolation Voltage	Input-output	3000	--	--	VAC
	Input-	2000	--	--	
Operating Temperature		-40	--	+70	°C
Storage Temperature		-40	--	+85	
Storage Humidity		--	--	95	%RH
Switching Frequency		65KHz			
Power derating	+50°C to +70°C	3.0			%/°C
Safety Standard		IEC60950/EN60950/UL60950			
Safety Certification		IEC60950/EN60950/UL60950			
Safety Class		CLASS I			
MTBF		MIL-HDBK-217F@25°C > 300,000 h			

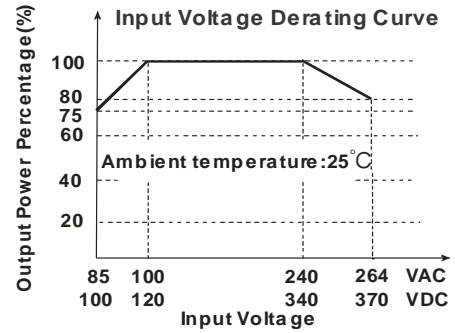
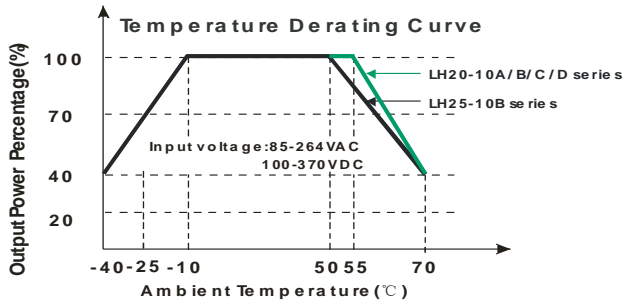
Physical Specifications

Casing Material	Black flame-retardant and heat-resistant plastic (UL94V-0)	
Dimension	A2 chassis mounting	96.10*54.00*32.00mm
Weight	A2 chassis mounting	170g (Typ.)
Cooling method	Free air convection	

EMC Specifications

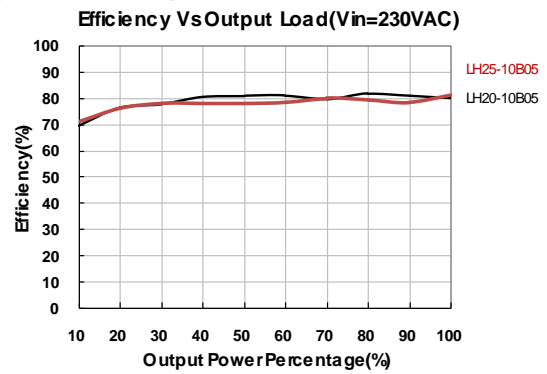
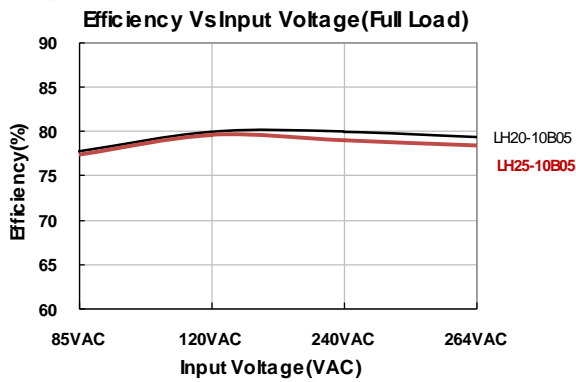
EMI	CE	CISPR22/EN55022	CLASS B	
	RE	CISPR22/EN55022	CLASS B	
EMS	ESD	IEC/EN61000-4-2	Contact ±6KV/Air ±8KV	Perf. Criteria B
	RS	IEC/EN61000-4-3	10V/m	perf. Criteria A
	EFT	IEC/EN61000-4-4	±2KV	perf. Criteria B
		IEC/EN61000-4-4	±4KV (See Fig. 5 for recommended circuit)	perf. Criteria B
	Surge	IEC/EN61000-4-5	line to line ±1KV/line to ground ±2KV	perf. Criteria B
		IEC/EN61000-4-5	line to line±2KV/ line to ground ±4KV (See Fig. 5 for recommended circuit)	perf. Criteria B
	CS	IEC/EN61000-4-6	10 Vr.m.s	perf. Criteria A
	PFM	IEC/EN61000-4-8	10A/m	perf. Criteria A
	Voltage dips, short interruptions and voltage variations immunity	IEC/EN61000-4-11	0%,70%	perf. Criteria B

Product Characteristic Curve

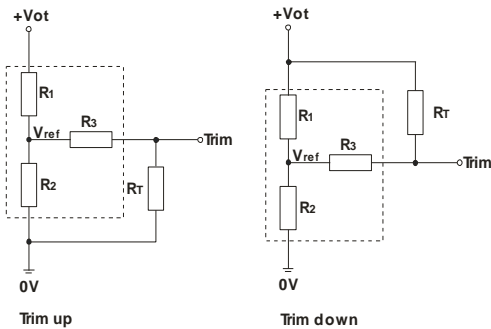


Note: ①When input 85-100VAC/240-264VAC/100-120VDC/340-370VDC, it need to be voltage derated on basis of temperature derating;

②This product is suitable for use in natural air cooling environments, if in a closed environment; please contact our company's FAE.



1. Application of Trim and calculation of Trim resistance



Calculation formula of Trim resistance:

$$\text{up: } R_T = \frac{a R_2}{R_2 - a} - R_3 \quad a = \frac{V_{ref}}{V_{ot} - V_{ref}} \cdot R_1$$

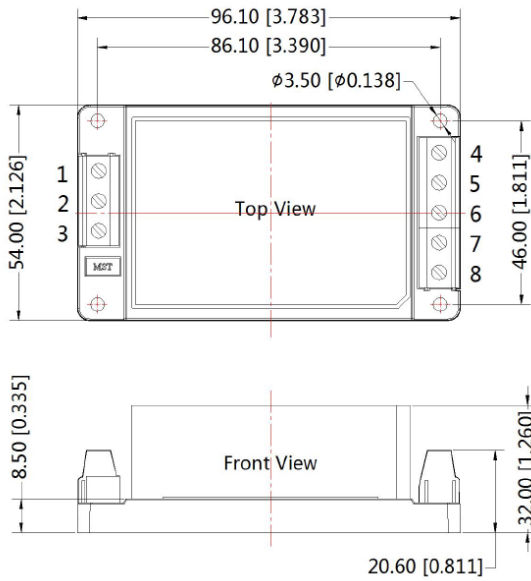
$$\text{down: } R_T = \frac{a R_1}{R_1 - a} - R_3 \quad a = \frac{V_{ot} - V_{ref}}{V_{ref}} \cdot R_2$$

R_T is Trim resistance
 a is a self-defined parameter, with no real meaning.

Applied circuits of Trim (Part in broken line is the interior of models):

V _{out}	R ₁ (KΩ)	R ₂ (KΩ)	R ₃ (KΩ)	V _{ref} (V)	V _{ot} (V)
5V	3.3	3.3	1	2.5	Output voltage after regulation, variation ≤ ±10%
12V	3.83	1	1	2.5	
15V	7.5	1.5	1	2.5	
24V	8.66	1	1	2.5	

LHXXA2 Dimensions



Pin - Out	
Pin	LH25
1	
2	AC(N)
3	AC(L)
4	-Vo
5	NC
6	Trim
7	NC
8	+Vo

Note:
 Unit: mm[inch]
 Wire range: 24-12 AWG
 Tightening torque: Max 0.4 N·m
 General tolerances: $\pm 0.50[\pm 0.020]$

Notes:

1. If the product is not operated within the required load range, the product performance cannot be guaranteed to comply with all parameters in the datasheet;
2. Unless otherwise specified, parameters in this datasheet were measured under the conditions of $T_a=25^\circ\text{C}$, humidity<75% with nominal input voltage and rated output load;
3. All index testing methods in this datasheet are based on our Company's corporate standards;
4. Specifications are subject to change without prior notice.