

Embedded Switch Mode Power Supplies (SMPS)

FEATURES

- Universal 85 - 264V AC and 100 - 370V DC Input
- High efficiency, 4KVAC high isolation voltage
- Operating temperature range -40°C to +70°C
- Output short circuit, over-current, over-voltage protection
- Regulated output, low output ripple & noise
- High efficiency, high reliability
- Plastic case meets UL94V-0 flammability
- EMI performance meets CISPR32 / EN55032 CLASS B
- IEC/EN/UL62368 and safety approval

RS PRO Embedded Switch Mode Power Supplies

- RS Part numbers 2067685, 2067686, 2067687



RS Professionally Approved Products bring to you professional quality parts across all product categories. Our product range has been tested by engineers and provides a comparable quality to the leading brands without paying a premium price.

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Product Description

Universal AC input and DC input, low power consumption, high efficiency, high efficiency, high reliability. It offers good EMC performance compliant to CISPR32/EN55032 and the safety certifications to UL/IEC62368 and EN62368 standards and are widely used in industrial, medical, instrumentation.

General Specifications

Model	LHE15-20BxxA2 series
Mounting Type	Chassis mount
Package Type	Chassis mounting with screw terminals
MTBF	MIL-HDBK-217F@25°C > 300,000 h
Applications	Industrial control systems, instrumentation and electrical equipment

RS Stock#	Input Voltage	Output Voltage	Output Current	Output Wattage	Efficiency (Typ)
2067685	85 to 264V ac 100 to 370V dc	+ 5V DC	2.8A	14W	76%
2067686	85 to 264V ac 100 to 370V dc	+ 12V DC	1.25A	15W	80%
2067687	85 to 264V ac 100 to 370V dc	+ 24V DC	0.625A	15W	83%

Electrical Specifications

Input Specification	
Voltage Range	85 to 264V ac, 100 to 370V dc
Frequency	47 to 63Hz
AC Current Rating	0.37A/115V ac, 0.22A/230V ac
Inrush Current	30A / 230V ac
Input Protection	2A/250V, slow blow, built in

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Output Specification			
Output voltage	5V	12V	24V
Rated Current	2.8A	1.25A	0.625A
Ripple & Noise (typ.)	50mVp-p	50mVp-p	50mVp-p
Ripple & Noise (max.)	100mVp-p	100mVp-p	100mVp-p
Rated Power	14W	15W	15W
Max. Capacitor Load	20000uF	5200uF	1000uF
Voltage Tolerance	±2.0%	±2.0%	±2.0%
Line Regulation typ.	±0.5%	±0.5%	±0.5%
Load Regulation typ.	±1%	±1%	±1%
Minimum Load	0%	0%	0%

Hold Up Time	60ms/230V ac, 10ms/115V ac
Over Voltage Protection	5V output ≤ 7.5 V (Output voltage clamp or hiccup)
	12V output ≤ 20 V (Output voltage clamp or hiccup)
	24V output ≤ 30 V (Output voltage clamp or hiccup)
Over-current Protection	≥150%Io self-recovery
Short Circuit Protection	Hiccup, continuous, self-recovery
Switching Frequency	65KHz
Isolation	4KVAC

EMC Specifications

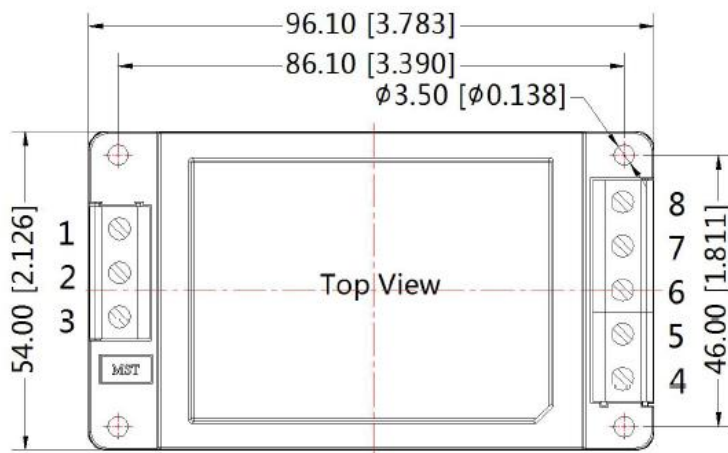
Emissions	CE	CISPR32/EN55032	CLASS B	
	RE	CISPR32/EN55032	CLASS B	
Immunity	ESD	IEC/EN61000-4-2	Contact ±6KV/Air ±8KV	Perf. Criteria B
	RS	IEC/EN61000-4-3	10V/m	perf. Criteria A
	EFT	IEC/EN61000-4-4	±2KV	perf. Criteria B
			±4KV (See Fig. 2 for recommended circuit)	perf. Criteria B
	Surge	IEC/EN61000-4-5	line to line ±1KV	perf. Criteria B
			line to line ±2KV /line to ground ±4KV (See Fig. 2 for recommended circuit)	perf. Criteria B
	CS	IEC/EN61000-4-6	10Vr.m.s	perf. Criteria A
Voltage dips, short interruptions and voltage variations		IEC/EN61000-4-11	0%,70%	perf. Criteria B

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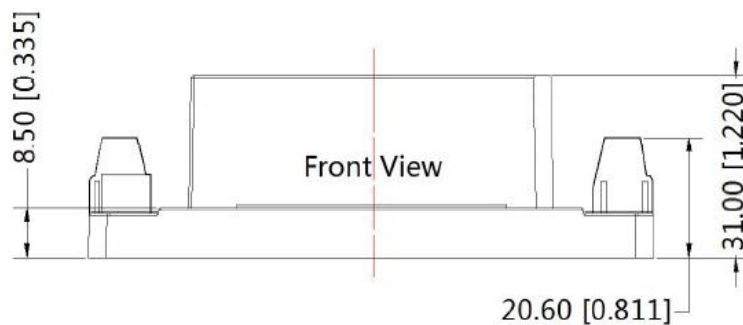
Mechanical Specifications

Overall Length	96.10mm
Overall Depth	31mm
Overall Width	54mm
Weight	140g (Typ.)

THIRD ANGLE PROJECTION 



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



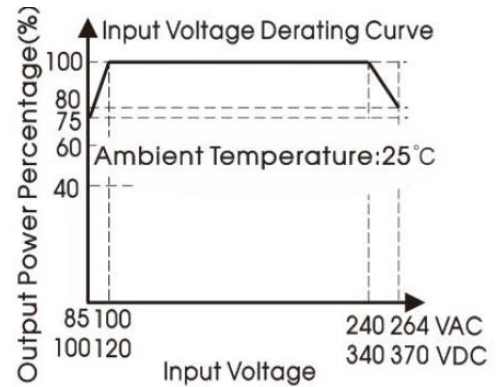
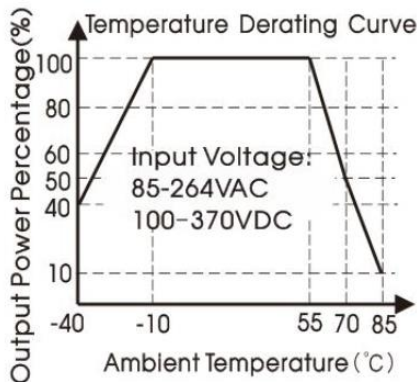
Note:
 Unit:mm[inch]
 Wire range : 24-12 AWG
 Tightening torque: Max 0.4 N·m
 General tolerances:±1.0[±0.040]

Operation Environment Specifications

Storage Humidity	95% RH
Cooling	Natural convection
Operating Temperature Range	-40 to 85°C
Storage Temperature Range	-40 to 105°C
Power Derating	-40 to -10°C 2% /°C
	55 to 70°C 3.3% /°C
	85Vac to 100Vac 1.67% /VAC
	240Vac to 264Vac 0.83% /VAC

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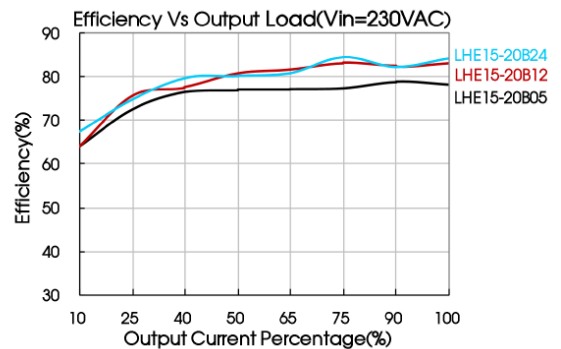
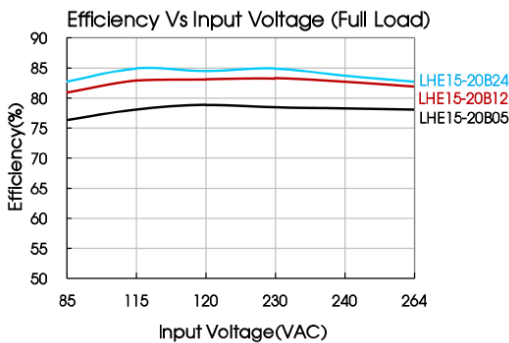
Derating



With an AC input between 85-100V/240-264VAC and a DC input between 100-120V/340-370VDC, the output power must be derated as per temperature derating curves

This product is suitable for applications using natural air cooling.

Efficiency



Approvals

Safety Standard	UL62368/EN62368/EN60335/IEC62368/IEC60335 approval
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Additional Information

Custom Tariff Number	85044030
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Notes

1. 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.
2. All index testing methods in this datasheet are based on our Company's corporate standards.
3. Products are related to laws and regulations: see "Features" and "EMC"
4. Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units.

Additional Information / Diagrams / Illustrations / Wiring
Diagrams / Connector Images and Quantity