FEATURES

- Universal 85 - 305Vac and 100 - 430Vdc
- Operating temperature range - 30℃ to +70℃
- Up to 83% efficiency
- No-load power consumption < 0.5W
- Over-voltage class Ⅲ (designed to meet EN61558)
- Output short circuit, over-current, over-voltage protection
- EMI performance meets. CISPR32 / EN55032 CLASS B
- Safety IEC/UL62368-1, GB4943.1, IS13252 (Part1) Safety Approval & EN62368-1, BS EN62368-1(Report)
- Operating Altitude upto 5000m
- Supplied with Terminal cover

RS PRO Embedded Switch Mode Power Supplies

RS Stock No: 254-3510

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.

Product Description

AC-DC switching power supply. It features universal AC input and at the same time accepts DC input voltage, cost-effective, low no load power consumption, high efficiency and high reliability. These converters offer excellent EMC performance and meet IEC/EN61000-4, CISPR32/EN55032, IEC/UL/EN62368, GB4943 standards and they are widely used in areas of industrial, LED, street light control, electricity, security, telecommunications, smart home etc.

Model	AC-DC Enclosed 15W
Mounting Type	Chassis Mount
MTBF	MIL-HDBK-217F@25°C > 700,000 h
Applications	Industrial control systems, instrumentation and lighting

RS Stock#	Input Voltage	Output Voltage	Output Current	Adj' range (V)	Max. Capacitive Load(μF)	Efficiency (Typ)
2543509	85 to 305V ac 100 to 430V dc	5V DC	3A	4.5-5.5V	2400	78%
2543510	85 to 305V ac 100 to 430V dc	12V DC	1.3A	10.2-13.8V	1800	82%
2543511	85 to 305V ac 100 to 430V dc	15V DC	1A	13.5-18V	1200	82%
2543512	85 to 305V ac 100 to 430V dc	24V DC	0.625A	21.6-28.8V	600	83%
2543513	85 to 305V ac 100 to 430V dc	48V DC	0.32A	42-54V	300	83%

Input Specifications

Item	Operating Conditions		Min	Typ	Max.	Unit
Input Voltage Range	AC Input		85	-	305	VAC
	DC Input		100	-	430	VDC
Input Voltage Frequency			47	-	63	Hz
Input Current	115VAC		-	-	0.35	A
	230VAC		-	-	0.25	
Inrush Current	115VAC	Cold Start	-	-	30	
	230VAC		-	-	50	
Leakage Current	277VAC		＜0.5mA			
Hot Plug			Unavailable			

Output Specifications

Item	Operating Conditions		Min	Typ	Max.	Unit
Output Voltage Accuracy	Full Load Range	5V	-	±2	-	%
		12V/15V/24V/48V	-	±1	-	
Line Regulation	Rated Load	5V	-	±1	-	
		12V/15V/24V/48V	-	±0.5	-	
Load Regulation	0% - 100% load	5V	-	±1	-	
		12V/15V/24V/48V		±0.5		
Output Ripple & Noise*	20MHz bandwidth (peak-to-peak value)	5V	-	-	80	mV
		12/15V	-	-	120	
		24/48V	-	-	150	
Temperature Coefficient			-	±0.03	-	%/℃
Minimum Load			0	-	-	%
Hold-up Time	230VAC		48	-	-	ms
Short Circuit Protection	Recovery time <5s after the short circuit disappear		Hiccup, continuous, self-recovery			
Over-current Protection			≥110% Io, self-recovery			
Over-voltage Protection	5V		≤6.75VDC (Output voltage hiccup or clamp)			
	12V		≤16.2VDC (Output voltage hiccup or clamp)			
	15V		≤21.8VDC (Output voltage hiccup or clamp)			
	24V		≤33.6VDC (Output voltage hiccup or clamp)			
	48V		≤60.0VDC (Output voltage hiccup or clamp)			
Note: *The “Tip and barrel method” is used for ripple and noise test, output parallel 47uF electrolytic capacitor and 0.1uF ceramic capacitor.						

General Specifications

Item		Operating Conditions			Min	Typ	Max.	Unit
Isolation	Input-Earth	Electric Strength Test for 1min., leakage current <10mA			2000	-	-	VAC
	Input-output				4000	-	-	
	Output-Earth				1250	-	-	
Insulation Resistance	Input-Earth	At 500VDC			100	-	-	MΩ
	Input-output				100	-	-	
	Output-Earth				100	-	-	
Operating Temperature					-30	-	+70	℃
Storage Temperature					-40	-	+85	
Storage Humidity		Non-condensing			20	-	90	%RH
Switching Frequency					-	65	-	KHz
Power Derating			-30℃ to -25℃	85VAC - 100VAC	6	-	-	%/℃

	Operating temperature derating	50℃ to 70℃	2	-	-	
	Input voltage derating	85VAC-100VAC	1.33	-	-	%/VAC
		277VAC - 305VAC	0.72	-	-	
Altitude			-	-	5000	m
Safety Certification			IEC/UL62368-1, GB4943.1, IS13252 (Part1) Safety Approval & EN62368-1, BS EN62368-1(Report)			
Safety Class			CLASS I			
MTBF	MIL-HDBK-217F@25℃		＞700,000 h			

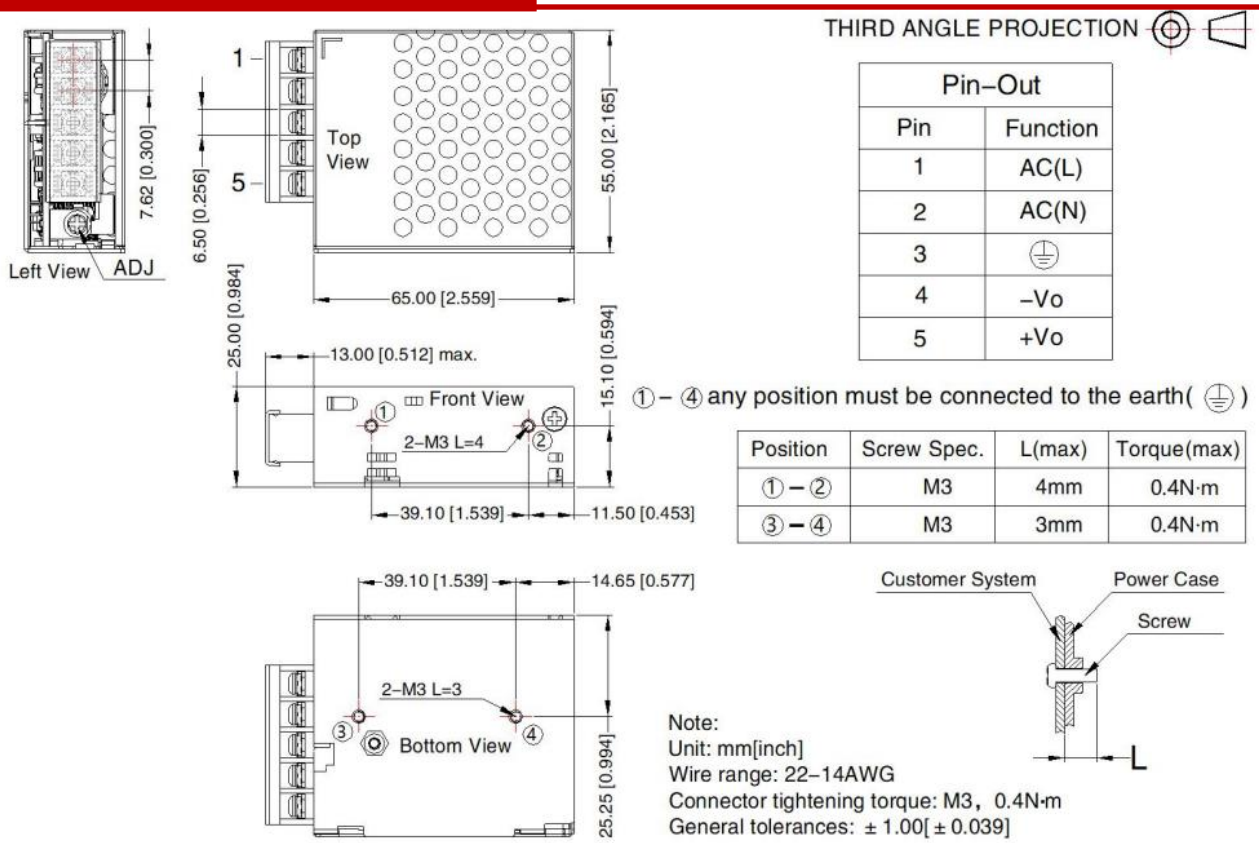
EMC Specifications

Emissions	CE	CISPR32/EN55032 CLASS B	
	RE	CISPR32/EN55032 CLASS B	
Immunity	ESD	IEC/EN 61000-4-2 Contact ±6KV /Air ±8KV	Perf. Criteria B
	RS	IEC/EN 61000-4-3 10V/m	Perf. Criteria A
	EFT	IEC/EN 61000-4-4 ±2KV	Perf. Criteria A
	Surge	IEC/EN 61000-4-5 ±1KV/±2KV	Perf. Criteria A
	CS	IEC/EN61000-4-6 10 Vrms	Perf. Criteria A
	DIP (AC input)	IEC/EN61000-4-11 0%, 70%	Perf. Criteria B

Mechanical Specifications

Case Material	Metal (AL5052, SGCC)
Dimensions	65.00 x 55.00 x 25.00 mm
Weight	90.0g (Typ.)
Cooling Method	Free air convection

Dimensions and recommended layout



Pin-Out	
Pin	Function
1	AC(L)
2	AC(N)
3	⏚
4	-Vo
5	+Vo

①－④ any position must be connected to the earth(⏚)

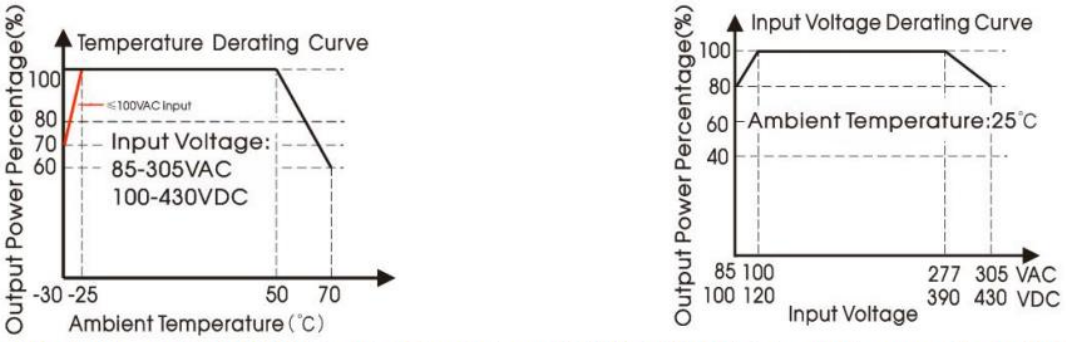
Position	Screw Spec.	L(max)	Torque(max)
①－②	M3	4mm	0.4N·m
③－④	M3	3mm	0.4N·m

Note:
Unit: mm[inch]
Wire range: 22-14AWG
Connector tightening torque: M3, 0.4N·m
General tolerances: ± 1.00[± 0.039]

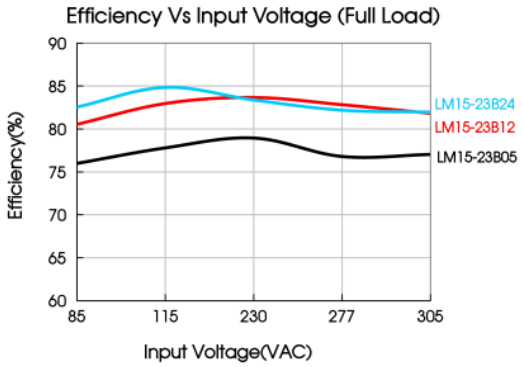
Approvals

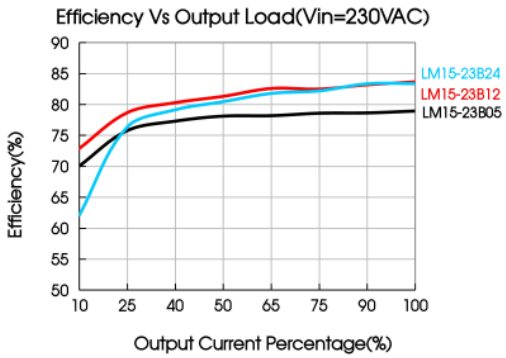
Safety Standard	IEC/UL62368-1, GB4943.1, IS13252 (Part1) Safety Approval & EN62368-1, BS EN62368-1(Report)
Safety Class	Class I

Product Characteric Curve



Note: 1. With an AC input between 85-100V/277-305VAC and a DC input between 100-120VDC/390-430VDC, the output power must be derated as per temperature derating curves;





Note:

1. Unless otherwise specified, parameters in this datasheet were measured under the conditions of Ta=25℃, humidity.
2. The ambient temperature derating of 5℃/1000m is needed for operating altitude greater than 2000m.
3. In order to improve the efficiency at high input voltage, there will be audible noise generated, but it does not affect product performance and reliability.
4. Products are related to laws and regulations: see "Features" and "EMC".
5. The outer case needs to be connected to the earth of system when the terminal equipment in operating.
6. Our products shall be classified according to ISO14001 and related environmental laws and regulations and shall be handled by qualified units.
7. The power supply is considered a component which will be installed into a terminal equipment. All EMC tests should be confirmed with the final equipment.