EDA100 SERIES

AC-DC Enclosed switching power supply

AC-DC ENCLOSED SWITCHING POWER SUPPLY

ENGLISH

FEATURES

- UL / cUL / TUV / CE
- COMPLY WITH ErP (except 5V model)
- UNIVERSAL INPUT 88~264VAC
- SHORT CIRCUIT PROTECTION
- INTERNAL INPUT FILTER
- 3 YEARS WARRANTY
- HIGH EFFICIENCY UP TO 89%
- HIGH AVERAGE EFFICIENCY
- LOW STANDBY POWER CONSUMPTION
- BUILT IN ACTIVE P.F.C.

UL 60950-1 EN 60950-1

MODEL LIST

MODEL NO.	INPUT VOLTAGE	OUTPUT WATTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFF. (min.)	EFF. (typ.)	EFF. (avg.)
Single Output Models							
EDA100-05	88~264 VAC	80 WATTS	+ 5 VDC	16000 mA	78%	80%	80%
EDA100-12	88~264 VAC	102 WATTS	+ 12 VDC	8500 mA	85%	87%	87%
EDA100-15	88~264 VAC	105 WATTS	+ 15 VDC	7000 mA	86%	88%	87%
EDA100-24	88~264 VAC	108 WATTS	+ 24 VDC	4500 mA	87%	89%	88%

SPECIFICATION

All Specifications Typical At Nominal Line, Full Load, 25°C Unless Otherwise Noticed

GENERAL

Characteristics	Conditions		min.	typ.	max.	unit
Switching frequency	Vi nom, Io nom		60		75	KHz
Isolation voltage	Input-Output		3000 / 4242			VAC / VDC
	Input-FG		1500 / 2121			VAC / VDC
	Output-FG		500 / 710			VAC / VDC
Isolation resistance	Input-Output, @ 500VDC		100			MΩ
Ambient temperature	Operating at Vi nom		-40		+ 71	°C
Derating (see derating curve)	Vi nom, from 51°C to + 71°C (for 12V, 15V, 24V models)				2.5	% / °C
	Vi nom, from 46°C to + 71°C (for 5V model)				2.0	% / °C
Storage temperature	Non operational		-40		+ 85	°C
Relative humidity	Vi nom, Io nom		20		95	% RH
Temperature coefficient	Vi nom, Io min				± 0.03	% / °C
MTBF	Bellcore Issue 6 @40°C, GB	5V model		400000		Hours
		12V model		410000		Hours
		15V model		420000		Hours
		24V model		430000		Hours
Altitude during operation	IEC 60068-2-13				4850	m
Dimension			L158 x W97 x H38			mm
Cooling	Free air convection					

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INPUT SPECIFICATIONS

Characteristics	Conditions		min.	typ.	max.	unit
Rated input voltage	Io nom		100		240	VAC
Absolute input max. range		AC in	88		264	VAC
		DC in	120		375	VDC
Input current	Vi : 115 / 230 VAC , Io nom			1060/ 530		mA
Rated input current	Vi : 88 VAC, Io nom				1500	mA
Line frequency	Vi nom, Io nom		47		63	Hz
Inrush current	Vi : 115 / 230 VAC , Io nom				35 / 60	A
Power dissipation	Vi : 230 VAC, Io nom	5V model		20		W
		12V model		15		W
		15V model		12		W
		24V model		10		W
Leakage current	Input-Output				0.25	mA
	Input-FG				3.5	mA
Standby power consumption	Vi nom, Io=0A	5V model			1.0	W
		12V, 15V & 24V models			0.5	W
P.F.C. (Active)	Vi : 115/230VAC, Io nom			0.99 / 0.97		

OUTPUT SPECIFICATIONS

Characteristics	Conditions		min.	typ.	max.	unit
Output voltage accuracy (Adjusted before shipment)	Vi nom, Io max		0		+ 1	%
Minimum load	Vi nom		0			%
Line regulation	Io nom, Vi min ...Vi max				± 0.5	%
Load regulation	Vi nom, Io min ...Io nom				± 1	%
Voltage trim range	Vi nom, 0.8 Io nom	5V model	4.75		5.5	VDC
		12V model	10.8		13.2	VDC
		15V model	13.5		16.5	VDC
		24V model	21.6		27.6	VDC
Rated continuous loading	Vi nom	5V model	16 A @ 5Vdc / 1.4 A @ 5.5 Vdc			
		12V model	8.5 A @ 12Vdc / 7.6 A @ 13.2 Vdc			
		15V model	7.0 A @ 15Vdc / 6.0 A @ 16.5 Vdc			
		24V model	4.5 A @ 24Vdc / 3.6 A @ 27.6 Vdc			
Hold up time	Vi : 115 / 230 VAC , Io nom		10 / 70			ms
Turn on time	Vi nom, Io nom				1500	ms
	Vi nom, Io nom → 5V, 12V &15V models : with 7000 μF CAP 24V model : with 3500 μF CAP				2000	ms
Rise time	Vi nom, Io nom				150	ms
	Vi nom, Io nom → 5V, 12V &15V models : with 7000 μF CAP 24V model : with 3500 μF CAP				500	ms
Fall time	Vi nom, Io nom				150	ms
Transient recovery time	Vi nom, 1~0.5 Io nom				2	ms
Ripple & noise	Vi nom, Io nom, BW = 20MHz				100	mV
Power back immunity	Vi nom, Io nom 1 second	5V model	7.5			VDC
		12V model	18			VDC
		15V model	22			VDC
		24V model	35			VDC
Capacitor load	Vi nom, Io nom	5V, 12V &15V models			7000	μF
		24V model			3500	μF
Efficiency	Vi nom, Io nom, Po / Pi		Up to 89%, See model list and typ efficiency curve			

CONTROL AND PROTECTION

Characteristics	Conditions	min.	typ.	max.	unit
Input fuse		T3.15A / 250VAC internal			
Internal surge voltage protection	IEC 61000-4-5	Varistor			
Rated over load protection	Vi nom (see typ current limited curve)	130		160	%

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CONTROL AND PROTECTION

Characteristics	Conditions		min.	typ.	max.	unit
Over voltage protection	Vi nom, Io nom (Auto Recovery)	5V model	5.75		6.75	VDC
		12V model	13.8		16.2	VDC
		15V model	17.25		20.25	VDC
		24V model	28.8		32.4	VDC
Output short circuit			Hiccup mode			

APPROVALS AND STANDARDS

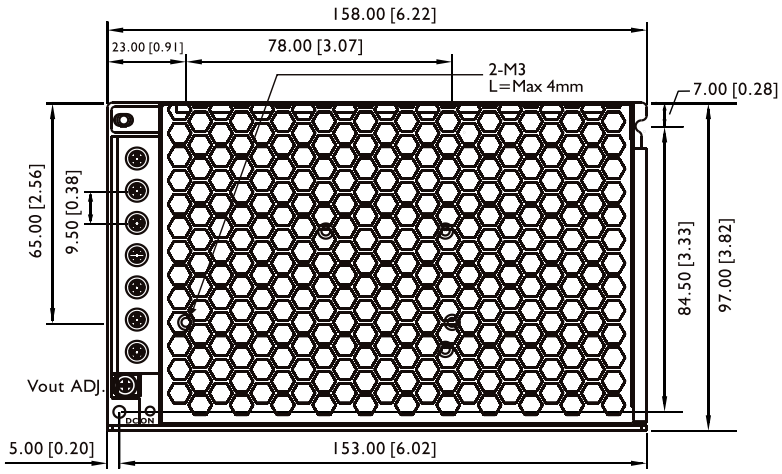
UL / cUL	UL 60950-1 Recognized
TUV	EN 60950-1, CB scheme
CE	EN 61000-6-3, EN 55022 Class B, EN 61000-3-2, EN 61000-3-3, EN 61000-6-2, EN 55024 EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8 EN 61000-4-11, ENV 50204, EN 61204-3
Vibration resistance	meet IEC 60068-2-6 (10-500 Hz, 2G, along X, Y, Z each Axis, 60 min for each Axis)
Shock resistance	meet IEC 60068-2-27 (15G, 11ms, 3 Axis, 6 Faces, 3 times for each Face)

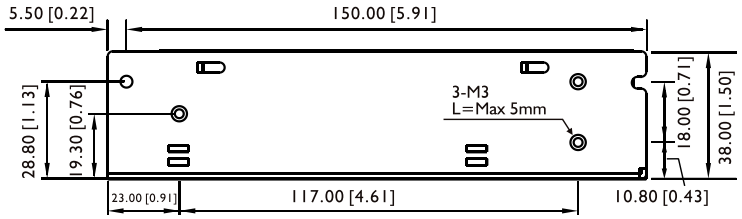
PHYSICAL CHARACTERISTICS

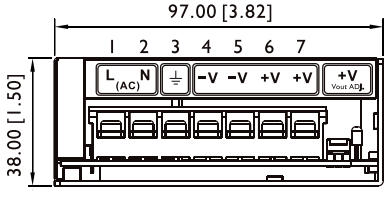
Case size	158 x 97 x 38 mm (6.22 x 3.82 x 1.50 inches)
Case material	Metal
Weight	580 g

MECHANISM & PIN CONFIGURATION

mm [inch]







INSTALLATION

Ventilation / Cooling
Normal convection
Connector size range
AWG22-14 (0.2~2mm^2) flexible / solid cable, connector can withstand torque at maximum 12 pound-inches.

GENERAL TOLERANCE	
0.00[0.00] - 30.00[1.18]	±0.30[0.01]
30.00[1.18] - 120.00[4.72]	±0.50[0.02]
120.00[4.72] - 400.00[15.75]	±0.80[0.03]

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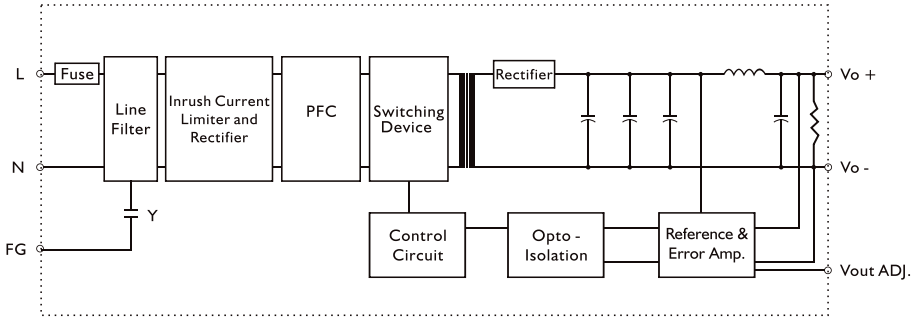
PIN ASSIGNMENT

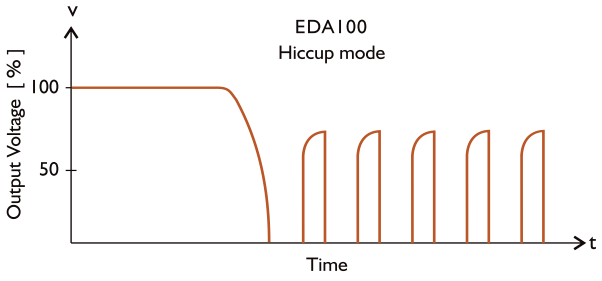
PIN NO.	Designation		Description
1	IN	L	Input terminals (phase conductor, no polarity at DC input)
2		N	Input terminals (neutral conductor, no polarity at DC input)
3		⏚	Ground this terminal to minimize high-frequency emissions
4, 5	OUT	V -	Negative output terminal
6,7		V +	Positive output terminal
	OTHER	Vout ADJ.	Trimmer-potentiometer for Vout adjustment
		DC ON	Operation indicator LED

CIRCUIT SCHEMATIC

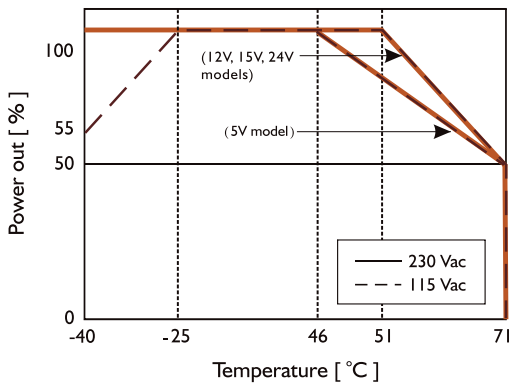
• Block diagram for EDA100 series



TYP. CURRENT LIMITED CURVE



DERATING CURVE



TYP. EFFICIENCY CURVE