

EDA I 50 SERIES

AC-DC ENCLOSED SWITCHING POWER SUPPLY



FEATURES

- UNIVERSAL INPUT 88~264VAC
- SHORT CIRCUIT PROTECTION
- INTERNAL INPUT FILTER
- 3 YEARS WARRANTY
- HIGH EFFICIENCY UP TO 92%
- HIGH AVERAGE EFFICIENCY MEET ErP (except 5V model)
- LOW STANDBY POWER CONSUMPTION
- BUILT IN ACTIVE PFC



MODEL LIST

MODEL NO.	INPUT VOLTAGE	OUTPUT WATTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFF. (min.)	EFF. (typ.)	EFF. (avg.)
Single Output Models							
EDA I 50-05	88~264 VAC	130 WATTS	+ 5 VDC	26 A	85%	87%	84%
EDA I 50-12	88~264 VAC	156 WATTS	+ 12 VDC	13 A	89%	91%	88%
EDA I 50-15	88~264 VAC	156 WATTS	+ 15 VDC	10.4 A	89%	91%	88%
EDA I 50-24	88~264 VAC	156 WATTS	+ 24 VDC	6.5 A	90%	92%	89%

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		100		KHz	
Isolation voltage	Input-Output	3,000 / 4,242			VAC / VDC	
	Input-FG	1,500 / 2,121			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			2.5	% / °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		402,000	Hours	
		12V		418,000	Hours	
		15V		443,000	Hours	
		24V		463,000	Hours	
Altitude during operation	IEC 60068-2-13			4,850	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		1,560 / 780		mA
Rated input current	Vi : 88 VAC, Io nom			2,400	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	22		W
		12V	18		W
		15V	18		W
		24V	16		W
Leakage current	Input-Output			0.25	mA
	Input-FG			3.5	mA
Standby power consumption	Vi nom, Io=0A	5V		1.0	W
		12V, 15V & 24V		0.5	W
Power factor (Active)	Vi : 115/230VAC, Io nom		0.99 / 0.96		

OUTPUT SPECIFICATIONS

Characteristics	Conditions	min.	typ.	max.	unit
Output voltage accuracy (Adjusted before shipment)	Vi nom, Io max	0		+ 1	%
Minimum load	Vi nom	10			%
Line regulation	Io nom, Vi min ...Vi max			± 0.5	%
Load regulation	Vi nom, Io min ...Io nom	5V		± 2	%
		12V, 15V & 24V		± 1	%
Voltage trim range	Vi nom, 0.8 Io nom	5V	4.75	5.5	VDC
		12V	10.8	13.2	VDC
		15V	13.5	16.5	VDC
		24V	21.6	27.6	VDC
Rated continuous loading	Vi nom	5V	26 A @ 5Vdc / 20 A @ 5.5 Vdc		
		12V	13 A @ 12Vdc / 11 A @ 13.2 Vdc		
		15V	10.4 A @ 15Vdc / 9 A @ 16.5 Vdc		
		24V	6.5 A @ 24Vdc / 5.5 A @ 27.6 Vdc		
Hold up time	Vi : nom , Io nom	30			ms
Turn on time	Vi nom, Io nom			1,000	ms
	Vi nom, Io nom → 5V, 12V & 15V models : with 7000 μF CAP 24V model : with 3500 μF CAP			1,500	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, I ~ 0.5 Io nom			3	ms
Ripple & noise	Vi nom, Io nom, BW = 20MHz			100	mV
Power back immunity	Vi nom, Io nom 1 second	5V	7.5		VDC
		12V	18		VDC
		15V	22		VDC
		24V	35		VDC
Capacitor load	Vi nom, Io nom	5V, 12V & 15V		7,000	μF
		24V		3,500	μF
Efficiency	Vi nom, Io nom, Po / Pi	Up to 92%, See model list and typ efficiency curve			

CONTROL AND PROTECTION

Characteristics	Conditions	min.	typ.	max.	unit
Input fuse		T4.0A / 250VAC internal			
Internal surge voltage protection	IEC 61000-4-5	Varistor			

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CONTROL AND PROTECTION

Characteristics	Conditions	min.	typ.	max.	unit
Rated over load protection	Vi nom (see typ current limited curve)	110		140	%
Over voltage protection	Vi nom, 0.8 Io nom (Auto Recovery)	5V	5.75	6.75	VDC
		12V	13.8	16.2	VDC
		15V	17.25	20.25	VDC
		24V	28.8	32.4	VDC
Output short circuit		Hiccup mode			

APPROVALS AND STANDARDS

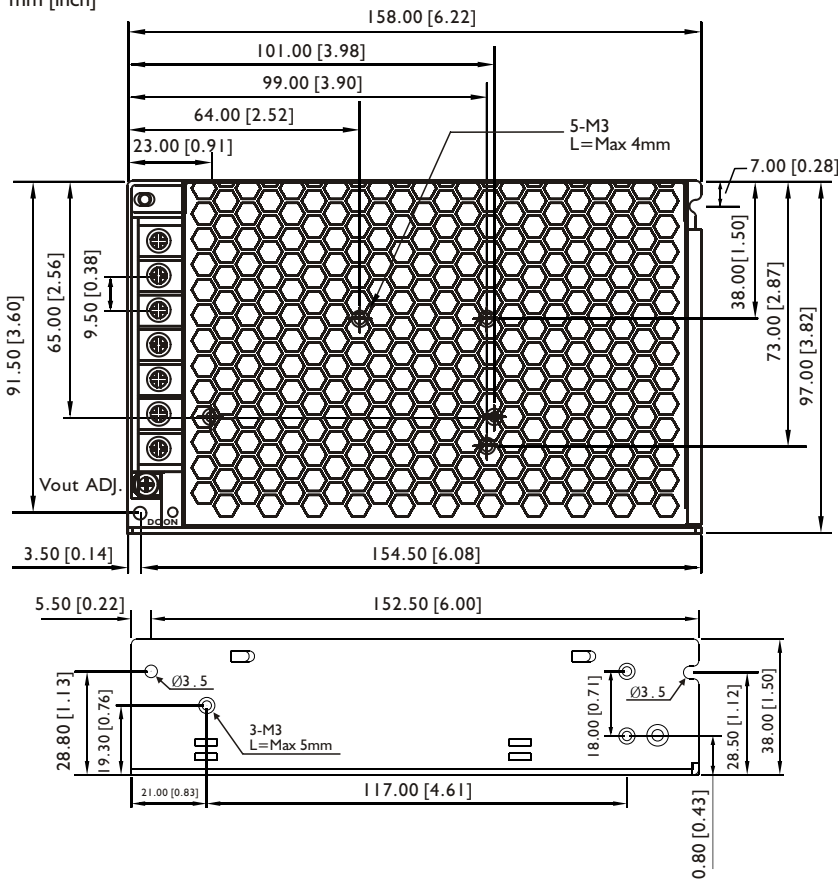
UL / cUL	UL 60950-1 Recognized
TUV	EN 60950-1
CE	EN 61000-6-3, EN 55022 Class B, EN 61000-3-2, EN 61000-3-3, EN 61000-6-2, EN 55024 EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8 EN 61000-4-11, ENV 50204, EN 61204-3
Vibration resistance	meet IEC 60068-2-6 (10-500 Hz, 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	570 g
Packing	0.62kg ; 24 pcs / 15.5kg / 1.01CUFT

MECHANISM & PIN CONFIGURATION

mm [inch]

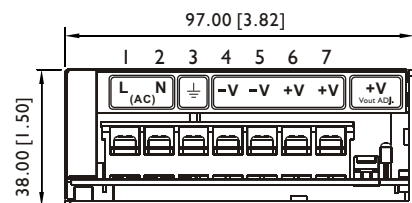


INSTALLATION

Ventilation / Cooling
Normal convection
Connector size range
AWG22-14 (0.2~2mm²) flexible / solid cable,
connector can withstand torque at maximum
12 pound-inches.

GENERAL TOLERANCE

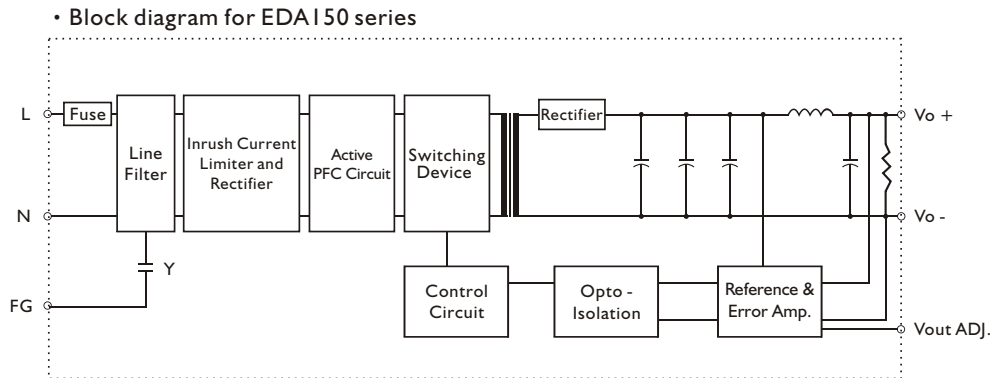
0.00[0.00] - 30.00[1.18]	±0.30[0.01]
30.00[1.18] - 120.00[4.72]	±0.50[0.02]
120.00[4.72] - 400.00[15.75]	±0.80[0.03]



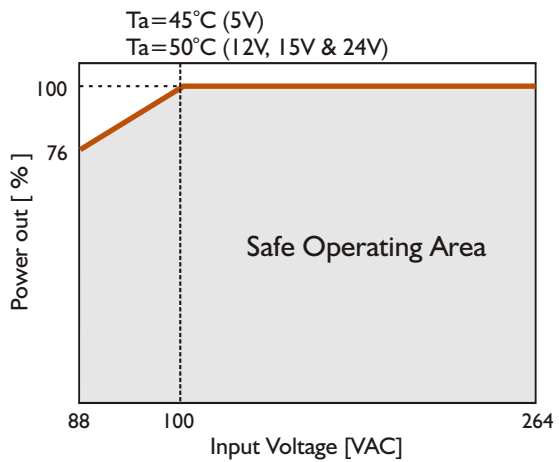
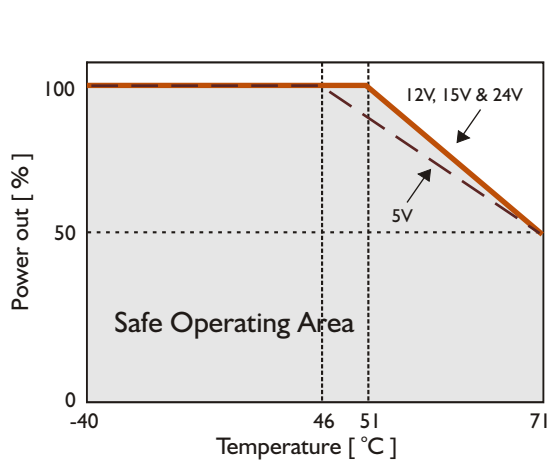
PIN ASSIGNMENT

PIN NO.	Designation	Description
1	IN	L
2		N
3		⊕
4, 5	OTHER OUT	V -
6, 7		V +
		Vout ADJ.
		DC ON

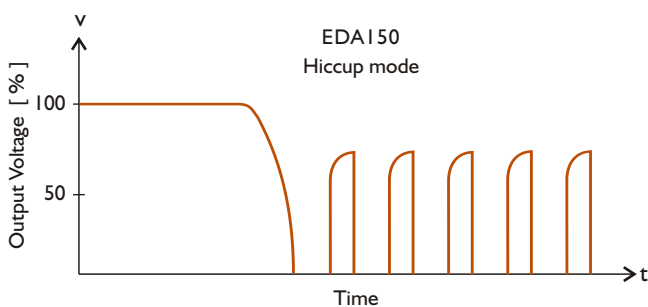
CIRCUIT SCHEMATIC



DERATING CURVE



TYP. CURRENT LIMITED CURVE



TYP. EFFICIENCY CURVE

