

EVA2400

SPECIFICATIONS

IA754-01-01D

ITEMS		MODEL	EVA150-16	EVA300-8	EVA600-4
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OUTPUT RATING

1	Rated Output Voltage	(*1)	V	150	300	600
2	Rated Output Current	(*2)	A	16	8	4
3	Rated Output Power	(*1)	W	2400		

INPUT CHARACTERISTICS

1	Input Voltage Range / Freq.	(*3)	-	Single Phase 170 ~ 265 Vac / 47 ~ 63Hz		
2	Efficiency (Typ.)	(*4)	%	88		
3	Maximum Input Current	(*4)	A	16.6		
4	Power Factor (Typ.)	(*4)	-	0.99		
5	In-rush Current	(*5)	A	Less than 50		

CONSTANT VOLTAGE MODE

1	Maximum Line Regulation	(*6)	-	0.1% of rated output voltage +20mV		
2	Maximum Load Regulation	(*7)	-	0.15% of rated output voltage +50mV		
3	Ripple and Noise (p-p, 20MHz)	(*8)	mV _{p-p}	150	300	450
4	Ripple r.m.s. 5Hz - 1MHz		mV _{RMS}	50	100	150
5	Temperature Coefficient		ppm/°C	100		
6	Warm-up drift		-	Less than 0.2% of Rated Output Voltage over 30min following power on.		
7	Remote Sense Compensation		-	No Remote sense available.		
8	Up-prog. Response time, 0-Vomax.	(*9)	ms	100	150	300
9	Down-prog. Response time, Full Load	(*9)	ms	200	300	600
10	Down-prog. Response time, No Load	(*10)	ms	2500	3500	6500
11	Transient Response Time		-	Time for output voltage to recover within 0.5% of its rated output, at 10~90% of rated output current. Output set-point: 10~100%, Local sense. Less than 2ms.		
12	Hold-up time (Typ.)		-	10ms Typical. At rated output power.		

CONSTANT CURRENT MODE

1	Maximum Line Regulation	(*6)	-	0.1% of rated output current +20mA		
2	Maximum Load Regulation	(*11)	-	0.15% of rated output current +50mA		
3	Ripple r.m.s. 5Hz - 1MHz	(*12)	mA	60	30	15
4	Temperature Coefficient		ppm/°C	100		
5	Warm-up drift		-	Less than 0.4% of Rated Output Current over 30min following power on.		

AUXILIARY OUTPUTS

1	Output Voltage : 15V	(*14)	-	15V ±5%, 0.2A Max Load, Ripple & Noise 100mVp-p. Referenced internally to the negative output potential.		
2	Output Voltage : 5V	(*14)	-	5V ±5%, 0.2A Max Load, Ripple & Noise 100mVp-p. Referenced internally to IF_COM potential.		

ANALOG PROGRAMMING AND MONITORING

1	Vout Voltage Programming		-	10~100%, 0.5~5V. Accuracy and linearity: ±1% of rated Vout.		
2	Iout Voltage Programming	(*13)	-	0~100%, 0~5V. Accuracy and linearity: ±1% of rated Iout.		
3	Vout Resistor Programming		-	10~100%, 0.5~5kOhm full scale. Accuracy and linearity: ±2% of rated Vout.		
4	Iout Resistor Programming	(*13)	-	0~100%, 0~5kOhm full scale. Accuracy and linearity: ±2% of rated Iout.		
5	ON / OFF Control Default SO Control: SW1-5 Down		-	By electrical Voltage: 0~0.6V / 2~15V or dry contact, OFF – Low or Short. ON – High or Open.		
6	Output Current Monitor		-	0~5V. Accuracy: ±1%		
7	Output Voltage Monitor		-	0~5V. Accuracy: ±1%		
8	Power Supply OK Signal		-	4~5V – OK, 0~0.6V – Fail. 500 ohm series resistance.		
9	Parallel Operation		-	Possible, up to 4units in master/slave mode with two wires current balance connection.		

SPECIFICATIONS

IA754-01-02C

ITEMS	MODEL	EVA150-16	EVA300-8	EVA600-4
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ANALOG PROGRAMMING AND MONITORING

10	Series Operation	-	-	
11	CV/CC Output Signal	-	Open collector. Maximum Voltage: 30V, maximum sink current: 10mA. CV mode – Open, CC mode – ON.	
12	Enable/Disable Input (At SW1-9: Up)	-	Dry contact. Open – OFF, Short – ON. Maximum Voltage at Enable/Disable input: 6V	
13	Local/Remote Analog Control (At SW1-1 and/or SW1-2: Up)	-	By electrical signal or Open/Short : 0~0.6V or Short – Remote, 2~15V or open – Local.	
14	Local/Remote Analog Indicator (At SW1-1 and/or SW1-2: Up)	-	Open collector. Maximum voltage: 30V, maximum sink current: 10mA. Local – Open, Remote – ON.	

PROGRAMMING AND READBACK (RS232 / 485)

1	Vout Programming Accuracy	-	Within 150mV	Within 300mV	Within 600mV
2	Iout Programming Accuracy (*13)	-	Within 48mA	Within 24mA	Within 12mA
3	Vout Programming Resolution	-	Within 18mV	Within 36mV	Within 72mV
4	Iout Programming Resolution	-	Within 1.92mA	Within 0.96mA	Within 0.48mA
5	Vout Readback Accuracy	-	300mV	600mV	1200mV
6	Iout Readback Accuracy (*13)	-	96mA	48mA	24mA
7	Vout Readback Resolution	-	Within 18mV	Within 36mV	Within 72mV
8	Iout Readback Resolution	-	Within 1.92mA	Within 0.96mA	Within 0.48mA

PROTECTION FUNCTIONS

1	Over Voltage Protection (OVP)	-	Inverter shut-down, manual reset by AC input recycle or by communication port command.		
2	Over Voltage Trip Point	-	10%~110% of rated output voltage. Preset by communication port.		
3	Output Under Voltage Limit	-	Prevents from adjusting Vout below limit. Preset by communication port. Does not affect analog programming.		
4	Over Temperature Protection	-	Inverter shut-down. User selectable, latched or non latched.		

REAR PANEL

1	Indications CV Mode	-	Green LED for CV Mode Operation		
2	Indications CC Mode	-	Green LED for CC Mode Operation		
3	Indications Out Indicator	-	Green LED, Lights when the output is "ON"		
4	Indications Alarm Indicator	-	Red LED, Blinks in case of fault condition (OVP, OTP, Output Off by ENA,AC Fail)		

ENVIRONMENTAL CONDITIONS

1	Operating Temperature	-	-10°C ~ +45°C – 2400W (100% Load);		
			+50°C – 2000W (83% Load);		
			+60°C – 1200W (50% Load);		
			+70°C – 240W (10% Load);		
			(+45°C ~ +70°C – derate load by 3.6%/°C).		
2	Storage Temperature	-	-20°C ~ +85°C		
3	Operating Humidity	-	20~90%RH (No condensation)		
4	Storage Humidity	-	10~95%RH (No condensation)		
5	Altitude	-	Maximum 2000m		

MECHANICAL

1	Cooling	-	Forced air cooling by internal fans.		
2	Weight (Typ.)	kg	Less than 7.5		
3	Size (W x H x D)	mm	250 x 86 x 445 (WxHxD) Refer to Outline Drawing.		
4	Vibration	-	MIL-810F, method 514.5. No Operating, 10.2m/s ² (1.04G) Constant. 10~500Hz X,Y,Z each 1Hr.		
5	Shock	-	Less than 20G, half sine, 11ms. Unit is unpacked.		

SPECIFICATIONS

IA754-01-03B

ITEMS		MODEL	EVA150-16	EVA300-8	EVA600-4
SAFETY					
1	Withstand Voltage	-	Primary - Secondary Hazardous (Output / 15Vdc aux / Non Insulated Control): 4000VDC/1min Primary - SELV (*15) (Communication / 5Vdc aux / Insulated Control): 4242VDC/1min Primary - Ground: 2828VDC 1min. Secondary Hazardous (Output / 15Vdc aux / Non Insulated Control) - - SELV (*15) (Communication / 5Vdc aux / Insulated Control): 3550VDC/1 min Secondary Hazardous (Output / 15Vdc aux / Non Insulated Control) - Ground: 2670VDC/1min.		
2	Insulation Resistance OUTPUT to GND	-	More than 100Mohm at 25°C 70%RH.		
3	Safety	-	UL 60950-1: 2007 (Ed.2), IEC 60950-1: 2005 (Ed.2), EN 60950-1: 2006 (Ed.2) + A11: 2009		
EMC					
1	Immunity	-	Designed to meet IEC61000-4-2(Level 3,2), -3(Level 2), -4(Level 3), -5(Level 3), -6(Level 2), -8(Level 1), -11		
2	Conductive Emission	-	Designed to meet EN55022-class A, FCC-Part 15 class A, VCCI-class A		
3	Radiated Emission	-	Designed to meet EN55022-class A, FCC-Part 15 class A, VCCI-class A		

=NOTES=

- *1. Minimum voltage is guaranteed to maximum 10% of the rated output voltage.
- *2. Minimum current is guaranteed to maximum 1% of the rated output current.
- *3. For cases where conformance to various safety standards (UL, IEC etc.) is required, to be described as 190 - 240VAC (50/60Hz).
- *4. At 200VAC input with rated output power.
- *5. Not including EMI filter inrush current, less than 0.2ms.
- *6. At 170 - 265VAC, constant load.
- *7. From No - load to Full - load, constant input voltage. Measured at the sensing point in Remote Sense.
- *8. For 150V, 300V models: measured with JEITA RC-9131A (1:1) probe. For 600V model: measured with 10:1 probe.
- *9. From 10% to 90% or 90% to 10% of rated output voltage, with rated, resistive load.
- *10. From 90% to 10% of rated output voltage.
- *11. For load voltage change, equal to the unit voltage rating, constant input voltage.
- *12. The ripple is measured at 10 - 100% of rated output voltage and rated output current.
- *13. The constant current programming readback and monitoring accuracy does not include the warm-up and load regulation thermal drift.
- *14. Measured with JEITA RC-9131A (1:1) probe.
- *15. SELV (Safety Extra Low Voltage):
 - when Main Output is floating at any Output Voltage, or Main Output is grounded and Output Voltage ≤400Vdc, Communication, 5Vdc aux and Insulated Control circuits meet all requirements of the Standard for SELV circuits;
 - when Main Output is grounded and Output Voltage >400Vdc, Communication, 5Vdc aux and Insulated Control circuits are Hazardous.