AC/DC Converter
LO15-22C0612-04

MORNSUN®

15W, AC-DC converter

RoHS

FEATURES

- Input voltage range:160 - 264VAC/226- 370VDC
- Input- output isolation voltage: 4000VAC
- Output - output isolation voltage: 4000VAC
- Input over-voltage protection
- Output short circuit, over-current, over-voltage protection
- Safety class： CLASS II

LO15-22C0612-04 -----a compact size power converter offered by Mornsun. It features universal input voltage, taking both DC and AC input voltage, low power consumption, high efficiency, high reliability, safer isolation. It offers good EMC performance, which meet IEC60950 standards

Selection Guide

Part No.	Output Power	Nominal Output Voltage and Current			Efficiency (230VAC, %/Typ.)	Max. Capacitive Load(μF)		
		(Vo1/Io1)	(Vo2/Io2)	(Vo3/Io3)		Vo1	Vo2	Vo3
LO15-22C0612-04	15W	5.9V/1.00A	12V/0.40A	12V/0.10A	79	2000	1000	330

Input Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Input Voltage Range	AC input		160	--	264	VAC
	DC input		226	--	370	VDC
Input Frequency			47	--	63	Hz
Input Current	160VAC		--	--	0.4	A
	230VAC		--	--	0.3	
Inrush Current	160VAC		--	20	--	
	230VAC		--	30	--	
Input Over-voltage Protection	Input voltage < 418VAC (Input limit)	protection start	290	--	325	VAC
		protection release	265	--	285	
Hot Plug			Unavailable			

Output Specifications

Item	Operating Conditions			Min.	Typ.	Max.	Unit
Output Voltage Accuracy	Primary output			--	±2	--	%
	Secondary output			--	±5	±8.3	
Line Regulation	Full load	Primary output		--	±0.5	--	
		Secondary output		--	±1.5	--	
Load Regulation	10% - 100% load	Isolated triple output (balanced load)	Primary output Vo1	--	±3	--	
			Secondary output Vo2		±5		
			Secondary output Vo3	--	±5	--	
Ripple & Noise*	20MHz bandwidth (peak-peak value)		Primary output	--	50	80	mV
			Secondary output		100	150	
Temperature Coefficient	Main circuit			--	±0.02	--	%/°C
Short Circuit Protection				Hiccup, continuous, self-recovery			
Over-current Protection				150% - 350% Io self-recovery			
Over-voltage Protection	5.9VDC output			≤7.5VDC			
	12VDC output			≤25VDC			
Minimum Load				10	--	--	%
Hold-up Time	230VAC input			--	50	--	ms

Note: * Ripple and noise are measured by "parallel cable" method, please see AC-DC Converter Application Notes for specific operation.

General Specifications

Item		Operating Conditions	Min.	Typ.	Max.	Unit
Isolation Voltage	Input - output	Test time: 1min	4000	--	--	VAC
	Output - output		4000	--	--	
Operating Temperature			-40	--	+70	℃
Storage Temperature			-40	--	+85	
Storage Humidity			--	--	95	%RH
Welding Temperature		Wave-soldering	260 ± 5℃; time: 5 - 10s			
		Manual-welding	360 ± 10℃; time: 3 - 5s			
Switching Frequency			--	65	--	kHz
Power Derating		-40℃ to -10℃	1.0	--	--	%/℃
		+55℃ to +70℃	2.0	--	--	
Safety Class			CLASS II			
MTBF			MIL-HDBK-217F@25°C > 300,000 h			

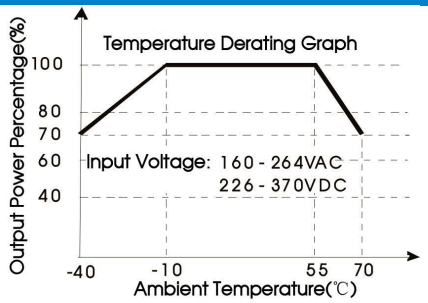
Physical Specifications

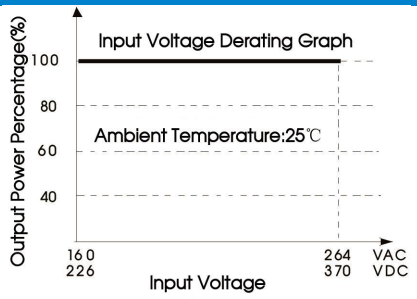
Dimension	100.00 x 50.00 x 30.00 mm
Weight	85g (Typ.)
Cooling method	Free air convection

EMC Specifications

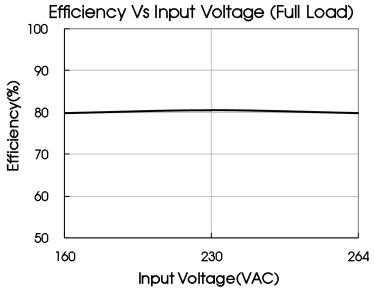
EMI	CE	CISPR32/EN55032	CLASS B	
	RE	CISPR32/EN55032	CLASS B	
EMS	ESD	IEC/EN61000-4-2	Contact ±6KV/Air ±8KV	Perf. Criteria B
	RS	IEC/EN61000-4-3	10V/m	perf. Criteria A
	EFT	IEC/EN61000-4-4	±4KV	perf. Criteria B
	Surge	IEC/EN61000-4-5	line to line ±2KV	perf. Criteria B
	CS	IEC/EN61000-4-6	10Vr.m.s	perf. Criteria A
	PFM	IEC/EN61000-4-8	10A/m	perf. Criteria A
	Voltage dips, short interruptions and voltage variations immunity	IEC/EN61000-4-11	100% dip 1 periods, 30% dip 25 periods, 100% interruptions 250 periods	perf. Criteria B

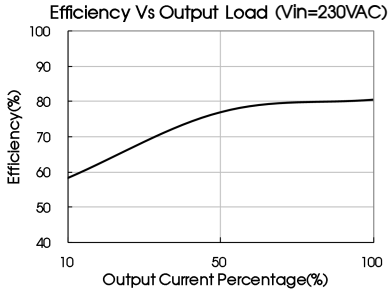
Product Characteristic Curve



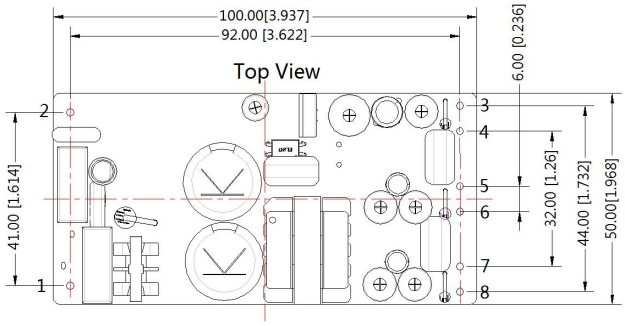


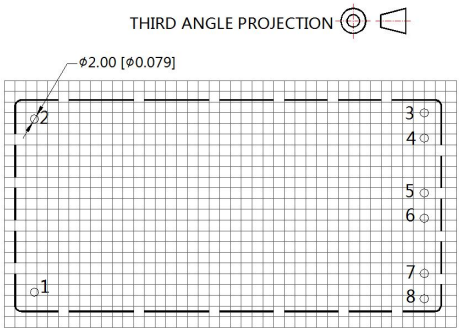
Note: ①This product is suitable for use in natural air cooling environments, if in a closed environment, please contact our company's FAE.



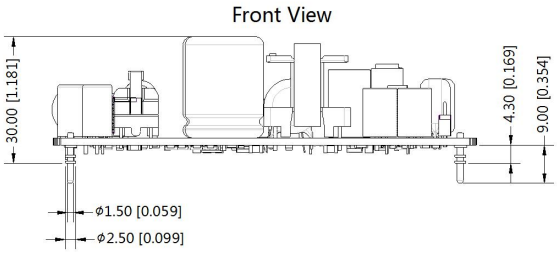


Dimensions and Recommended Layout





Note: Grid 2.54*2.54mm



Note:
Unit: mm[inch]
General tolerances: ±1[±0.039]
The layout of the device is for reference only, please refer to the actual product

Pin	Name	Function
1	AC(N)	AC voltage neutral wire(N wire) or DC voltage negative
2	AC(L)	AC voltage line wire(L wire) or DC voltage positive
3	+Vo1	The first output voltage positive(+)
4	-Vo1	The first output voltage negative(-)
5	+Vo2	The second output voltage positive(+)
6	-Vo2	The second output voltage negative(-)
7	+Vo3	The third output voltage positive(+)
8	-Vo3	The third output voltage negative(-)

Note:

1. For additional information on Product Packaging please refer to www.mornsun-power.com. Packaging bag number: 58220192;
2. If the product is not operated within the required load range, the product performance cannot be guaranteed to comply with all parameters in the datasheet;
3. Unless otherwise specified, parameters in this datasheet were measured under the conditions of Ta=25℃, humidity<75% with nominal input voltage and rated output load;
4. All index testing methods in this datasheet are based on our company corporate standards;
5. We can provide product customization service, please contact our technicians directly for specific information;
6. Products are related to laws and regulations: see "Features" and "EMC";
7. Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units.

Mornsun Guangzhou Science & Technology Co., Ltd.
Address: No. 5, Kehui St. 1, Kehui Development Center, Science Ave., Guangzhou Science City, Huangpu District, Guangzhou, P. R. China
Tel: 86-20-38601850 Fax: 86-20-38601272 E-mail:info@mornsun.cn www.mornsun-power.com