

Typical Features

- ◆ Fixed input voltage, Isolated & unregulated output
- ◆ Transfer efficiency up to 83%
- ◆ Small compact SIP packing
- ◆ No external component required
- ◆ Isolation Voltage 3500Vac/6000Vdc
- ◆ Operating Temperature:-40℃ ~ +105℃
- ◆ Plastic Case, meet UL94 V-0 standard



Test Condition: Unless otherwise specified, data in the datasheet should be tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25℃

Input Specifications

Item	Operating Condition	Min.	Typ.	Max.	Unit
Input Overshoot Voltage (1Second.max.)	QA01C-18	-0.7	--	21	Vdc
	QA01C-15	-0.7	--	21	
Input filter	Capacitor filter				

Output Specifications

Item	Conditions	Operating Operating	Min.	Typ.	Max.	Unit	
Output Voltage	QA01C-18	+Vo	Vin=15Vdc, +Io=+100mA	16.74	18	18.36	Vdc
		-Vo	Vin=15Vdc, -Io=-100mA	-2.85	-3	-3.21	
	QA01C-15	+Vo	Vin=15Vdc, +Io=+100mA	14.55	15	15.45	
		-Vo	Vin=15Vdc, -Io=-100mA	-2.85	-3	-3.21	
Output Voltage Accuracy	QA01C-18	Light load	Vin=15Vdc, +Io=+10mA	0% to +9%			
			Vin=15Vdc, -Io=-10mA	+6% to +20%			
		Full load	Vin=15Vdc, +Io=+100mA	-7% to +2%			
			Vin=15Vdc, -Io=-100mA	-5% to +7%			
	QA01C-15	Light load	Vin=15Vdc, +Io=+10mA	0% to +9%			
			Vin=15Vdc, -Io=-10mA	+6% to +20%			
		Full load	Vin=15Vdc, +Io=+100mA	-3% to +3%			
			Vin=15Vdc, -Io=-100mA	-5% to +5%			
Load regulation	10% ~100% load	QA01C-18	+Vo	--	6	10	%
			-Vo	--	12	20	
		QA01C-15	+Vo	--	6	10	
			-Vo	--	12	20	
Line regulation		Input voltage range ±10%		--	±1.1	±1.3	%
Ripple & Noise		Nominal input, full load, 20MHz bandwidth		--	100	150	mVp-p
Temperature Drift Coefficient		100% load		--	--	±0.03	%/°C
Output Short Circuit Protection		Continuous, self-recovery					

NOTE:① Ripple & Noise Tested by twisted-pair method.

General Specifications

Switching Frequency	typical	260KHz (Typ.)
Operating Temperature	Refer to Temperature Derating	-40℃ ~ +105℃
Storage Temperature		-55℃ ~ +125℃

Shell temperature rise during operation	Ta=25°C	30°C (Typ.)
Relative Humidity	No condensing	5%~95%
Case Material		Black flame-retardant heat-resistant Plastic(UL94 V-0)
Product Weight		4.2g (Typ.)
Isolation Voltage	Test 1minute, leakage current<0.5mA	3500Vac/6000Vdc
Insulation Resistance	Input/Output, insulation voltage 500Vdc	1000MΩ
Isolation Capacitor	Input/Output, 100KHz/0.1V	6uF (Typ.)
MTBF	MIL-HDBK-217F@25°C	35X10 ⁵ Hrs

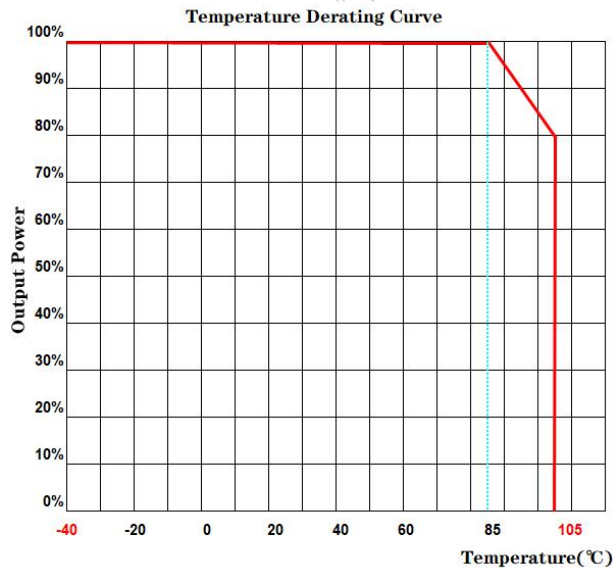
Typical Product List

Part No.	Input Voltage Range (VDC)		Input current(mA) Nominal voltage		Output Voltage/Current (Vo/Io)		Max. Capacitive Load	Ripple & Noise (Max.)	Efficiency (%)
	Nominal	Range	Full load Typ	No lad Typ	Voltage (VDC)	Current (mA)	uF	Mvp-p	Min/Typ
QA01C-18	15	13.5-16.5	170	20	+18/-3	+100/-100	220	150	79/83
QA01C-15	15	13.5-16.5	145	15	+15/-3	+100/-100	220	150	79/83

EMC Characteristics

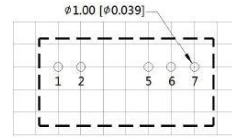
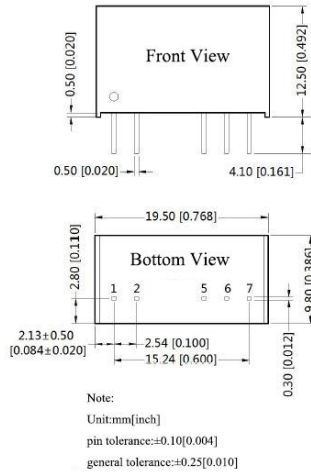
EMI	CE	CISPR22/EN55032, CLASS B(see recommended circuit Photo 4)
	RE	CISPR22/EN55032, CLASS B(see recommended circuit Photo 3)
EMS	ESD	IEC/EN61000-4-2 ±6KV Perf.Criteria B

Temperature Curve



Packing Dimension

THIRD ANGLE PROJECTION



Pin	Function
1	Vin
2	GND
5	-Vo
6	0V
7	+Vo

Pin function	Dual(D)	1	2	5	6	7
		+Vin	GND	-Vo	0v	+Vo

Note: if the definition of pin is not in accordance with the model selection manual, please refer to the label on actual item.

Packing

Code	L x W x H	
	19.50× 9.80 × 12.50mm	0.768 × 0.386 × 0.492inch

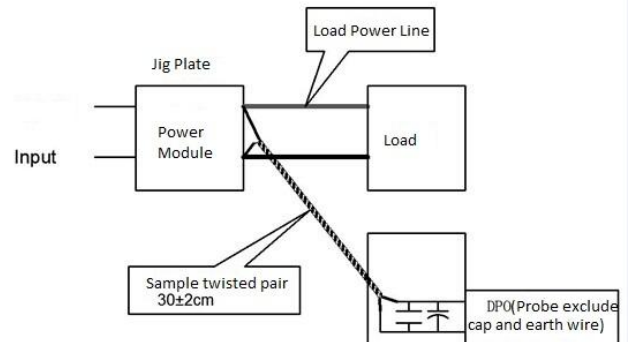
Design and Application Circuit Recommended

① Ripple & Noise Test: (Twisted Pair Method 20MHZ bandwidth)

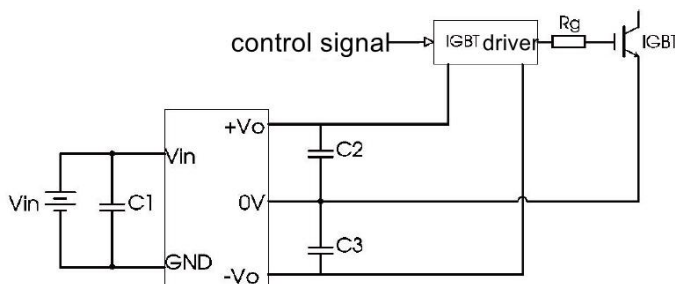
Test Method:

a. 12# twisted pair to connect, Oscilloscope bandwidth set as 20MHz, 100M bandwidth probe, terminated with 0.1uF polypropylene capacitor and 47uF high frequency low resistance electrolytic capacitor in parallel, oscilloscope set as Sample pattern.

b. Input terminal connect to power supply, output terminal connect to electronic load through jig plate, Use 30cm±2 cm sampling line, Power line selected from corresponding diameter wire with insulation according to the flow of output current.



② Typical Application

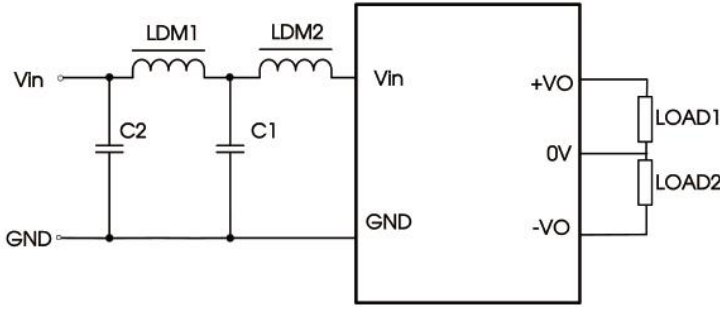


C1/ C2 /C3
100uF/35V(low internal resistance capacitor)

Note: A ceramic capacitor with a capacitance of 1uF-10uF can be connected in parallel at both ends of capacitors C2 and C3 to reduce ripple noise.

Photo 3

③ **EMC Recommended circuit**



Input Voltage(VDC)		12/15/24
EMI	C1、C2	4.7 μ F /50V
	LDM1	12 μ H
	LDM2	47 μ H

Note:

1. This product cannot be used in parallel and does not support hot swapping;
2. The connection line between the module power supply and the IGBT driver should be as short as possible;
3. The output filter capacitor (low internal resistance electrolytic capacitor) is close to the module power supply and IGBT driver;
4. The average output power of the driver must be less than the output power of the power module;
5. If the product works below the minimum required load, it cannot be guaranteed that the product performance meets all the performance indicators in this manual;
6. All index testing methods in this article are based on the company's corporate standards;
7. Product specifications are subject to change without notice.

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