MORNSUN®

QA01-17

Application Design For IGBT Driver DC-DC Converter

QA01-17 is an application-designed power supply for the IGBT driver which needs two outputs isolated from the input. With two outputs, it can be better to drive IGBT effectively. The module also provides functions of short-circuit protection and auto-recovery capability.



FEATURES

Input: 14.5 ~15.5VDCOutput: 17V, 80mAEfficiency up to 80%

Small footprintSIP package

Output short circuit protection

• 3000VAC isolation

• Operation temperature: -40°C ~ +85°C

No preload requirementRoHS compliance

Absolute Maximum Ratings											
Item		Test Conditions	Limit	Units							
Supply Voltage	V _{IN}	DC	16	V							
Output Current	lo1	VIN=15VDC, PIN6&PIN7	80	mA							
	lo2	VIN=15VDC, PIN5&PIN6	40	mA							
Isolation Voltage (input/output)	Viso	Sine wave voltage 50Hz/60 Hz, 1mA max,1 min.	3000	V							
Operation Temperature	Topr		-40 ~ +85	°C							
Storage Temperature Tstg			-50 ~ +125	°C							
Notes: 1 Ta=25°C unless	othorwic	o coodified:									

otes: 1. Ta=25°C, unless otherwise specified;

2. Other input modules are also available in our company.

APPLICATION

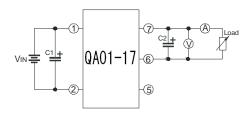
- General-purpose Inverter
- AC Servo Systems
- Uninterruptable Power Supplies(UPS)
- Welding Machines

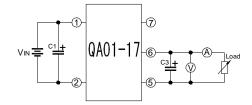
	Electrical Charact	trical Characteristic								
	Item		Test Conditions	Limit			Units			
				Min.	Тур.	Max.	Units			
	Supply Voltage	V _{IN}	Recommended Range	14.5	15.0	15.5	V			
	Output Voltage	Vo1	VIN=15VDC PIN6&PIN7 Io1=80mA	16.5	17	18	V			
		Vo2	VIN=15VDC PIN5&PIN6 Io2=40mA	7	TBD	10	V			
	Line Regulation		VIN change of 1%		1.2	1.5	%			
	Efficiency	η	PIN6&PIN7 Io1=80mA	77	80		%			
	Isolation Capacitor (input/output)	С	1KHz,1V		8	10	pF			
	Ripple & Noise*	Vp-p	PIN6&PIN7 Io1=80mA		50	150	mV			
	Notes: Ta=25°C; V _D =15V, unless otherwise specified.									

RECOMMENDED TO SUPPLY THE FOLLOWING IGBT DRIVERS

- QC962
- M57962 Series

Testing Circuit





C1, C2, C3: 100µF/35V (Low impedance)

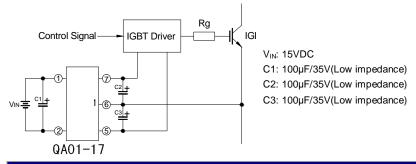
MORNSUN Science & Technology Co.,Ltd.

Address: No. 5, Kehui St. 1, Kehui development center, Science Ave., Guangzhou Science City, Luogang district, Guangzhou,P.R.China.

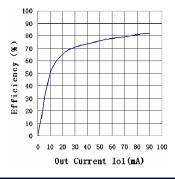
Tel: 86-20-28203030 Fax:86-20-38601272

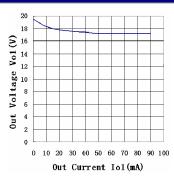
Http://www.mornsun-power.com

Application Circuit



Efficiency and Out Voltage to Out Current Characteristics





Application Notes

- 1. The wire between the converter and IGBT driver should be as short as possible;
- External filter capacitors should be placed as close as possible to the converter and the IGBT driver;
- 3. To ensure the high peak gate current, the filter capacitors should be with low impedance.
- The output average power of the IGBT driver should be less than the output power of DC-DC module.
- In order to avoid over-temperature damage for long time short-circuit, the recommended duration time of short-circuit is less than ten minutes at 25°C.

Outline Dimensions

