

FEATURES:

- High efficiency up to 87%
- SIP package
- I/O isolation test voltage: 5000VAC(reinforcedinsulation)
- Max. Capacitive Load: 2200μF
- Ultra-low isolation capacitance
- Operating ambient temperaturerange: -40℃to+105℃
- Continuous short-circuit protection
- Industry standard pin-out
- DC/DC converter for Sic driver

Selection Guide

Part No.	INPUT			OUTPUT		Full Load Efficiency (%/Typ)	CapacitiveLoad(μF)
	Norminal (Vdc)	Range (Vdc)	Current(mA, Typ.) Full Load/No Load	Voltage (VDC) +Vo1/+Vo2	Current (mA) +Io1/+Io2		
QA123HC-1504R3	12	10.8-13.2	215/8	+15.0/-4.0	+120/-120	82/87	2200
QA153HC-1504R3	15	13.5-16.5	171/8			82/87	2200
QA243HC-1504R3	24	(21.6-26.4	131/10			77/82	2200
QA123HC-2005R3	12	10.8-13.2	213/14	+20.0/-5.0	+90/-90	82/87	470
QA153HC-2005R3	15	13.5-16.5	167/8			82/87	2200
QA243HC-2005R3	24	(21.6-26.4	129/11			76/81	2200

customized accepted ,pls contact sales for details

Input Specifications

Item		Operating Conditions	Min.	Typ.	Max.
Input Voltage (1sec. max.)	Vin=12VDC	DC	-0.7VDC	-	18VDC
	Vin=15VDC	DC	-0.7VDC	-	21VDC
	Vin=24VDC	DC	-0.7VDC	-	30VDC
Input Filter			Capacitance Filter		
Hot Plug			Unavailable		

Output Specifications

Item			Operating Conditions	Min.	Typ.	Max.	
Output voltage	QA123HC-1504R3	+Vo	Vin=12VDC, Pin10 & Pin9 +Io= +120mA	14.25VDC	15VDC	15.75VDC	
		-Vo	Vin=12VDC, Pin9 & Pin8 -Io= -120mA	-3.6VDC	-3.8VDC	-4VDC	
	QA153HC-1504R3	+Vo	Vin=15VDC, Pin10 & Pin9 +Io= +120mA	13.8VDC	14.55VDC	15.3VDC	
		QA153HC-1504R3	-Vo	Vin=15VDC, Pin9 & Pin8 -Io= -120mA	-3.8VDC	-4VDC	-4.2VDC
	QA243HC-1504R3		+Vo	Vin=24VDC, Pin10 & Pin9 +Io= +120mA	14.55VDC	15.3VDC	16.05VDC
		-Vo	Vin=24VDC, Pin9 & Pin8 -Io= -120mA	-3.96VDC	-4.16VDC	-4.36VDC	
	QA123HC-2005R3	+Vo	Vin=12VDC, Pin10 & Pin9 +Io= +90mA	18.6VDC	19.6VDC	20.6VDC	
		-Vo	Vin=12VDC, Pin9 & Pin8 -Io= -90mA	-4.95VDC	-5.2VDC	-5.45VDC	
	QA153HC-2005R3	+Vo	Vin=15VDC, Pin10 & Pin9 +Io= +90mA	18.4VDC	19.4VDC	20.4VDC	
		-Vo	Vin=15VDC, Pin9 & Pin8 -Io= -90mA	-4.85VDC	-5.1VDC	-5.35VDC	
			+Vo	Vin=24VDC, Pin10 & Pin9 +Io= +90mA	19VDC	20VDC	21VDC

	QA243HC-2005R3	-Vo	Vin=24VDC, Pin9 & Pin8 -Io= -90mA		-4.75VDC	-5VDC	-5.25VDC
Voltage Accuracy			10% - 100% load				
Linear Regulation			Full voltage input range	+Vo Output	-	±1.1%	±1.5%
				-Vo Output	-	±1.1%	±1.5%
Load Regulation			10% - 100% load	+Vo Output	-	8%	15%
				-Vo Output	-	8%	15%
Temperature Coefficient			Full load		-	±0.04%/°C	±0.1%/°C
Ripple & Noise			20MHz bandwidth		-	50mVp-p	100mVp-p
Short-circuit Protection					Continuous, self-recovery		

General Specifications

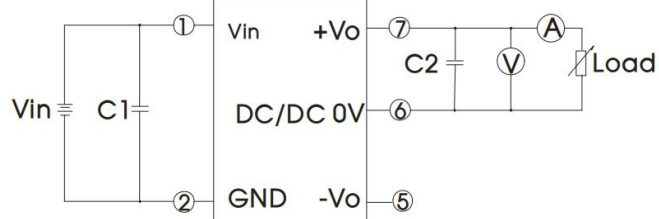
Item	Operating Conditions	Min.	Typ.	Max.
Isolation	Input-output, Test for 1 minute with a leakage current of 1mA max(reinforced insulation)	5000Vac	-	-
Continuous insulation voltage (IEC61800-5-1)	Input- output	1700V	-	-
Insulation Resistance	Input- output resistance at 500VDC	1000MΩ	-	-
Isolation capacitor	Input- output capacitor at 100kHz/0.1V	-	3.5pF	5pF
Electrical clearance	Input- output	14.14mm	14.74mm	-
Creepage distance	Input- output	14.14mm	14.74mm	-
CMTI	Input- output	±200kV/us	-	-
Operating Temperature	Derating when operating temperature≥85℃,	-40℃	-	105℃
Storage Temperature		-55℃	-	125℃
Pin Soldering Resistance Temperature	Soldering spot is 1.5mm away from case for 10 seconds	-	-	300℃
Case Temperature Rise	Ta=25℃, nominal input voltage, full load	-	-	40℃
Storage Humidity	Non-condensing	5%RH	-	95%RH
Switching Frequency	Full load, nominal input voltage	-	200Khz	-
MTBF	MIL-HDBK-217F@25℃	3500 k hours	-	-
Cooling Method	Free air convection			
Case Material	Black plastic; flame-retardant and heat-resistant			
Weight	5.3 g (Typ.)			

Design Reference

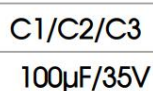
1.Over-load Protection

There is no over-load protection under normal operating conditions, we suggest to add an circuit breaker outside in the circuit.

2.Test configurations

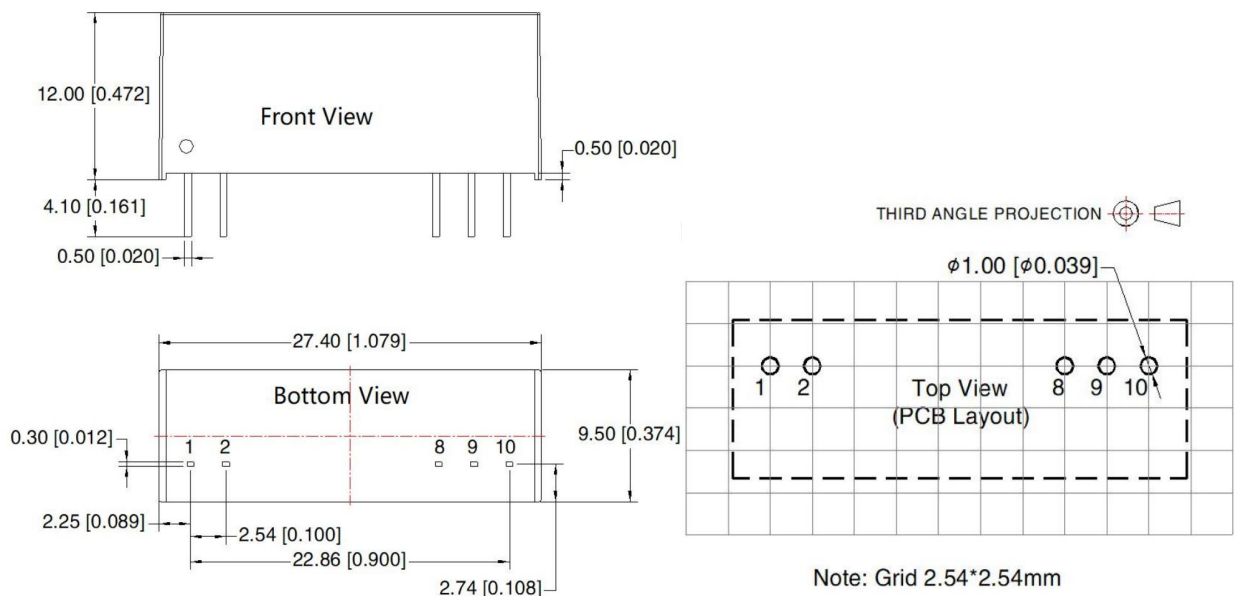


Recommended Circuit



LDM	33uH
C1/ C2	1.0μF/35V(Low internal resistance)

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Note:
Unit: mm[inch]
Pin section tolerances: ± 0.10 [± 0.004]
General tolerances: ± 0.5 [± 0.020]

Pins

Pin	Mark		
1	Vin		
2	GND		
8	-Vo		
9	0V		
10	+Vo		

Noted

1. Input current: Ensure that the output current of the power supply meets the instantaneous starting current of the power module (that is, twice the average input current of the power module).
2. Output load requirements: Avoid no-load use. When the actual power consumption of the load is less than 10% of the rated output power of the module or no load occurs, connect an external resistance to the output end (the sum of the external resistance and the load power is greater than or equal to 10% of the rated load) or select a module with a smaller rated power.
3. The external capacitance of the output end should not be too large; otherwise, the module may be overcurrent or poorly started. For details, see the external capacitance recommendation table.
4. External LC filter circuit can be connected for occasions with high ripple noise requirements.