FEATURES:

- International standard SIP packaging
- Isolation voltage 1500 VDC
- Sustainable short-circuit protection
- Low no-load input current
- High conversion efficiency
- Working temperature range:- 40~+105°C

3YR Warranty

RoHS

D0.75-IB_S series is an international standard direct-connect SIP package, mainly used in: pure digital circuits, low-frequency analog circuits, relay drive circuits, data exchange circuits, etc.

SELECTION TABLE

Model	Input voltage(VDC)		Output voltage (VDC)	Output current		Efficiency (%)	Capacitive load (uF)
	Typ	Range		Min (mA)	Max(mA)		
D0.75-IB0503S	5	4.75~5.25	3.3	20	200	67	2400
D0.75-IB0505S			5	15	150	70	2400
D0.75-IB0509S			9	9	83	71	1000
D0.75-IB0512S			12	7	62	72	560
D0.75-IB0515S			15	5	50	73	560
D0.75-IB1203S	12	11.4~12.6	3.3	20	200	70	2400
D0.75-IB1205S			5	15	150	73	2400
D0.75-IB1212S			12	7	62	73	560
D0.75-IB1215S			15	5	50	74	560
D0.75-IB2403S	24	22.8~25.2	3.3	20	200	71	2400
D0.75-IB2405S			5	15	150	73	2400
D0.75-IB2412S			12	7	62	73	560
D0.75-IB2415S			15	5	50	73	560

INPUT

Parameter	Conditions/description		Min	Typ	Max	Units
Input Current (Full Load/No Load)	5VDC input	3.3VDC Output	/	208/8	220/--	mA
		Other Outputs	/	200/12	220/--	
	12VDC input	3.3VDC Output	/	90/8	98/--	
		Other Outputs	/	85/8	92/--	
	24VDC input	3.3VDC Output	/	46/8	51/--	
		Other Outputs	/	43/8	47/--	
Refracted ripple current			/	15	/	
Input filter	capacitance filter					
Hot Plug	Unavailable					

OUTPUT

Parameter	Conditions/description		Min	Typ	Max	Units
Output voltage accuracy	10% load to 100% load change		/	/	±3	%
line regulation	Full load, input voltage variation ±1%		/	/	±0.25	
load regulation	10% to100% load change	3.3Vdc output	/	/	±3	
		Other output	/	/	±2	
Rippleand noise[1]	20MHz bandwidth (peak to peak)		/	120	/	mVp-p
Temperature coeffecient	100% load		/	±0.02	/	%/°C
Short circuit protection	Continuous, self-recovery					

Notes: 1. ripple and noise are measured at 20 MHz BW by "parallel cable" method with 1 μF ceramic and 10 μF electrolytic capacitors on the output.

COMPREHENSIVE

Parameter	Conditions/description	Min	Typ	Max	Units
Isolation voltage	input to output for 1 minute at 1 mA max.	1500	/	/	VDC
Isolation resistance	Input to output, insulation voltage 500 VDC	1000	/	/	MΩ
Isolation capacitor	Input-Output, 100 kHz/0.1 V	/	20	/	pF
Operating temperature	Use at reduced temperature ≥71°C. See the derating curve in Figure 1.	-40	/	85	℃
Storage temperature		-55	/	125	
Working temperature rise	at full load, Ta=25°C	/	25	/	
Welding Temperature	Manual-welding, Operation time 3-5 seconds	/	/	300	
	Wave soldering, Operation time 5-10 seconds	/	/	260	
Storage Humidity	non-condensing	/	/	95	%
Switching frequency	Nominal input voltage	/	260	/	kHZ
MTBF	MIL-HDBK-217F @ 25°C	3500	/	/	Khours
Cooling method	Natural air cooling				
Dimensions	11.6 x 6.00 x 10.16mm (0.457 x 0.236 x 0.40 inch)				
Weight	1.3g				
Case material	Black plastic; flame-retardant and heat-resistant plastic (UL94-V0)				

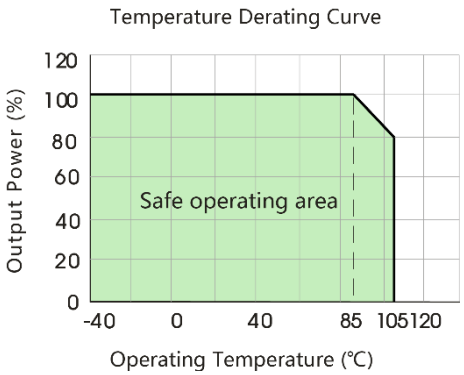
EMC

Parameter		Conditions/description
Emissions	CE	CISPR32/EN55032 CLASS B (see Fig. 2 for recommended circuit)
	RE	CISPR32/EN55032 CLASS B (see Fig. 2 for recommended circuit)
Immunity	ESD	EC/EN61000-4-2 Air ±8kV, Contact ±6kV perf. Criteria B

Note: For EMC characteristic test circuits, see (Figure 4).

Product characteristic curve

(Figure 1) Temperature curve



Design reference

1. General typical application circuits (as shown in the following figure)

If further reduction of input and output ripple is required, a filtering network can be connected at the input and output terminals, as shown in Figure 2. Choose a suitable filtering capacitor. If the capacitor is too large, it may cause startup problems. Under the condition of ensuring safe and reliable operation, the reference capacitance value is recommended in the table on the right. For applications with actual output power less than 0.5W, it is recommended not to connect external capacitors.

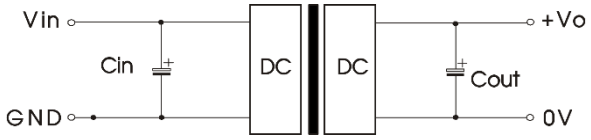
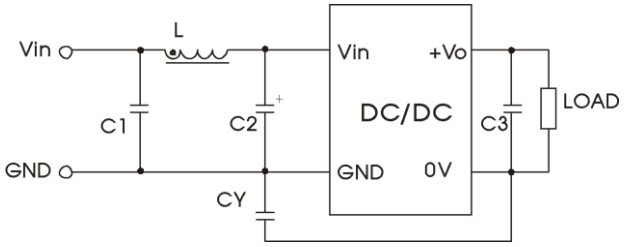


Figure 2

Input voltage (Vdc)	Capacitance Cin	Output voltage (Vdc)	Capacitance Cout
5	4.7uF/16V	3.3/5	10uF/16V
12	2.2uF/25V	9/12	2.2uF/16V
24	1uF/50V	15	1uF/25V

Table 1

2、EMC Recommended Application Circuits (For parameter details, see Table 2)

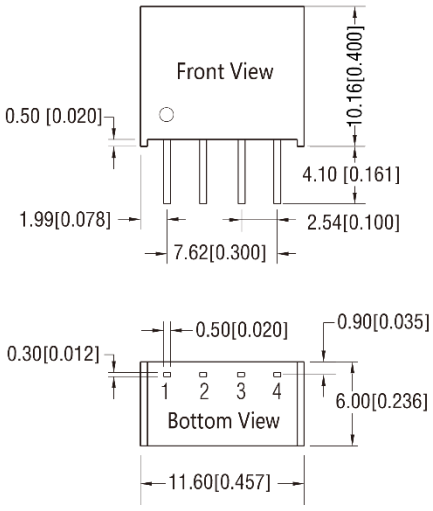


(Figure 3) EMC Recommended Circuit

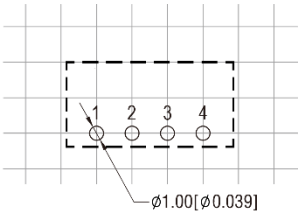
Input voltage (VDC)	5		Other inputs
Output voltage (VDC)	3.3/5/9	12/15/24	/
C1/C2	4.7μF/25V	4.7μF/25V	4.7μF/50V
CY	/	1nF/2kV	270pF/2kV
C3	Refer to Table 1 for Cout parameters		
L	6.8μH		

(Table 2) Recommended Application Circuit Parameters of EMC

MECHANICAL DRAWING



units: mm[inch]
tolerance: ±0.25[±0.010]
pin section tolerance: ±0.10[±0.004]



Grid specification: 2.54 × 2.54mm

(top view)
Recommended PCB packaging pin positions

PIN CONNECTIONS	
1	Vin
2	GND
3	0V
4	+Vo

Note:
1. Qituo technology reserves the right to change the product at any time without notice;
2. The product shall be provided with a 3-year warranty period;
3. Unless otherwise specified, the products in this manual are not authorized to be used for key components of equipment requiring high reliability, so as not to affect the safety or effectiveness of the device;
4. All parameters in this manual are measured under indoor ta=25 ℃, humidity <75%, nominal input voltage and output rated load;

Shenzhen City QITOL Technology Co. Ltd
E-mail: qitol@qitol.com
WWW: www.qitol.com

QITOL TECHNOLOGY