

## FEATURES

- Small volume, high power density
- High efficiency, low output ripple and noise
- Low zero-load power consumption, low static current
- Long time short circuit protection and self-recovery
- superior thermal stability and temperature characteristics
- Wide temperature performance at full 1 watt load: -40 ~ +85
- Isolation Voltage: 1500VDC
- High Reliability (MTTF ≥ 350 ten thousand hours)
- International standard SIP package, save PCB installation space
- Environmental design, ROHS compliant
- 100% full load aging



**RoHS**  
Isolate/Non-stabilized  
Single output

## PRODUCT MODEL LIST

Order Code	Nominal Input Voltage (V)		Nominal Output Voltage		Efficiency [Typ] (%)	Capacitive Load [Max] (uF)
	Nominal	Range	Voltage (V)	Current (mA)		
B0303LSY-1WR1	3.3	3.0~3.6	3.3	303	82	1000
B0305LSY-1WR1			5	200	82	1000
B0503LSY-1WR1	5	4.5~5.5	3.3	303	85	2200
B0505LSY-1WR1			5	200	84	2200
B0509LSY-1WR1			9	111	84	2200
B0512LSY-1WR1			12	83	85	2200
B0515LSY-1WR1			15	67	86	1000
B0524LSY-1WR1			24	42	84	2200
B1203LSY-1WR1	12	10.8~13.2	3.3	303	80	2200
B1205LSY-1WR1			5	200	85	2200
B1209LSY-1WR1			9	111	84	2200
B1212LSY-1WR1			12	83	88	2200
B1215LSY-1WR1			15	67	88	2200
B1224LSY-1WR1			24	42	88	1000
B1505LSY-1WR1	15	13.5~16.5	5	200	85	3300
B1512LSY-1WR1			12	83	89	2200
B1515LSY-1WR1			15	67	88	2200
B1524LSY-1WR1			24	42	86	2200
B2403LSY-1WR1	24	21.6~26.4	3.3	303	83	3300
B2405LSY-1WR1			5	200	85	2200
B2409LSY-1WR1			9	111	87	1000
B2412LSY-1WR1			12	83	88	2200
B2415LSY-1WR1			15	67	88	1000
B2424LSY-1WR1			24	42	87	1000

## OUTPUT CHARACTERISTICS

Parameter	Conditions	Min.	Typ.	Max.	Units
Output Power		0.1		1	W
Line Voltage Regulation	Input voltage change ±1% at rated load		±1.2	±1.5	%
Load Regulation	Load varies from 10% to 100% at nominal input		10	15	
Quiescent Current	Output load is 0 at nominal input	B03XX	≤12		mA
		etc.	≤8		
Temps Drift Coefficient	Rated load			±0.03	%/
Ripple & Noise	At 20MHz bandwidth		50	100	mVp-p

All Specifications Subject To Change Without Notice

Switching Frequency	Rated input voltage	280	KHz
Output Short Circuit Protection	Sustainable and automatic restoration		
Input Filter	Filter capacitor		
Hot Plug	Nonsupport		
Output Voltage Accuracy	Refer to error envelope curve		

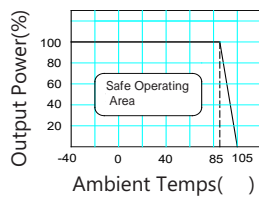
**Insulation Characteristic**

Parameter	Conditions	Min.	Typ.	Max.	Units
Insulation Resistance	500VDC	1000			M
Insulation Voltage	Test time 1 minute, leakage current less than 1 mA	1500			VDC

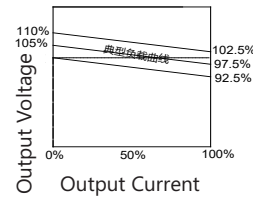
**General Characteristic**

Parameter	Conditions	Min.	Typ.	Max.	Units
Storage Humidity		5		95	%
Operating Temps		-40		85	
Storage Temps		-55		125	
Operating Case Temps			15	25	
Pin Welding Temps	Welding joint 1.5mm from case,10 seconds operation			300	
MTTF	MIL - HDBK - 217@25	350			10000 hours
Weight			1.3		g
Cooling	Free air convection				
Case Material	Flame-retardant and heat-resistant plastic ( UL94-V0 )				

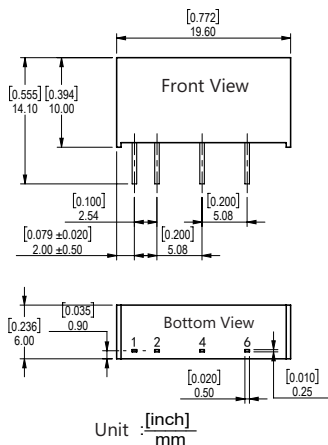
Temps Curve



Error Envelope Curve



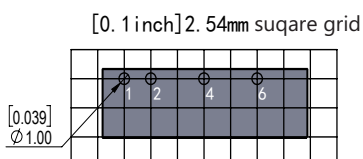
**Shape & Pin Dimensions**



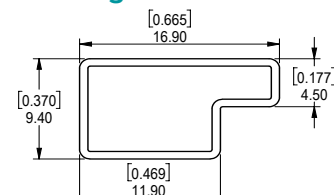
Pin	Function
1	Vin
2	GND
4	0V
6	+Vo

ps:  
Terminal section tolerance: ±0.10 [±0.004]  
Unmarked tolerance: ±0.25 [±0.010]

**PCB**

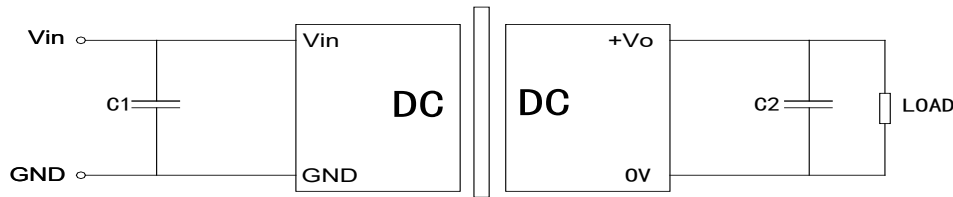


**Package Dimensions**



All Specifications Subject To Change Without Notice

**Basic Application Circuit**



**Options of C1、C2:**

Input Voltage	External Capacitance	Output Voltage	External Capacitance
3.3/5VDC	10uF	3.3/5VDC	10uF
12VDC	4.7uF	9VDC	4.7uF
15VDC	2.2uF	12/15VDC	2.2uF
24VDC	1uF	24VDC	1uF

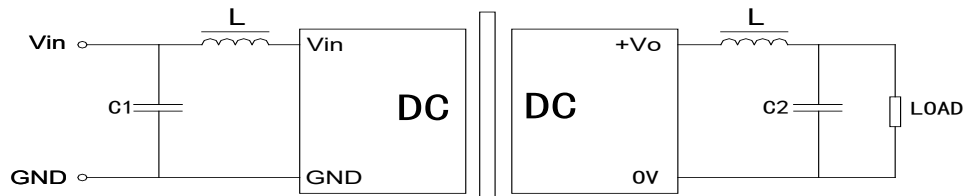
**Note**

**Try To Avoid No-load Use:** If the load power consumption is less than 10% of the rated output power of the module, it is recommended to connect a dummy load to the output terminal or select a module with a lower rated power. The dummy load (resistance) can be calculated by 10% of the rated power of the module, and the resistance value is  $R=U^2 / (10\% \times 1W)$ .

**Avoid Excessive Output External Capacitance:** The capacity value of the output external capacitor C2 should not be too large, otherwise it is easy to cause overcurrent or bad startup when the module is started. The specific value should be selected according to the external capacitor table.

The input of this series does not support parallel use of hot plug and output.

For situations requiring high ripple noise, external LC filter circuit should be connected, and the resonant frequency of LC filter should be far less than the switching frequency of DC/DC module to prevent mutual interference, resulting in output ripple increase or module damage, as shown in the figure:



**Naming Logic Of Constant Voltage Products**

B 05 05 LS Y-1W R1

