

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:3000VDC
- 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
Positive and negative output

PRODUCT MODEL LIST

Order Code	Normal Input Voltage (V)		Normal Input Voltage		Efficiency [Typ] (%)	Capacitive Load [Max] (uF)
	Normal	Range	Voltage (V)	Current (mA)		
E0303SY-1WR1	3.3	3.0~3.6	±3.3	±152	82	2200
E0312SY-1WR1			±12	±42	83	680
E0505SY-1WR1	5	4.5~5.5	±5	±100	86	2200
E0509SY-1WR1			±9	±56	85	2200
E0512SY-1WR1			±12	±42	85	1000
E0515SY-1WR1			±15	±33	87	2200
E0524SY-1WR1			±24	±21	86	1000
E0808SY-1WR1	8	7.2~8.8	±8	±63	85	1000
E0909SY-1WR1	9	8.1~9.9	±9	±56	85	1000
E1205SY-1WR1	12	10.8~13.2	±5	±100	86	2200
E1209SY-1WR1			±9	±56	85	2200
E1212SY-1WR1			±12	±42	87	2200
E1215SY-1WR1			±15	±33	86	1000
E1505SY-1WR1	15	13.5~16.5	±5	±100	85	2200
E1512SY-1WR1			±12	±42	85	2200
E1515SY-1WR1			±15	±33	88	2200
E2405SY-1WR1	24	21.6~26.4	±5	±100	85	2200
E2409SY-1WR1			±9	±56	85	2200
E2412SY-1WR1			±12	±42	85	2200
E2415SY-1WR1			±15	±33	86	2200
E2418SY-1WR1			±18	±28	87	680
E2424SY-1WR1			±24	±21	86	2200
E4809SY-1WR1	48	43.2~52.8	±9	±56	80	1000
E4815SY-1WR1			±15	±33	83	680

Ps: *The positive and negative output capacitive loads are the same.

OUTPUT CHARACTERISTICS

Parameter	Conditions		Min.	Typ.	Max.	Units
Output Power			0.1		1	W
Line Voltage Regulation	Input voltage change $\pm 1\%$ 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	E03XX	≤ 12			mA
		etc.	≤ 8			

All Specifications Subject To Change Without Notice

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Temps Drift Coefficient	Rated load			±0.03	%/
Ripple & Noise	At 20MHz bandwidth		50	100	mVp-p
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				

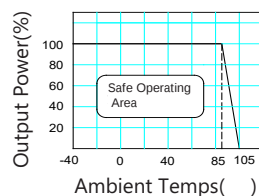
Insulation Characteristic

Parameter	Conditions	Min.	Typ.	Max.	Units
Insulation Resistance	500VDC	1000			MΩ
Insulation Voltage	Test time 1 minute, leakage current less than 1 mA	3000			VDC

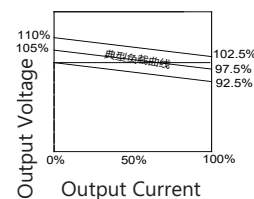
General Characteristic

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			2.1		g
Cooling	Free air convection				
Case Material	Flame-retardant and heat-resistant plastic (UL94-V0)				

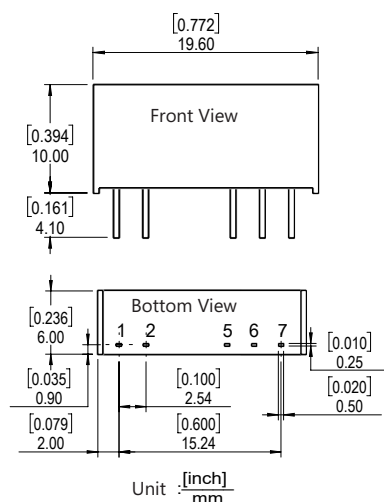
Temps Curve



Error Envelope Curve

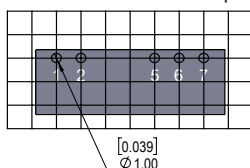


Shape & Pin Dimensions

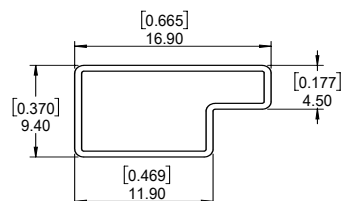


PCB

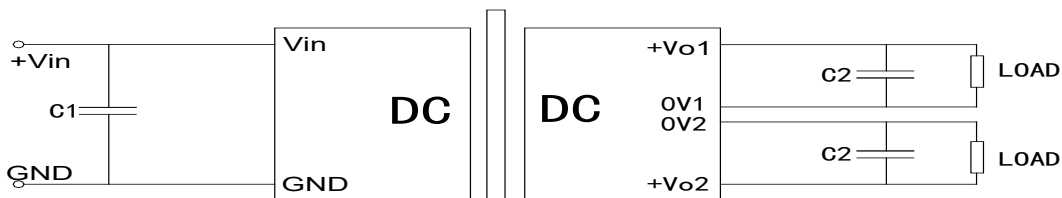
[0.1inch]2.54mm square grid



Package Dimensions



Basic Application Circuit



Options of C1、C2:

Input Voltage	External Capacitance	Output Voltage	External Capacitance
3.3/5VDC	10uF	±3.3/±5VDC	10uF
8VDC	4.7uF	±8VDC	4.7uF
9VDC	4.7uF	±9VDC	4.7uF
12VDC	4.7uF	±12/15VDC	2.2uF
15VDC	2.2uF	±18VDC	2.2uF
24VDC	1uF	±24VDC	1uF
48VDC	0.47uF	--	--

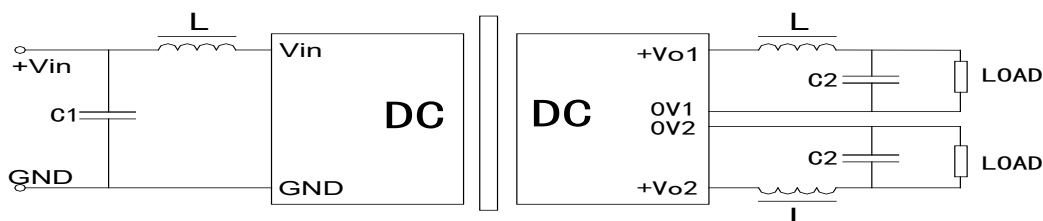
Note

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

