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:6000VDC
- 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	Norminal Input Voltage (V)		Norminal Input Voltage		Efficiency [Typ] (%)	Capacitive Load [Max] (uF)
	Norminal	Range	Voltage (V)	Current (mA)		
H0503S-2W	5	4.5~5.5	3.3	606	66	3300
H0505S-2W			5	400	74	2200
H0509S-2W			9	222	76	2200
H0512S-2W			12	167	76	2200
H0515S-2W			15	133	77	2200
H1205S-2W	12	10.8~13.2	5	400	75	3300
H1209S-2W			9	222	77	3300
H1212S-2W			12	167	75	2200
H1215S-2W			15	133	82	2200
H1505S-2W	15	13.5~16.5	5	400	72	2200
H1512S-2W			12	167	79	1000
H1515S-2W			15	133	81	1000
H2403S-2W	24	21.6~26.4	3.3	666	70	3300
H2405S-2W			5	400	75	3300
H2409S-2W			9	222	77	3300
H2412S-2W			12	167	78	3300
H2415S-2W			15	133	81	3300
H2424S-2W			24	83	79	1000

OUTPUT CHARACTERISTICS

Parameter	Conditions		Min.	Typ.	Max.	Units
Output Power			0.2		2	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	H05XX		≤20		mA
		etc.		≤10		
Temps Drift Coefficient	Rated load				±0.03	%/°C
Ripple & Noise	At 20MHz bandwidth			100	150	mVp-p
Switching Frequency	Rated input voltage			60		KHz
Output Short Circuit Protection	Sustainable and automatic restoration					
Input Filter	Filter capacitor					
Hot Plug	Nonsupport					
Output Voltage Accuracy	Refer to error envelope curve					

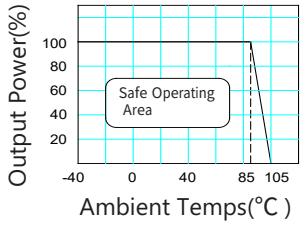
Insulation Characteristic

Parameter	Conditions	Min.	Typ.	Max.	Units
Insulation Resistance	500VDC	1000			MΩ
Insulation Voltage	Test time 1 minute, leakage current less than 1 mA	6000			VDC

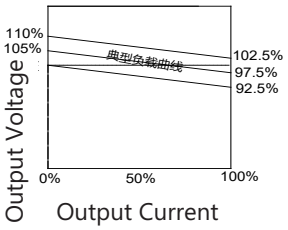
General Characteristic

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		350			10000 hours
Weight			4.3		g
Cooling	Free air convection				
Case Material	Flame-retardant and heat-resistant plastic（UL94-V0）				

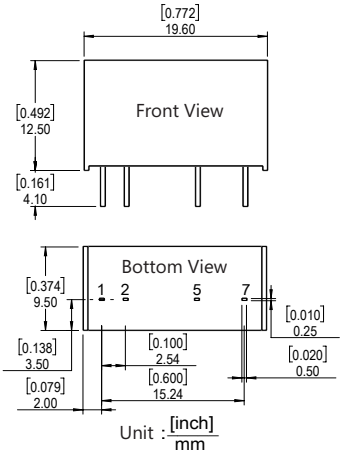
Temps Curve



Error Envelope Curve



Shape & Pin Dimensions

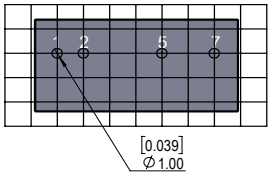


Pin	Function
1	Vin
2	GND
5	0V
7	+Vo

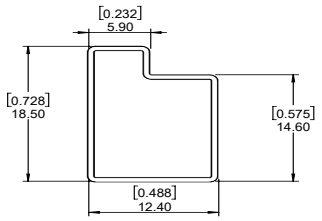
ps:
Terminal section tolerance: ±0.10 [±0.004]
Unmarked tolerance: ±0.25 [±0.010]

PCB

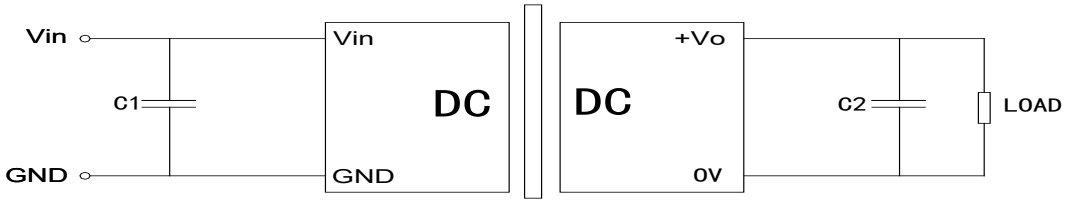
[0.1inch]2.54mm suqare grid



Package Dimensions



Basic Application Circuit



Options of C1、C2(GYI):

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

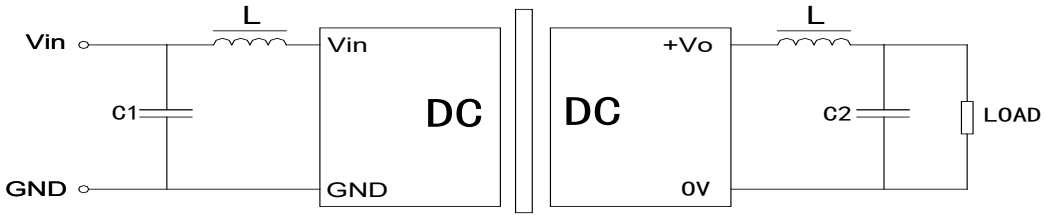
Note

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=U2 / (10% x 2W).

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