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 DIP 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)		
F0303DY-1WR1	3.3	3.0~3.6	3.3	303	80	3300
F0305DY-1WR1			5	200	83	2200
F0503DY-1WR1	5	4.5~5.5	3.3	303	80	3300
F0505DY-1WR1			5	200	84	3300
F0509DY-1WR1			9	111	86	2200
F0512DY-1WR1			12	83	86	1000
F0515DY-1WR1			15	67	86	1000
F0524DY-1WR1			24	42	84	1000
F1203DY-1WR1	12	10.8~13.2	3.3	303	81	3300
F1205DY-1WR1			5	200	84	2200
F1209DY-1WR1			9	111	86	2200
F1212DY-1WR1			12	83	86	1000
F1215DY-1WR1			15	67	86	1000
F1224DY-1WR1			24	42	88	1000
F1505DY-1WR1	15	13.5~16.5	5	200	85	3300
F1512DY-1WR1			12	83	86	1000
F1515DY-1WR1			15	67	86	1000
F1524DY-1WR1			24	42	85	1000
F2403DY-1WR1	24	21.6~26.4	3.3	303	80	3300
F2405DY-1WR1			5	200	85	3300
F2409DY-1WR1			9	111	86	1000
F2412DY-1WR1			12	83	86	1000
F2415DY-1WR1			15	67	86	1000
F2424DY-1WR1			24	42	84	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	F03XX		≤12		mA
		etc.		≤8		
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				

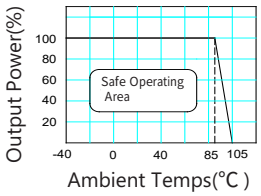
Insulation Characteristic

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

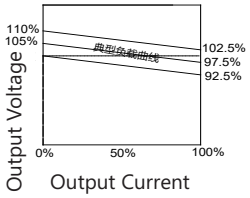
General Characteristic

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

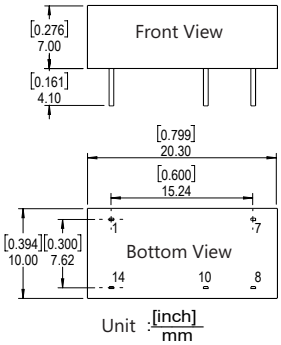
Temps Curve



Error Envelope Curve



Shape & Pin Dimensions

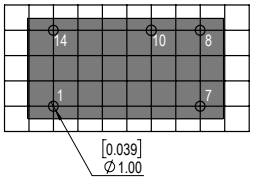


Pin	Function
1	GND
7	NC
8	+Vo
10	0V
14	Vin

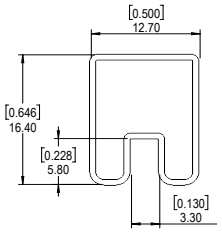
ps:
Terminal section tolerance: ±0.10 [±0.004]
Unmarked tolerance: ±0.25 [±0.010]

PCB

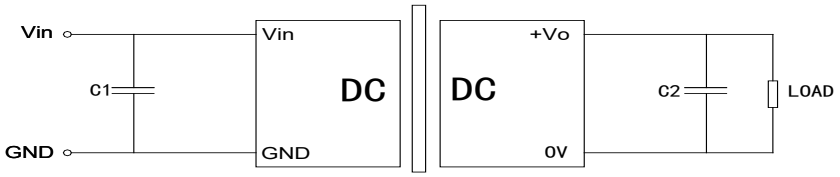
[0.1inch]2.54mm suqare grid



Package Dimensions



Basic Application Circuit



Options of C1、C2:

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

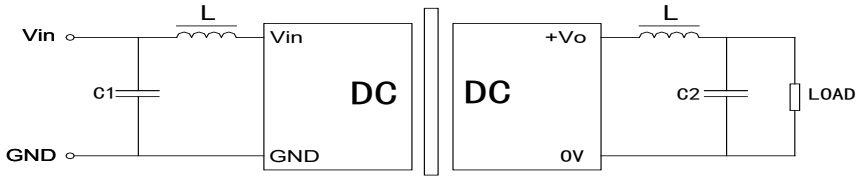
Note

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=U2 / (10% x 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