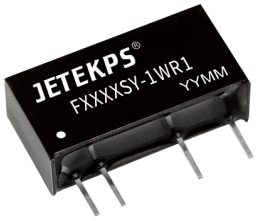
FEATURES

- 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

Single output

PRODUCT MODEL LIST

Order Code	Norminal Input Voltage (V)		Norminal Output Voltage		Efficiency [Typ] (%)	Capacitive Load [Max] (uF)
	Norminal	Range	Voltage (V)	Current (mA)		
F0303SY-1WR1	3.3	3.0~3.6	3.3	303	82	2200
F0305SY-1WR1			5	200	82	1000
F0324SY-1WR1			24	42	85	1000
F0503SY-1WR1	5	4.5~5.5	3.3	303	82	2200
F0505SY-1WR1			5	200	85	2200
F0507SY-1WR1			7.2	143	85	1000
F0509SY-1WR1			9	111	86	1000
F0512SY-1WR1			12	83	85	2200
F0515SY-1WR1			15	67	86	1000
F0524SY-1WR1			24	42	84	2200
F0909SY-1WR1	9	8.1~9.9	9	111	85	1000
F1203SY-1WR1	12	10.8~13.2	3.3	303	82	2200
F1205SY-1WR1			5	200	85	2200
F1207SY-1WR1			7.2	143	86	2200
F1209SY-1WR1			9	111	86	2200
F1212SY-1WR1			12	83	88	2200
F1215SY-1WR1			15	67	86	2200
F1224SY-1WR1			24	42	88	680
F1505SY-1WR1	15	13.5~16.5	5	200	85	3300
F1512SY-1WR1			12	83	86	2200
F1515SY-1WR1			15	67	86	1000
F1524SY-1WR1			24	42	88	680
F2403SY-1WR1	24	21.6~26.4	3.3	303	82	3300
F2405SY-1WR1			5	200	85	2200
F2407SY-1WR1			7.2	143	89	1000
F2409SY-1WR1			9	111	86	1000
F2412SY-1WR1			12	83	88	2200
F2415SY-1WR1			15	67	86	2200
F2418SY-1WR1			18	56	85	1000
F2424SY-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	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					

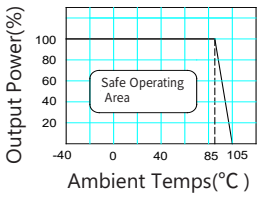
Insulation Characteristic

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

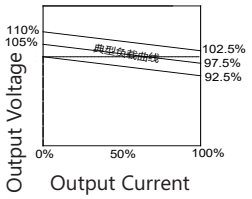
General Characteristic

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

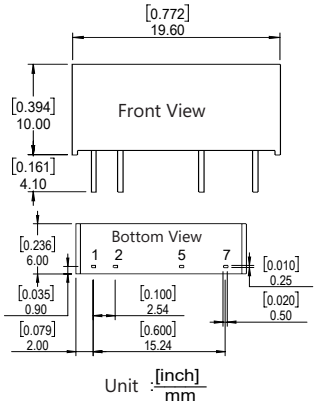
Temps Curve



Error Envelope Curve



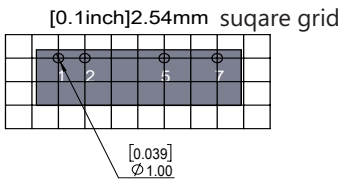
Shape & Pin Dimensions



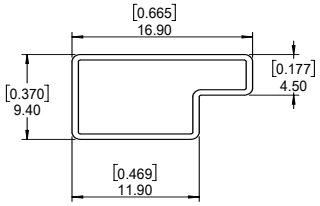
Pin	Function
1	Vin
2	GND
5	0V
7	+Vo

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

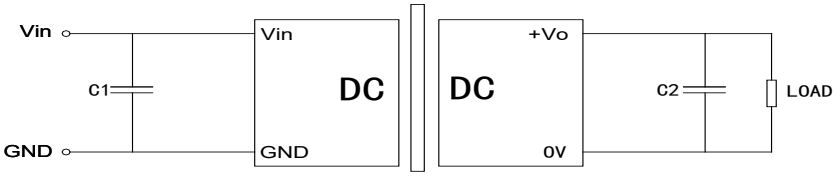
PCB



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	7VDC	4.7uF
15VDC	2.2uF	9VDC	4.7uF
24VDC	1uF	12/15VDC	2.2uF
- -	- -	18VDC	2.2uF
- -	- -	24VDC	1uF

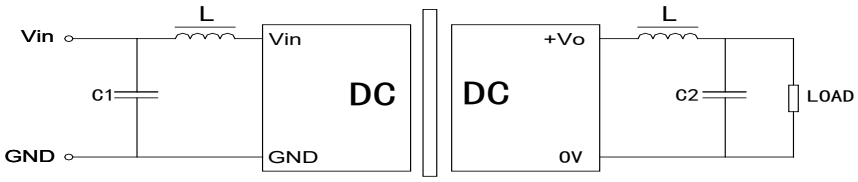
Note

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