

FEATURES :

- 7PIN SIP Package
- High Efficiency up to 80%
- Regulated Output Types
- Internal SMD Construction
- No External Component Required
- Industry Standard Pinout
- Operating Temperature:-40°C TO +85°C

Specifications typical at TA=25°C, nominal input voltage and rated output current unless otherwise specified

Part Number	Output Voltage	Output Current	Efficiency
	Vdc	mA	%TYP
12D-XXS03RNL	3.3	303	65
12D-XXS05RNL	5	200	65
12D-XXS09RNL	9	112	70
12D-XXS12RNL	12	84	70
12D-XXS15RNL	15	67	70
12D-XXS24RNL	24	42	70

Note:

- 1."XX" Is Input Voltage:03=3.3Vdc, 05=5Vdc, 09=9Vdc 12=12Vdc,15=15Vdc,24=24Vdc.
- 2.The input voltage increases, there will be an increase in efficiency.
- 3.Input 3.3V, then output will be 12V MAX;Output 3.3V, then input will be 12V MAX

Input Specifications

Parameters	Conditions	Min	Typ	Max	Units
Voltage Tolerance	Vo, Io Nom			±10	%
Filter	Capacitor				

Output Specifications

Parameters	Conditions	Min	Typ	Max	Units
Voltage Tolerance	100% full load			±5	%
Short Circuit Protection	Continuous				
Line Regulation	Regulated			±0.5	%
Load Regulation	Regulated			±1.5	%
Ripple & Noise	Output:5V,9V TYPES BW=DC To 20MHz			100	mVp-p
Ripple & Noise	Output:12-24V TYPES BW=DC To 20MHz			1% of Vout	mVp-p
Transient response setting time	50% load step change		350		us

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DC-DC Converter

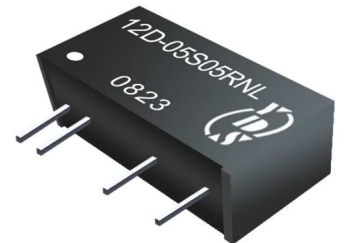
12D-R SERIES

1Watt

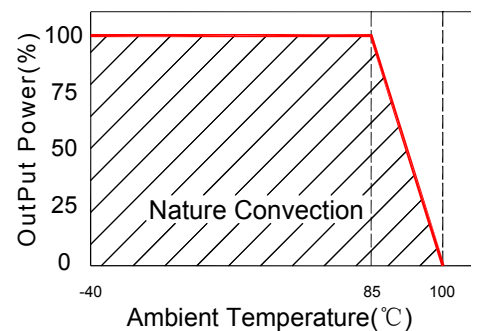
3KV Isolated

Single Output

SIP7



Temperature Derating Graph



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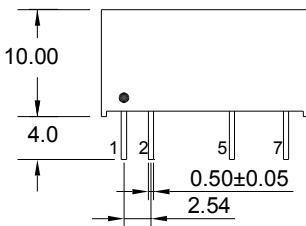
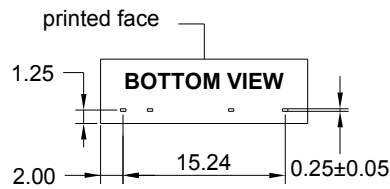
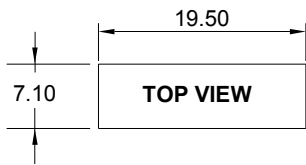
TEL : 886-6-3842899 FAX : 886-6-3843288
E-MAIL : ydsweb@yds.com.tw

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General Specifications

Parameters	Conditions	Min	Typ	Max	Units
Isolation Resistance	500Vdc	1000			MΩ
Switching Frequency	Full load, nominal input		100		KHz
Operation Temperature		-40		+85	°C
Humidity	Non Condensing			95	%
Cooling	Free air Convection				
Case material	DAP				
MTBF	MIL-HDBK-217F@25°C	1500000			Hours
Weight			2.7		g
Dimensions		19.5x7.1x10.0			mm

Markings and dimensions



UNIT: mm

Unless otherwise specified, all tolerances are ±0.25

PIN Connection

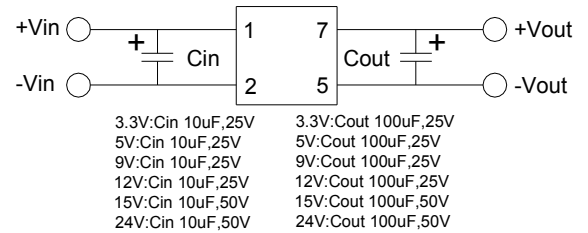
Pin	1	2	5	7
Single	+Vin	-Vin	-Vout	+Vout

Part Number

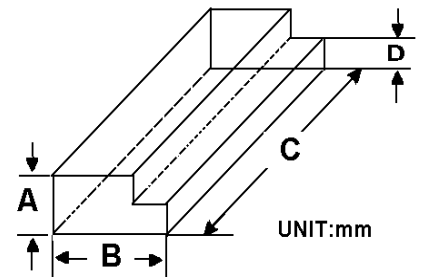
12D	-	05	S	05	R	NL
A		B	C	D	E	F

- A : Series
- B : Input Voltage
- C : Single(S);Dual(D)
- D : Output Voltage
- E : Regulated(R)
- F : RoHS Version

Recommended Test Circuit



Packaging



Size(mm)			
A	B	C	D
9.5	16.5	522	5.0