

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

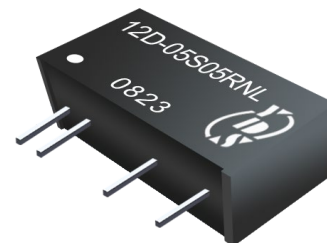
12D-R SERIES

1Watt

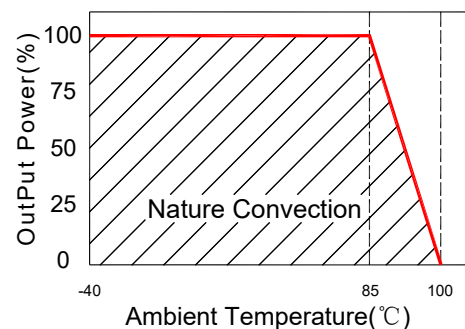
3KV Isolated

Single Output

SIP7



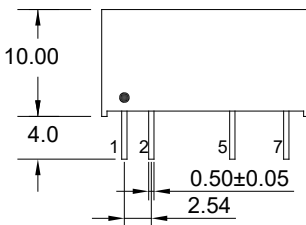
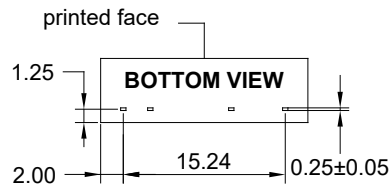
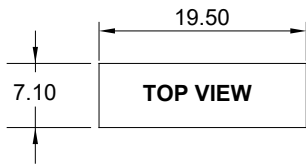
Temperature Derating Graph



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

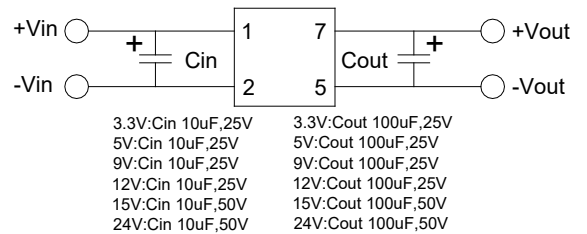
Pin	1	2	5	7
Single	+Vin	-Vin	-Vout	+Vout

Part Number

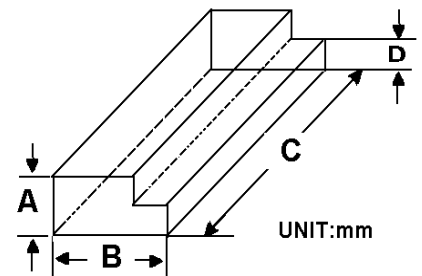
12D	-	05	S	05	R	NL
A		B	C	D	E	F

- 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