

NU SERIES

1W~2W UNREGULATED

AvivEnergy^{tech} Ltd.

FEATURES

- UP TO 1W~2W UNREGULATED OUTPUT POWER
- 100% BURN IN
- HIGH EFFICIENCY
- SMD TECHNOLOGY
- LOW COST
- UL 94V-0 PACKAGE MATERIAL
- CUSTOM SOLUTIONS AVAILABLE
- MTBF>2,000,000 HOURS
- RoHS COMPLIANT
- 2 YEARS WARRANTY



OUTPUT SPECIFICATIONS

Voltage Set-point Accuracy	+/-2% max
Temperature Coefficient	+/-0.03%/°C
Ripple & Noise(20MHz BW) ¹	100mVp-p max
Line Regulation ²	+/-1.2% max
Line Regulation ³	+/-1.5% max
Load Regulation ⁴	+/-8% max
Load Regulation ⁵	+/-12% max
Minimum Load	10% of Full Load
Short Circuit Protection	Momentary

INPUT SPECIFICATIONS

Input Voltage Range	+/-10% max
Input Filter	Capacitor Type
Protection	Fuse Recommended

GENERAL SPECIFICATIONS

Efficiency	70%-79%
Isolation Voltage ⁶	1000 VDC min
Isolation Resistance	10 ⁹ ohms min
Isolation Capacitance	80pF max
Switching Frequency	100KHz Typ
MTBF ⁷	>2,000,000 Hours
Weight	3g Typ
Case Material	Non-Conductive Plastic
Case Size A	13.8mm*12.8mm*9.3mm
B	25.4mm*12.8mm*9.3mm
Conducted Emissions	EN55022 Class A
Radiated Emissions	EN55022 Class A

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-40 °C to +71 °C
Storage Temperature	-55 °C to +125 °C
Humidity	95% max
Cooling	Free-Air Convection

ALL SPECIFICATIONS TYPICAL AT NOMINAL LINE, FULL LOAD , AND 25 °C UNLESS OTHERWISE NOTED.

¹ Measured with 1uF ceramic capacitor connect to the output pins.

² Line Regulation is for a 1% change in input voltage.

³ Line Regulation is for a 1% change in input voltage when input voltage is 3V and 3.3V.

⁴ Load Regulation is for output load current change from 20% to 100%.

⁵ Load Regulation is for output load current change from 20% to 100% when input voltage is 3V and 3.3V.

⁶ For 10 seconds.

⁷ MIL-HDBK-217F@25 °C, Ground Benign.

● SELECTION GUIDE(1) 0.25W~0.5W 1000VDC ISOLATION

MODEL NUMBER	INPUT VOLTAGE (VDC)	OUTPUT VOLTAGE (VDC)	OUTPUT CURRENT (mA)	INPUT ⁸ CURRENT(mA)		EFF (%) ⁹	ISOLATION (VDC)	PACKAGE
				FULL LOAD	NO LOAD			
NUS-03.305A-0.25W	3.3	5	50	125	35	61	1000	A

Note: Other input to output voltages may be available. Please contact factory.

● SELECTION GUIDE(2) 1W 1000VDC ISOLATION

MODEL NUMBER	INPUT VOLTAGE (VDC)	OUTPUT VOLTAGE (VDC)	OUTPUT CURRENT (mA)	INPUT ¹⁰ CURRENT(mA)		EFF (%) ¹¹	ISOLATION (VDC)	PACKAGE
				FULL LOAD	NO LOAD			
NUS-03.303.3A	3.3	3.3	303	425	45	71	1000	A
NUS-0505A	5	5	200	283	35	71	1000	A
NUS-0509A	5	9	111	257	25	78	1000	A
NUS-0512A	5	12	84	257	25	78	1000	A
NUS-0515A	5	15	67	253	28	79	1000	A
NUS-1203.3A	12	3.3	300	112	13	74	1000	A
NUS-1205A	12	5	200	112	14	74	1000	A
NUS-1209A	12	9	111	107	11	78	1000	A
NUS-1212A	12	12	84	102	10	82	1000	A
NUS-1215A	12	15	67	102	12	82	1000	A
NUS-2405A-0.75W	24	5	150	41	11	76	1000	A
NUS-2405A	24	5	200	54	11	76	1000	A
NUS-2412A	24	12	84	54	11	76	1000	A
NUS-2415A	24	15	67	54	11	76	1000	A

Note: Other input to output voltages may be available. Please contact factory.

⁸ NOMINAL INPUT VOLTAGE.

⁹ NOMINAL INPUT VOLTAGE, FULL LOAD.

¹⁰ NOMINAL INPUT VOLTAGE.

¹¹ NOMINAL INPUT VOLTAGE, FULL LOAD.

● SELECTION GUIDE(3) 1.8W 1000VDC ISOLATION

MODEL NUMBER	INPUT VOLTAGE (VDC)	OUTPUT VOLTAGE (VDC)	OUTPUT CURRENT (mA)	INPUT ¹² CURRENT(mA)		EFF (%) ¹³	ISOLATION (VDC)	PACKAGE
				FULL LOAD	NO LOAD			
NUS-0505B	5	5	360	500	70	72	1000	B
NUS-0509B	5	9	200	480	70	75	1000	B
NUS-0512B	5	12	150	467	70	77	1000	B
NUS-0515B	5	15	120	467	70	77	1000	B
NUS-1205B	12	5	360	206	40	73	1000	B
NUS-1209B	12	9	200	197	40	76	1000	B
NUS-1212B	12	12	150	192	40	78	1000	B
NUS-1215B	12	15	120	192	40	78	1000	B

Note: Other input to output voltages may be available. Please contact factory.

● SELECTION GUIDE(4) 2W 1000VDC ISOLATION

MODEL NUMBER	INPUT VOLTAGE (VDC)	OUTPUT VOLTAGE (VDC)	OUTPUT CURRENT (mA)	INPUT ¹⁴ CURRENT(mA)		EFF (%) ¹⁵	ISOLATION (VDC)	PACKAGE
				FULL LOAD	NO LOAD			
NUS-0505B2	5	5	400	520	50	77	1000	B
NUS-0509B2	5	9	222	506	50	79	1000	B
NUS-0512B2	5	12	167	500	50	80	1000	B
NUS-0515B2	5	15	133	488	50	82	1000	B
NUS-1205B2	12	5	400	214	20	78	1000	B
NUS-1209B2	12	9	222	214	20	78	1000	B
NUS-1212B2	12	12	167	200	20	83	1000	B
NUS-1215B2	12	15	133	196	20	85	1000	B
NUS-2405B2	24	5	400	107	15	78	1000	B
NUS-2409B2	24	9	222	107	15	78	1000	B
NUS-2412B2	24	12	167	104	15	80	1000	B
NUS-2415B2	24	15	133	104	15	80	1000	B

Note: Other input to output voltages may be available. Please contact factory.

¹² NOMINAL INPUT VOLTAGE.

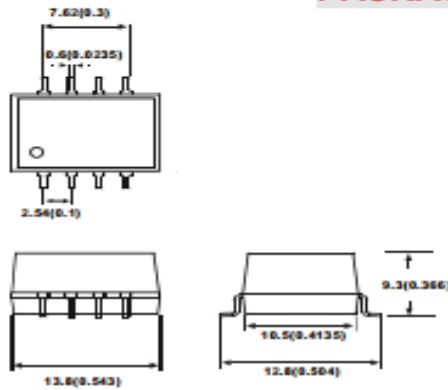
¹³ NOMINAL INPUT VOLTAGE, FULL LOAD.

¹⁴ NOMINAL INPUT VOLTAGE.

¹⁵ NOMINAL INPUT VOLTAGE, FULL LOAD.

MECHANICAL DIMENSIONS & RECOMMENDED FOOTPRINT DETAILS (1)

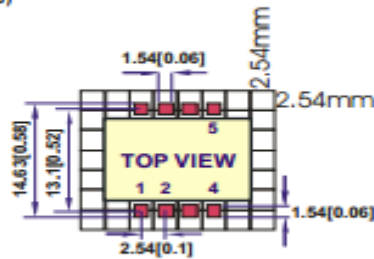
PACKAGE "A"



PIN	SINGLE
1	-Vin
2	+Vin
4	-Vout
5	+Vout

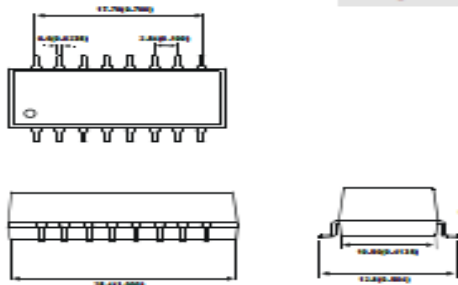
NOTE : All Dimensions In mm(Inches)
 1. Pin Size is 0.55mmx0.30mm[0.022x0.01"]
 2. Pin is Tolerance .XX= ±0.07mm
 3. Tolerance .X or .XX= ±0.5mm

Unit: mm(inch)+/-0.25(0.010)



MECHANICAL DIMENSIONS & RECOMMENDED FOOTPRINT DETAILS (2)

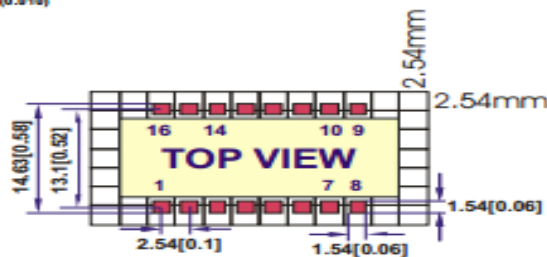
PACKAGE "B"



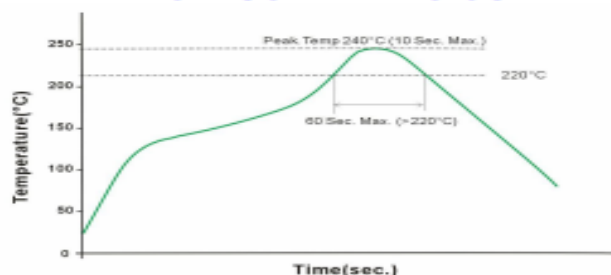
PIN	SINGLE
1	-Vin
3	+Vin
7	+Vout
8	-Vout

NOTE : All Dimensions In mm(Inches)
 1. Pin Size is 0.55x0.30mm[0.022x0.01"]
 2. Pin is Tolerance .XX= ±0.07mm
 3. Tolerance .X or .XX= ±0.5mm

Unit: mm(inch)+/-0.25(0.010)



REFLOW SOLDERING CURVE



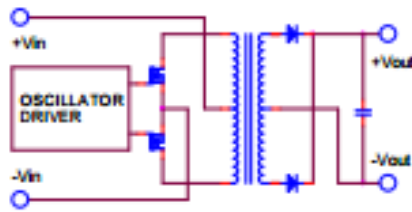
Remark: The curve applies only to the hot air reflow soldering.

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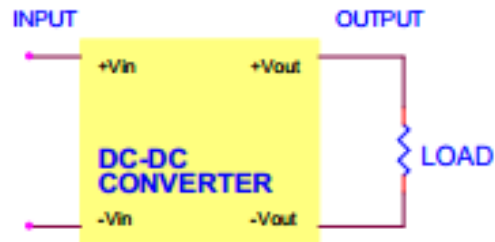
1W~2W UNREGULATED



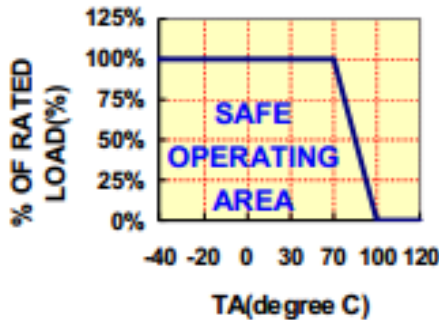
● SIMPLIFIED SCHEMATIC



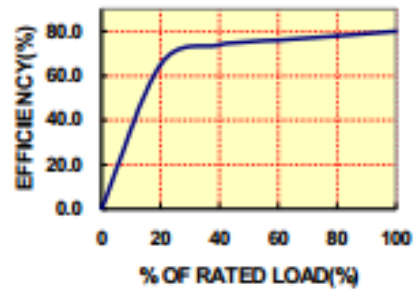
● TYPICAL APPLICATIONS



DERATING CURVES



EFFICIENCY VS LOAD



● INPUT FUSE SELECTION GUIDE(1) 1W 1000VDC ISOLATION

4.5-5.5V INPUT VOLTAGE(VDC)	10.8-13.2V INPUT VOLTAGE(VDC)	21.6-26.4V INPUT VOLTAGE(VDC)
750mA Slow-Blow Type	300mA Slow-Blow Type	150mA Slow-Blow Type

Note: Certain applications may require the installation of external fuse in front of the input.

● INPUT FUSE SELECTION GUIDE(2) 1.8W~2W 1000VDC ISOLATION

4.5-5.5V INPUT VOLTAGE(VDC)	10.8-13.2V INPUT VOLTAGE(VDC)	21.6-26.4V INPUT VOLTAGE(VDC)
1500mA Slow-Blow Type	600mA Slow-Blow Type	300mA Slow-Blow Type

Note: Certain applications may require the installation of external fuse in front of the input.