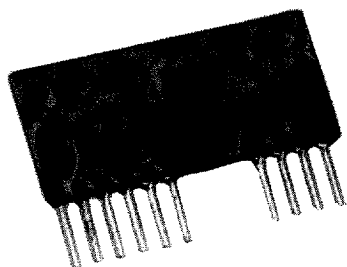


TAMURA SINGLE-IN-LINE DC to DC CONVERTERS**Polarity Reversing ■ Voltage Boosting ■ Voltage Decreasing ■ Direct Battery Input**

Tamura DC/DC converters provide board level DC power conversion eliminating costly regulator circuitry, additional off-board power supplies and avoid time consuming safety agency certification. Single output SIP models complement the main power supply by providing polarity reversing, voltage boosting, voltage decreasing and direct battery input.

**FEATURES**

- Input Volt: $\pm 20\%$; 5VDC, $\pm 10\%$; 24VDC, $\pm 30\%$.
- Output Volt: $\pm 1\%$; Econo/Battery, $\pm 5\%$.
- Line Reg: 0.8%; Econo, 1.2%; BAN/BAP.
- 5VDC, 2%; 12/15VDC, 1%.
- Load Reg: 1.5%, 30-100% FL.
- Efficiency: 60% to 72% typ.
- Temp. Coef: $\leq 0.03\%/^{\circ}\text{C}$;
5VDCout Econo, 0.05%/°C;
12VDCout Econo/Battery, 0.1%/°C.
- Operating Freq: 50-300kHz, FL to NL.
- Ripple/Noise: 60mV typ, $\leq 100\text{mV p-p}$.
- Operating Temp: -10°C to $+70^{\circ}\text{C}$, FL.
- Storage Temp: -30°C to $+85^{\circ}\text{C}$.
- Humidity: 95% RH.
- Case Mat'l: UL94 -V0 epoxy.
- Insul. Resistance: $\geq 50\text{M}\Omega$ at 500VDC.

TAMURA SINGLE-IN-LINE DC/DC CONVERTERS - SIP SERIES

MODEL No.	Vin (VDC)	Vout (VDC)	Iout (mA)	PRICE (qty)			
				1-9	10-24	25-99	100up

POLARITY REVERSING

NAN-0505	5	-5	20.0	\$12.00	\$10.80	\$10.20	\$9.00
NAN-0512	5	-12	8.5	12.00	10.80	10.30	9.00
NCN-0505	5	-5	60.0	12.80	11.50	10.90	9.60
NCN-0512	5	-12	25.0	12.80	11.50	10.90	9.60

VOLTAGE BOOSTING

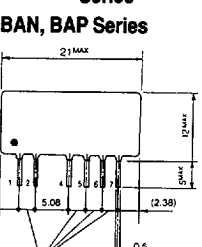
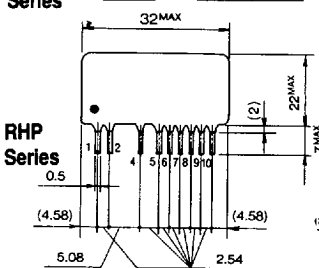
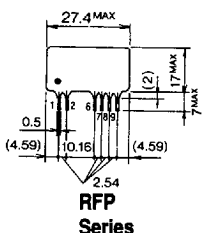
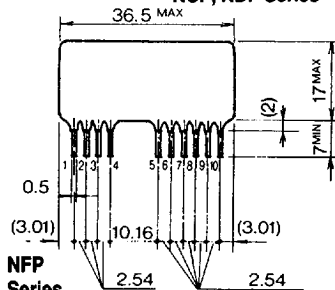
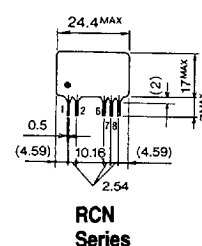
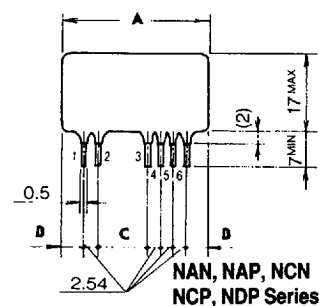
NAP-0512	5	12	8.4	12.00	10.80	10.20	9.00
NAP-0515	5	15	6.7	12.00	10.80	10.20	9.00
NAP-0524	5	24	4.2	12.00	10.80	10.20	9.00
NCP-0512	5	12	25.0	12.80	11.50	10.90	9.60
NCP-0515	5	15	20.0	12.80	11.50	10.90	9.60
NCP-0524	5	24	12.5	12.80	11.50	10.90	9.60
NDP-0512	5	12	42.0	13.70	12.30	11.60	10.30
NDP-0515	5	15	34.0	13.70	12.30	11.60	10.30
NDP-0524	5	24	21.0	13.70	12.30	11.60	10.30
NFP-0512	5	12	84.0	15.30	13.80	13.00	11.50
NFP-0515	5	15	67.0	15.30	13.80	13.00	11.50
NFP-0524	5	24	42.0	15.30	13.80	13.00	11.50

ECONOMY LINE

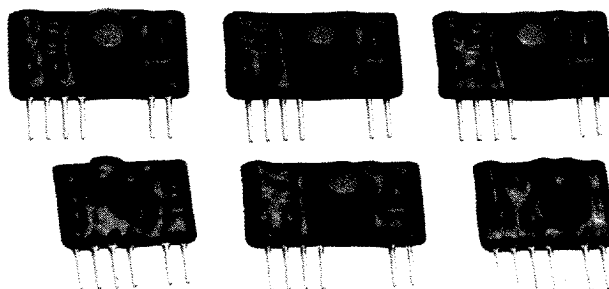
RCN-0505	5	-5	60.0	8.20	7.40	7.00	6.20
RCN-0512	5	-12	25.0	8.20	7.40	7.00	6.20
RCN-0515	5	-15	20.0	8.20	7.40	7.00	6.20
RCN-1205	12	-5	60.0	8.20	7.40	7.00	6.20
RCN-1212	12	-12	25.0	8.20	7.40	7.00	6.20
RFP-2405	24	5	200.0	8.40	7.60	7.10	6.30
RHP-2405	24	5	400.0	9.30	8.40	7.90	7.00

BATTERY INPUT

BAN-0205	1 $\leq$ 3.5	-5	10.00	11.10	10.00	9.40	8.30
BAN-0212	1 $\leq$ 3.5	-12	4.17	11.10	10.00	9.40	8.30
BAN-0215	1 $\leq$ 3.5	-15	3.33	11.10	10.00	9.40	8.30
BAP-0205	1 $\leq$ 3.5	5	10.00	11.10	10.00	9.40	8.30
BAP-0212	1 $\leq$ 3.5	12	4.17	11.10	10.00	9.40	8.30
BAP-0215	1 $\leq$ 3.5	15	3.33	11.10	10.00	9.40	8.30

MECHANICAL DIMENSIONS**SINGLE-IN-LINE DIMENSIONS**

SERIES PREFIX	DIMENSIONS (mm)			
	A (max)	B	C	WT (gm)
NAN, NAP	20.5	2.63	5.08	2.3
NCN, NCP	24.4	4.58	5.08	2.8
NDP	29.5	4.59	10.16	3.3
NFP	- See Diagram -			4.4
RCN	- See Diagram -			2.5
RFP	- See Diagram -			3.0
RHP	- See Diagram -			4.8
BAN, BAP	- See Diagram -			1.8

**CONTACT TAMURA for DETAILED DATA SHEETS. FAX: 909/676/9482 or CALL: (909) 699-1270**