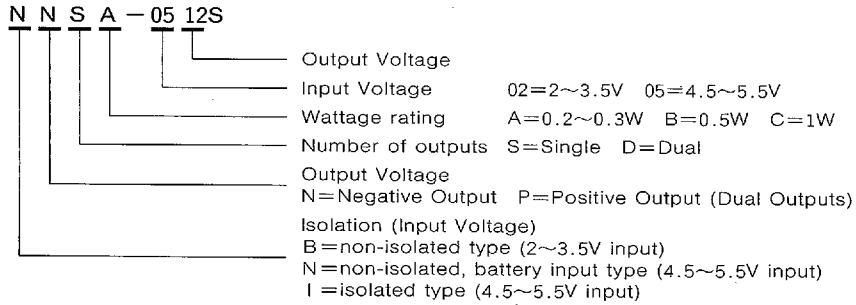


# SWITCHING POWER SUPPLY

## DC-DC CONVERTER/SIP SERIES

### ORDERING CODE



### FEATURES

- Wide-range of applications
- SIP configuration allows efficient use of board space
- Large selection is available
- Isolated types are available

### STANDARD SPECIFICATIONS

Operating temperature range: -10~+70°C  
 Storage temperature range: -20~+85°C  
 Humidity: MAX95% RH  
 Load regulation range: 25~100%  
 Isolation: 500VDC 1min  
 (applicable to isolated type)

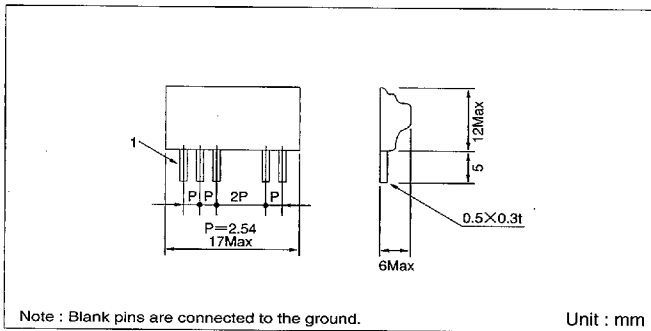
#### Handling Instructions

- For connection Ⓐ (non-isolated output type) converters, the load should not be short-circuited
- Please contact factory if load short-circuiting is required.

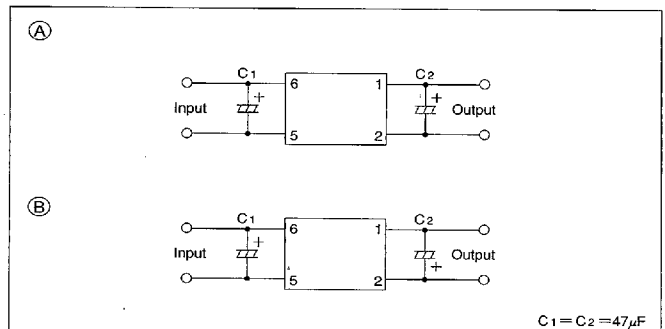
### BATTERY INPUT 0.2W NON-ISOLATED TYPE (BNSA-02□□S type)

Ordering code	Input voltage [Vdc]	Output voltage [Vdc]	Output current [A]	Line regulation [%] Typ	Load regulation [%] Typ	Temperature regulation [%/°C] Typ	Efficiency [%] Typ	Connection
BPSA-0205S	2~3.5	+5	0.04	±1.5	±1.5	0.1	50	Ⓐ
BNSA-0205S	2~3.5	-5						Ⓑ
BPSA-0212S	2~3.5	+12	0.02	±1.5	±1.5	0.03	50	Ⓐ
BNSA-0212S	2~3.5	-12						Ⓑ

### OUTSIDE DIMENSIONS



### CONNECTION



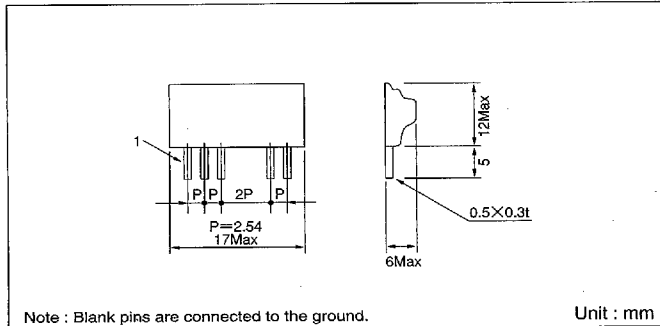
**SWITCHING POWER SUPPLY**

**DC-DC CONVERTER/SIP SERIES**

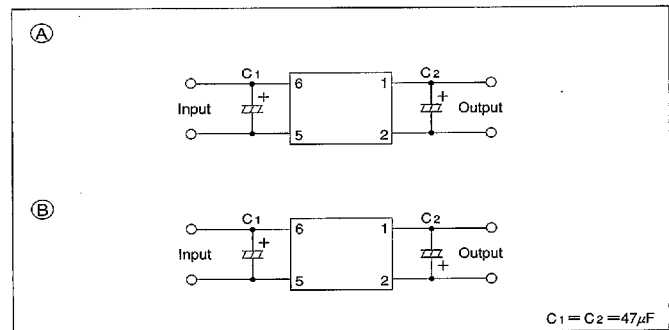
**+5V INPUT 0.3W NON-ISOLATED TYPE (B1SA-05□□S type)**

Ordering code	Input voltage [Vdc]	Output voltage [Vdc]	Output current [A]	Line regulation [%] Typ	Load regulation [%] Typ	Temperature stability [%/°C] Typ	Efficiency [%] Typ	Connection
NNSA-0505S	4.5~5.5	-5	0.06	±1	±1.5	0.1	60	Ⓑ
NPSA-0512S	4.5~5.5	+12	0.025	±1	±1.5	0.03	60	Ⓐ
NNSA-0512S	4.5~5.5	-12					60	Ⓑ
NPSA-0515S	4.5~5.5	+15	0.02	±1	±1.5	0.03	60	Ⓐ
NNSA-0515S	4.5~5.5	-15					60	Ⓑ

OUTSIDE DIMENSIONS



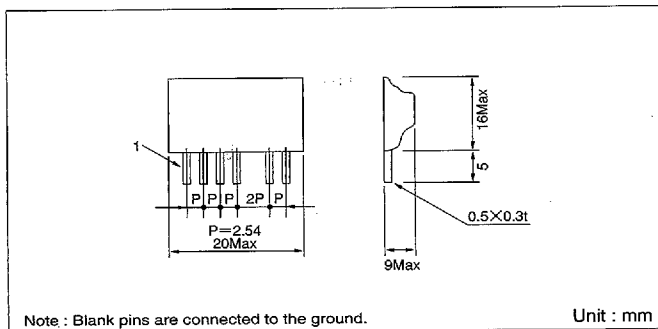
CONNECTION



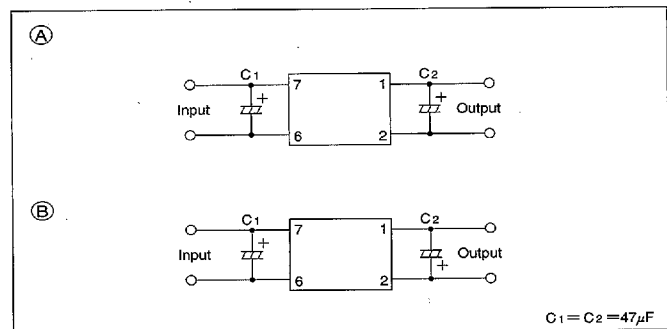
**+5V INPUT 0.5W NON-ISOLATED TYPE (B1SB-05□□S type)**

Ordering code	Input voltage [Vdc]	Output voltage [Vdc]	Output current [A]	Line regulation [%] Typ	Load regulation [%] Typ	Temperature stability [%/°C] Typ	Efficiency [%] Typ	Connection
NNSB-0505S	4.5~5.5	-5	0.1	±1	±1.5	0.1	60	Ⓑ
NPSB-0512S	4.5~5.5	+12	0.04	±1	±1.5	0.03	60	Ⓐ
NNSB-0512S	4.5~5.5	-12					60	Ⓑ
NPSB-0515S	4.5~5.5	+15	0.033	±1	±1.5	0.03	60	Ⓐ
NNSB-0515S	4.5~5.5	-15					60	Ⓑ
NPSB-0524S	4.5~5.5	+24	0.02	±1.5	±2	0.03	55	Ⓐ

OUTSIDE DIMENSIONS



CONNECTION



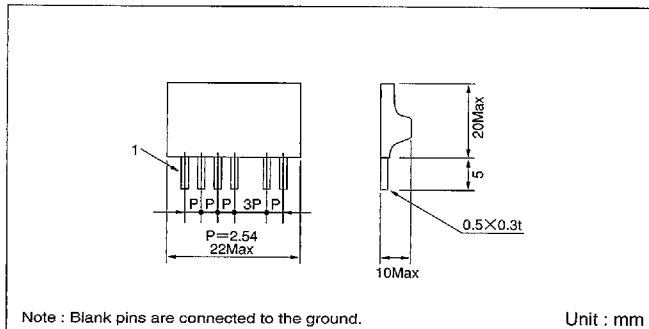
**SWITCHING POWER SUPPLY**

**DC-DC CONVERTER/SIP SERIES**

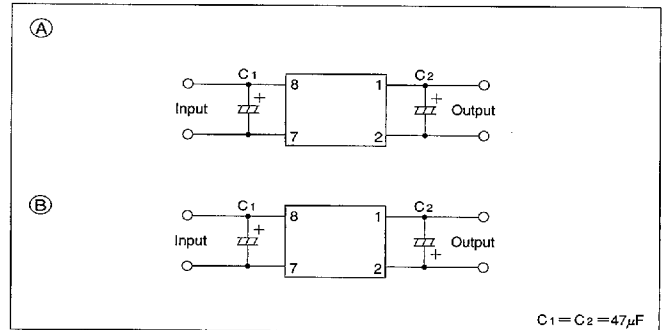
**+5V INPUT 1.0W NON-ISOLATED TYPE (NNSC-05□□S type)**

Ordering code	Input voltage [Voc]	Output voltage [Voc]	Output current [A]	Line regulation [%] Typ	Load regulation [%] Typ	Temperature regulation [%/°C] Typ	Efficiency [%] Typ	Connection
NNSC-0505S	4.5~5.5	-5	0.2	±1	±1.5	0.1	60	Ⓑ
NPSC-0512S	4.5~5.5	+12	0.08	±1	±1.5	0.03	60	Ⓐ
NNSC-0512S	4.5~5.5	-12						Ⓑ
NPSC-0515S	4.5~5.5	+15	0.067	±1	±1.5	0.03	60	Ⓐ
NNSC-0515S	4.5~5.5	-15					Ⓑ	
NPSC-0524S	4.5~5.5	+24	0.04	±1.5	±2	0.03	55	Ⓐ

OUTSIDE DIMENSIONS



CONNECTION



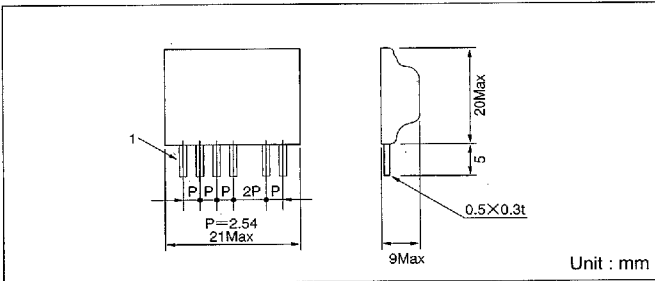
**SWITCHING POWER SUPPLY**

**DC-DC CONVERTER/ISOLATED SIP SERIES**

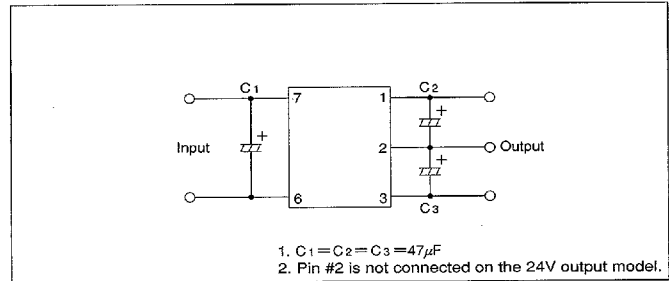
**+5V INPUT 0.3W ISOLATED TYPE (IPDA-05□□S type)**

Ordering code	Input voltage [V <sub>DC</sub> ]	Output voltage [V <sub>DC</sub> ]	Output current [A]	Line regulation [%] Typ	Load regulation [%] Typ	Temperature regulation [%/°C] Typ	Efficiency [%] Typ
IPDA-0512S	4.5~5.5	±12	0.0125	±1.5	±2.5	0.03	60
IPDA-0515S	4.5~5.5	±15	0.01				
IPSA-0524S	4.5~5.5	+24	0.0125				

OUTSIDE DIMENSIONS



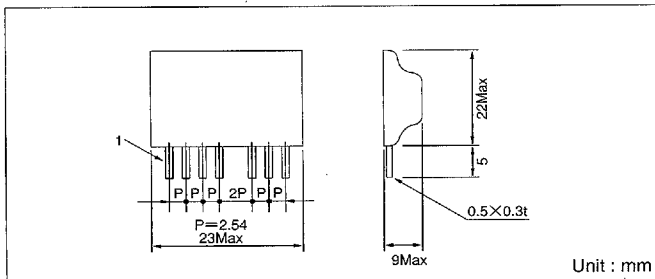
CONNECTION



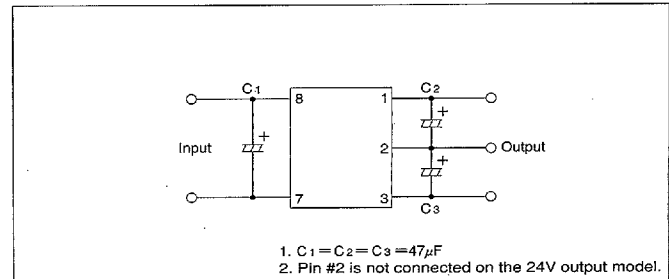
**+5V INPUT 0.5W ISOLATED TYPE (IPDB-05□□S type)**

Ordering code	Input voltage [V <sub>DC</sub> ]	Output voltage [V <sub>DC</sub> ]	Output current [A]	Line regulation [%] Typ	Load regulation [%] Typ	Temperature regulation [%/°C] Typ	Efficiency [%] Typ
IPDB-0512S	4.5~5.5	±12	0.021	±1.5	±2.5	0.03	60
IPDB-0515S	4.5~5.5	±15	0.017				
IPSB-0524S	4.5~5.5	+24	0.021	±2	±2.5	0.03	60

OUTSIDE DIMENSIONS



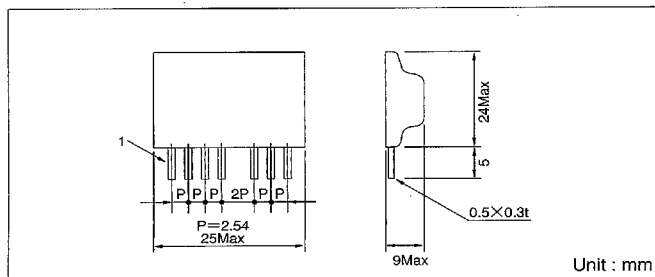
CONNECTION



**+5V INPUT 1.0W ISOLATED TYPE (IPDC-05□□S type)**

Ordering code	Input voltage [V <sub>DC</sub> ]	Output voltage [V <sub>DC</sub> ]	Output current [A]	Line regulation [%] Typ	Load regulation [%] Typ	Temperature regulation [%/°C] Typ	Efficiency [%] Typ
IPDC-0512S	4.5~5.5	±12	0.042	±1.5	±2.5	0.03	60
IPDC-0515S	4.5~5.5	±15	0.034				
IPSC-0524S	4.5~5.5	+24	0.042	±2	±2.5	0.03	60

OUTSIDE DIMENSIONS



CONNECTION

