



INS-B Series of up to 33 Watt DC/DC Converters

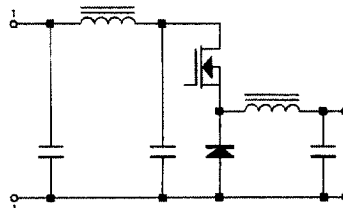


STANDARD NON-ISOLATED DC/DC CONVERTERS WITH SINGLE REGULATED OUTPUTS.
ALL MODELS FEATURE A NICKEL-PLATED COPPER CASE WITH SIX-SIDED SHIELDING.



DIMENSIONS:
1.00" x 2.00" x 0.52"
(25.40) x (50.80) x (13.21)mm

BLOCK DIAGRAM



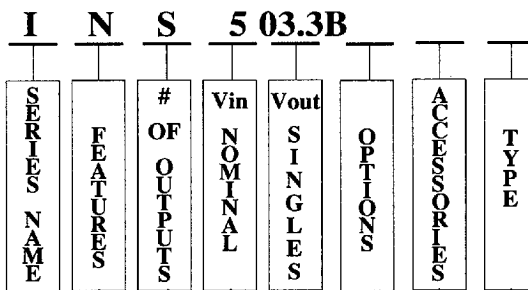
FEATURES

- Up to 85% Efficiency
- Current Mode Control
- Continuous Short Circuit Protection

APPLICATIONS

- +3.3 V Logic
- Microprocessor
- BUS Termination
- GTL

PART NUMBER SELECTION GUIDE



Features
• Not Galvanically Isolated

of Outputs
S = SINGLE

Input Voltage Range (VDC)
5 = 4.65 to 5.50

For Other Input Voltage Ranges Please Consult Factory

Output Voltage (VDC)

01.2B = 1.2V @ 10A

01.5B = 1.5V @ 10A

02.1B = 2.1V @ 10A

03.3B = 3.3V @ 10A

All units require B Suffix

For Other Output Voltages Please Consult Factory

Options

S(#) = Modification Number
I = Industrial Temperature Range (-40°C to +85°C)
Z = Water-washable sealed case

Accessories / Type

HS = Heatsink

Type: I *Please Consult Accessories Page for Mating Socket Selection.*

48

INTERNATIONAL POWER DEVICES, INC.

20 Linden Street, Boston, MA 02134 • Phone: (617)782-3331 • Fax: (617)782-7416



4853809 0000322 0T4



INS-B Series of 33 Watt DC/DC Converters



PARAMETER	MIN	TYP	MAX	UNITS	CONDITIONS	NOTES
GENERAL:						
Switching Frequency	315	350	385	KHz		1. No derating required up to a maximum case temperature of 85°C. See efficiency and thermal impedance data provided. Internal Power dissipation = $P_{out} * (1 - \text{Eff}) / \text{Eff}$.
Isolation Voltage						
Input to Output	---			VDC	Non-Isolated	
Input to Case	---			VDC	Non-Isolated	
Output to Case	---			VDC	Non-Isolated	
Isolation Resistance						2. Provided for input fuse selection.
Input to Output	---			Ohms	Non-Isolated	
Short Circuit Protection					Note 3	
ENVIRONMENTAL:						
Operating Temperature	0		85	°C	Baseplate, Note 1	
Storage Temperature	-40		125	°C	Ambient	3. Continuous short circuit protection is provided. Long term continuous operation in this mode is not recommended. Converter will auto-restart once short has been removed.
Operating Humidity			95%		Non-Condensing	
Storage Humidity			95%		Non-Condensing	
INPUT:						
Input Voltage						
5 Vin	4.65	5.00	5.50	VDC		4. Case is connected to Output Common pin.
Input Current						
5 Vin			8.35	Amps	Note 2	
Input Ripple Current			20%	Iin max		
Reverse Input Current			100%	Iin max		
OUTPUT:						
Voltage Accuracy			±1.00%	Vout	Full Load	
Load Regulation			±1.00%	Vout	10% to 100%	
Line Regulation			±1.00%	Vout	LL to HL	
Current Limit			130%	Iout	Note 3	
Temp. Coefficient			±0.02%	/°C		
Voltage Stability			±0.05%	Vout		p-p, 20 MHz BW
Ripple and Noise			33	mV		
Transient Response						
25% step			500	µS	1% Error Band	
load change						

* All specifications typical at +25°C Nominal Line and Full Load unless otherwise noted.

* Specifications subject to change without notice.



INTERNATIONAL POWER DEVICES, INC.

20 Linden Street, Boston, MA 02134 • Phone: (617)782-3331 • Fax: (617)782-7416



4853809 0000323 T30



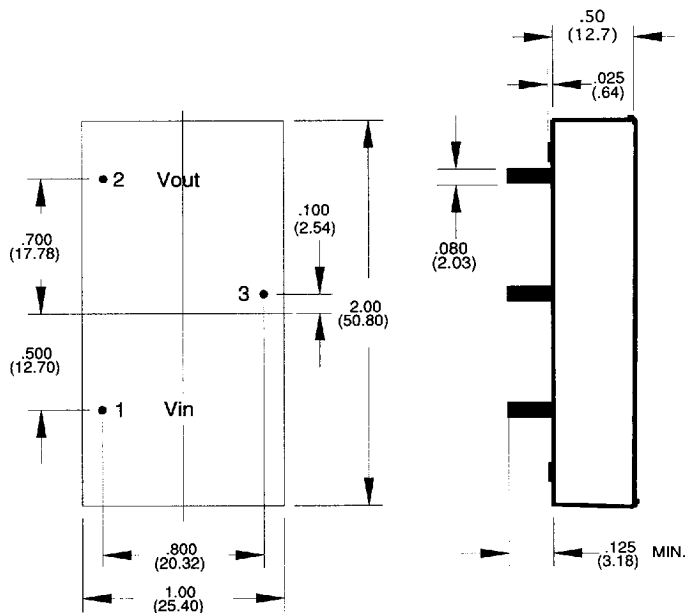
INS-B Series of 33 Watt DC/DC Converters



Notes:

BOTTOM VIEW

Mechanical tolerances are ± 0.040 "



Specifications are subject to change without notice.

All Dimensions are in inches (MM)



INTERNATIONAL POWER DEVICES, INC.
20 Linden Street, Boston, MA 02134 • Phone: (617)782-3331 • Fax: (617)782-7416



■ 4853809 0000324 977 ■



INS-B Series of 33 Watt DC/DC Converters



PIN CONNECTIONS

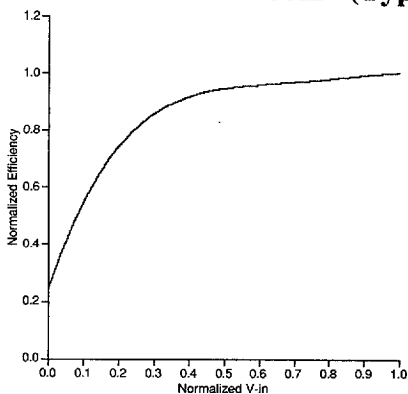
PIN #	SINGLE
1	Vin
2	Vout
3	Common

THERMAL IMPEDANCE

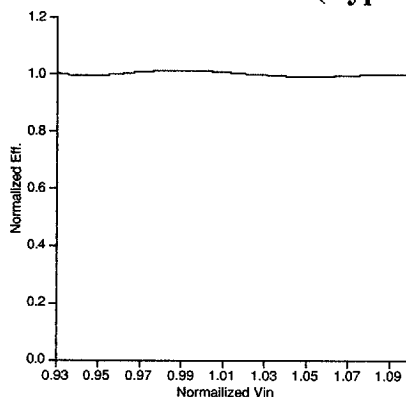
	Typical R θ CA
NATURAL CONVECTION	22°C/W
100 LFPM	18°C/W
200 LFPM	11°C/W
300 LFPM	8.9°C/W
400 LFPM	6.8°C/W

Thermal Impedance data depends upon many environmental factors and may vary from application to application. The numbers provided are intended as a guide. The exact thermal performance should be validated in each application.

EFFICIENCY vs. LOAD (Typical)



EFFICIENCY vs. Vin (Typical)



Notes: _____



INTERNATIONAL POWER DEVICES, INC.
20 Linden Street, Boston, MA 02134 • Phone: (617)782-3331 • Fax: (617)782-7416



■ 4853809 0000325 803 ■