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i6AN Series

75W, 9 to 40V Input Non-Isolated DC-DC Buck Converter with Negative Output

https://product.tdk.com/en/power/i6a
www.emea.lambda.tdk.com/i6a



Industrial COTS Test COMM Broadcast Robotics

The i6A -Nxx series is part of the i6A family of non-isolated DC-DC converters designed to provide a negative output. It is ideal for creating additional negative output voltage rails from a single output 12V or 24V AC-DC or DC-DC power supply. The highly efficient i6A-Nxx series accepts a wide positive DC input and has a wide negative output adjustment range from -3.3V to -30V. It comes with negative or positive logic remote On-Off, remote sense and output trim in a compact 1/16th brick package.

Features	Benefits
• Up to 75W in a 1/16th Brick Pin-Out	• High Power Density, Less Board Area Needed
• Efficiency - Up to 94%	• Longer Battery Life / Less Power Consumed
• Wide -3.3 to -30 V Output Adjustment	• One Part Supports Multiple System Voltages
• Wide 9 to 40V Input Range	• Can Operate From Different DC Source Voltages
• Low Component Count With Minimal External Components	• Low Cost

Model Selector

Model	Input Voltage (V)	Output Voltage (V)	Max Current (A)	Max Power (W)	Negative Logic On/Off	Positive Logic On/Off
i6A24008A033V-N00-R	9 - 40	-3.3 to - 30	8	75	-	Yes
i6A24008A033V-N01-R	9 - 40	-3.3 to - 30	8	75	Yes	-

Preferred model

Related Products

Type	Part Number	Description
DC-DC Buck Converter	i3A	100W, Input 9-53V, Output 5-30V 4.5A or 3.3-16.5V 8A
DC-DC Buck Converter	i6A4W	250W, Input 9-53V, Output 3.3-40V 10A or 3.3-15V 20A
DC-DC Buck Converter	i6A24	250W, Input 9-40V, Output 3.3-24V 14A
DC-DC Buck Converter	i7A	500-750W, Input 18-60V or 18-32V, Output 3.3-24V 33A or 3.3-18V 45A
DC-DC Buck-Boost Converter	i7C	300W, Input 9-53V or 9-36V, Output 9.6-48V 8A, 5-28V 12.5A or 8-24V 20A
Evaluation Kit	i6A14A-001-EVK-D2PN	Evaluation kit with i6A24014A033V-001-R and i6A24008A033V-N01-R modules

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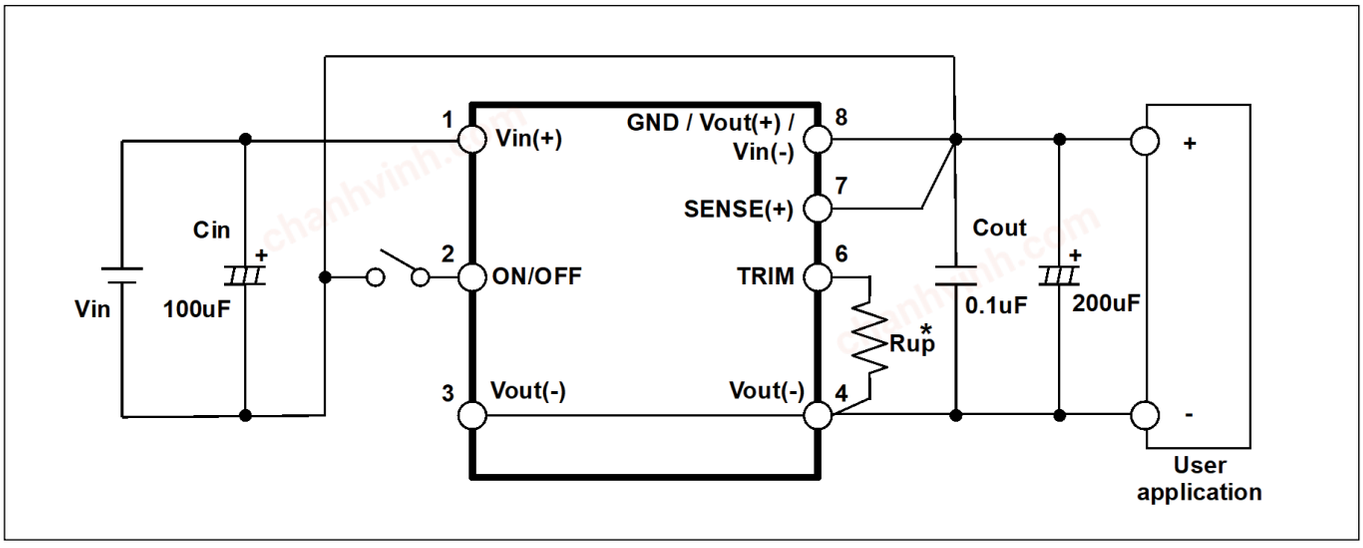
Specification

Model		i6A24008A033V-Nxx-R
Input		
Input Voltage Range	Vdc	9 - 40
Input Current (max)	A	15
Turn-ON Input Voltage	Vdc	8
Turn-OFF Input Voltage	Vdc	7 - 9
Efficiency	%	90 - 94
Safety Certifications and Markings	-	IEC/UL/CSA/EN 62368-1, 60950-1, CE Mark and UKCA Mark
Output		
Output Voltage Tolerance	%	± 4
Line Regulation	%	0.5
Load Regulation	%	0.6
External Load Capacitance	uF	200 - 1600
Ripple & Noise	mVpp	20
Switching Frequency	kHz	400
Overcurrent Protection Threshold (typ)	A	15
Overtemperature Protection	-	Yes
Output Voltage Adjustment Range	-	-3.3 to - 30 See product specifications for output trim equation
Remote Sense	-	(+) Sense, compensating up to 5% of output voltage
Remote On/Off	-	Negative or Positive Logic
Environmental		
Operating Temperature (Tref)	°C	-40 to 125
Storage Temperature	°C	-55 to 125
Humidity (non condensing)	%RH	5 - 95 (Operating & Storgae)
Cooling	-	Convection or forced air
Other		
Weight (Typ)	g	15
Size (LxWxH)	mm	33.0 x 22.9 x 12.1
Size (LxWxH)	Inches	1.30 x 0.90 x 0.47
MTBF - Telcordia SR-332	-	> 10 MHrs; 100% Load; Ta = 40 °C
Warranty	yrs	3 years

Notes
See website for detailed product specifications.

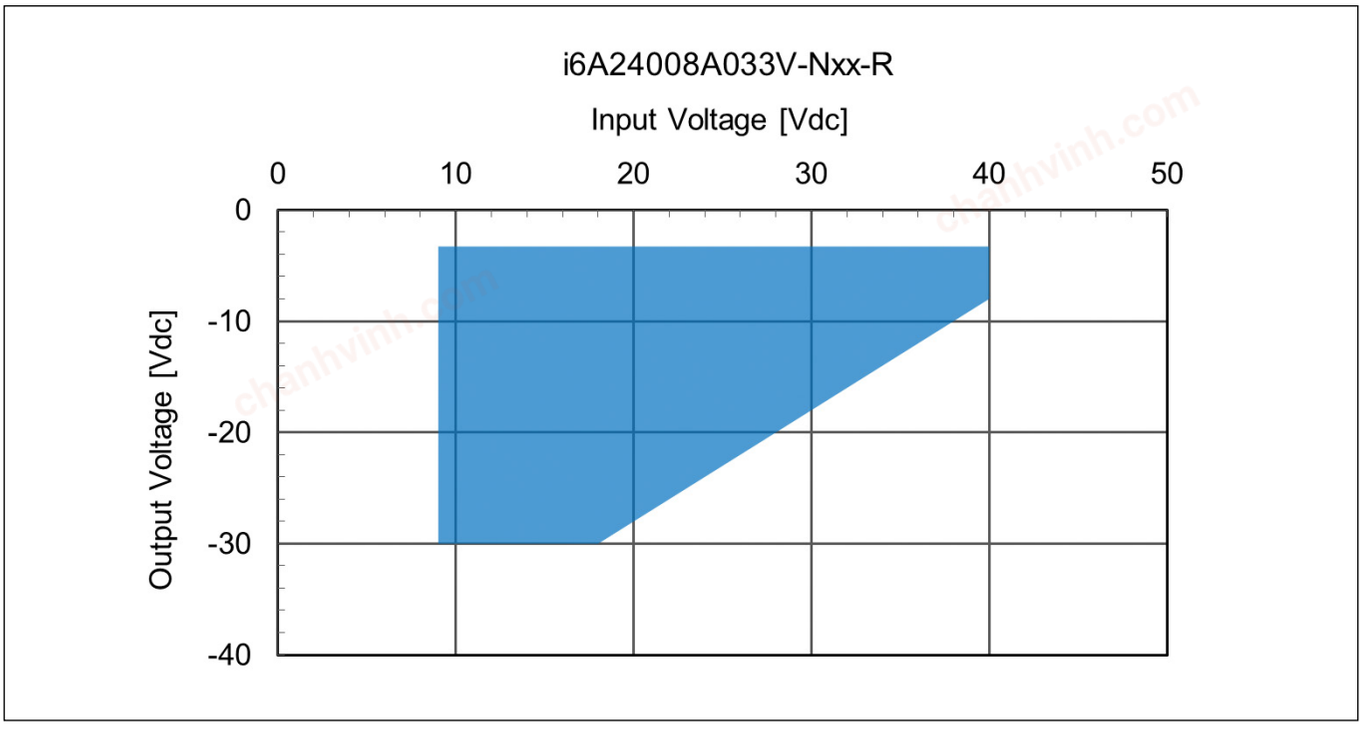
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Typical Application Circuit (i6AN)



Recommendation:
1. TRIM resistor Rup should be connected to the i6AN module as close as possible.

Operating Range



Pinout

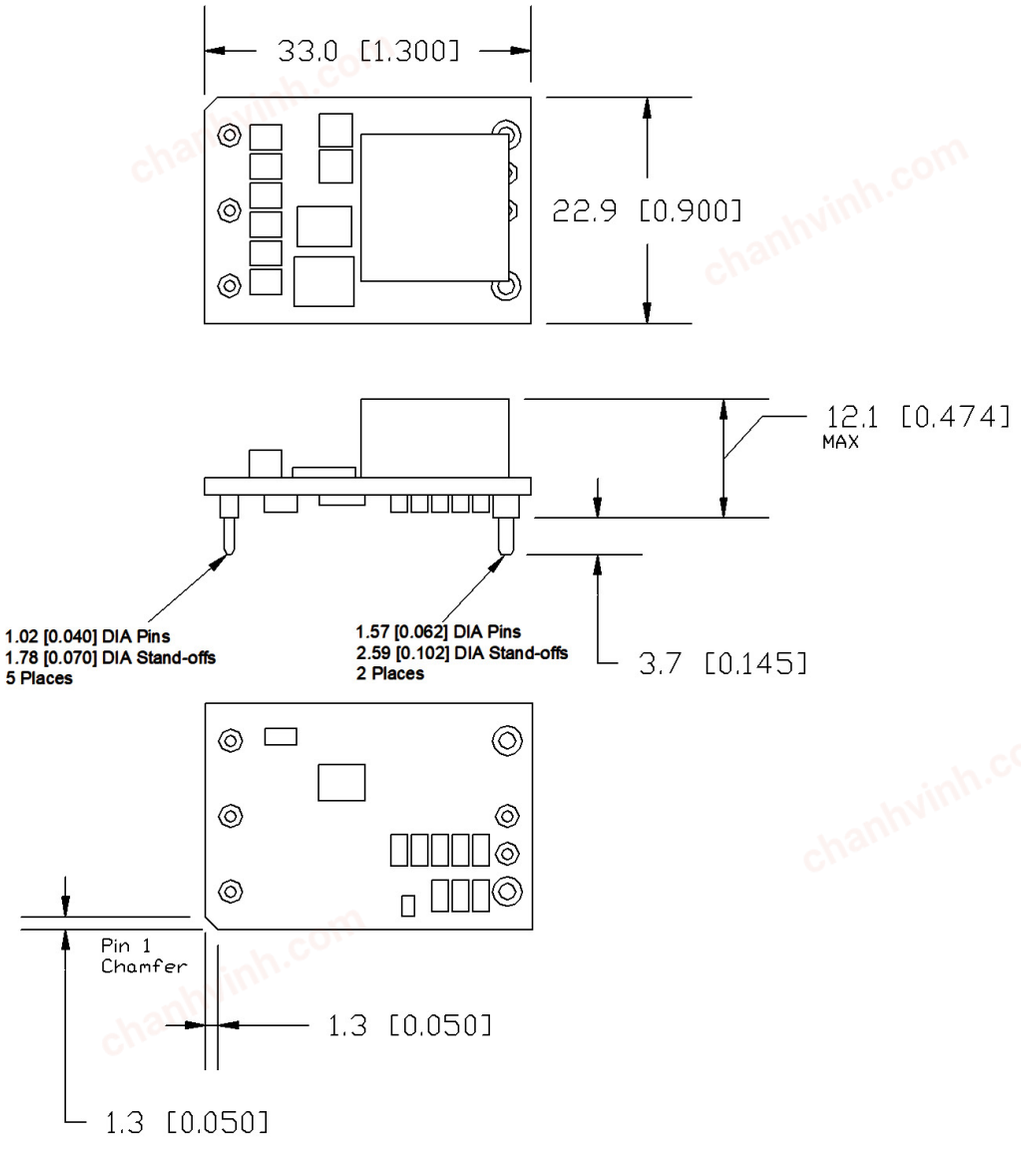
PIN	Function	PIN	Function
1	VIN (+)	6	TRIM
2	ON / OFF	7	VOUT (+)
3	VOUT (-)	8	GND / VOUT(+) / VIN(-)
4	VOUT (-)		

Pin base material is brass or copper with gold over nickel plating.

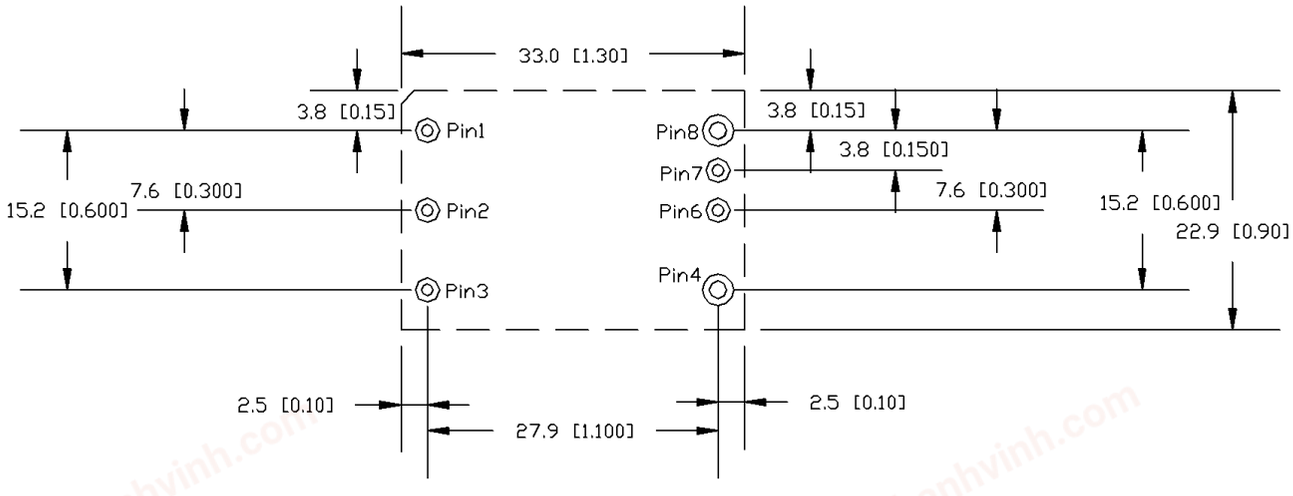
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Mechanical Specification

Dimensions are in mm [in]. Unless otherwise specified tolerances are: x.x ±0.5 [0.02], x.xx ±0.25 [0.010]



Recommended Hole Pattern (top view)



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