

DC to DC Converters

Conformity to RoHS Directive

Distributed Power Supplies for Systems, Non-insulation Type

POL Converters iAA/iBA Series

Power supply systems for infrastructure devices used in communication networks primarily are expected to provide multi output, low output voltage, higher efficiencies, and lower noise levels. To meet these demands, the lineup did non-insulation type POL (Point of Load) converter.



FEATURES

- Input voltage range (DC.3 to 5.5V)
- The output voltage is changeable types of 0.75 to 3.63V.
- Heat sink is not required.
- High efficiency: 93 to 95%
- Remote ON-OFF function
- Output voltage external variable function
- Various protective functions
- It is a product conforming to RoHS directive.

PRODUCT IDENTIFICATION

iAA	05	015A	033V	-○○○
(1)	(2)	(3)	(4)	(5)

- (1) Type name
Point of Load-brick type
iAA, iBA
- (2) Rated input voltage
- (3) Output current
- (4) Output voltage
- (5) Option code
000:Standard[Positive on/off logic]

PART NUMBERS AND RATINGS

Output voltage(V)	Current(A)	Part No.
0.75 to 3.63	15	iAA05015A008V
0.75 to 3.63	8	iBA05008A008V

• Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.

• All specifications are subject to change without notice.

iAA/iBA Series

SPECIFICATIONS AND STANDARDS

Part No.		iAA05015A008V	iBA05008A008V	
Rated output voltage and current*1		0.75 to 3.63V • 15A	0.75 to 3.63V • 8A	
Maximum output power	W	49.5	26.4	
Input conditions				
Input voltage E _{dc}	V	3 to 5.5[Continuation]	3 to 5.5[Continuation]	
Transient input voltage	V	6[10ms]	6[10ms]	
Input current	A	16max.	8.5max.	
Efficiency	%	94typ.	94typ.	
Output characteristics				
Voltage adjustment range	%	0.75 to 3.63	0.75 to 3.63	
Maximum output current	A	15	8	
Minimum output current	A	0.02	0.02	
Output voltage initial setting	%	±1.6max.	±1.6max.	
Overcurrent protection	A	35typ.	17typ.	
Voltage stability	Line regulation	mV	5max.(2typ.)	5max.(1typ.)
	Load regulation	mV	10max.(3typ.)	10max.(1typ.)
	Temperature regulation	mV	50max.(15typ.)	50max.(15typ.)
	Dynamic response*2	mV	±185typ.	±200typ.
Ripple noise E _{p-p}	mV	75max.	75max.	
Start up time*3	ms	14	14	
Rise time*4	ms	10	10	
Auxiliary functions				
Overvoltage protection		No		
Overcurrent protection		Yes(Automatic recovery)		
Alarm output		No		
Over-temperature protection		Yes(Automatic recovery)		
Remote ON-OFF		Yes		
Remote sensing		Yes(Only +)	No	
Parallel operation		Impossible		
Output voltage adjustment		Yes		
Master slave operation		No		
Standards				
Safety standards		UL60950 and VDE0805 approved. EN60950 approved.		
Constructions				
External dimensions	mm	8.5× 13.5× 33.02[H× W× L]	8.4× 11.4× 20.3[H× W× L]	
Weight	g	12	7	
Mounting method		Surface mounting method		
Oscillating method		Fixed frequency		
Oscillating frequency	kHz	300	300	

*1 Verify the rated current (maximum output current) because this involves derating.

*2 Output voltage: 3.3V

*3 Load step from 50 to 100% of I_o max. with at least one 0.1μF and 47μF ceramic capacitors across the output terminals.

*4 Time to reaching to 90% by output voltage after input applies (t: V_{in}=0 to V_{out}=0.9V_o, nom. T_c=25°C, I_o=I_o, max.)

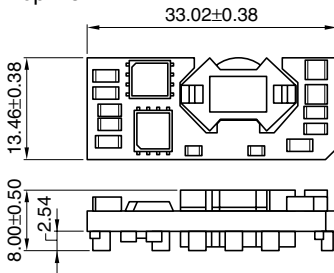
*5 Time to reaching to 10 to 90% by output voltage (t: C_o=0.1 to 0.9 V_o, nom.)

iAA/iBA Series

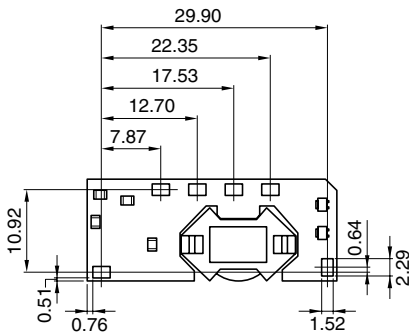
iAA TYPE

SHAPES AND DIMENSIONS

Top view

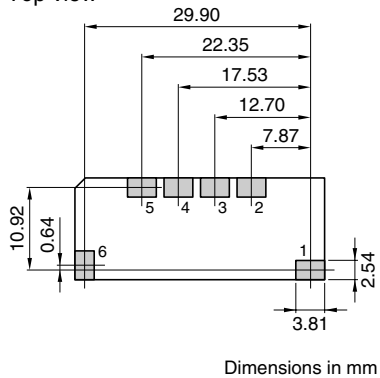


Bottom view



TERMINAL DESIGNATIONS AND FUNCTIONS

Top view



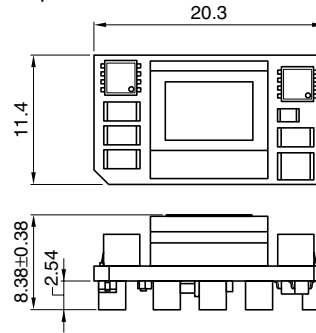
Dimensions in mm

1	Vin
2	GND
3	Vout
4	Trim
5	Sense
6	ON/OFF

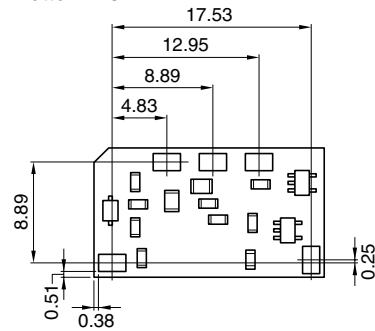
iBA TYPE

SHAPES AND DIMENSIONS

Top view

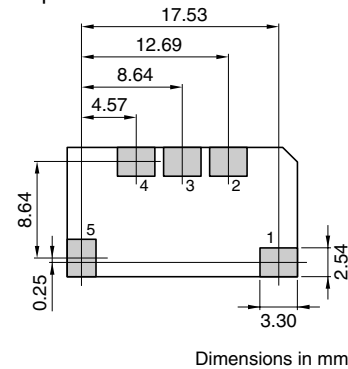


Bottom view



TERMINAL DESIGNATIONS AND FUNCTIONS

Top view



Dimensions in mm

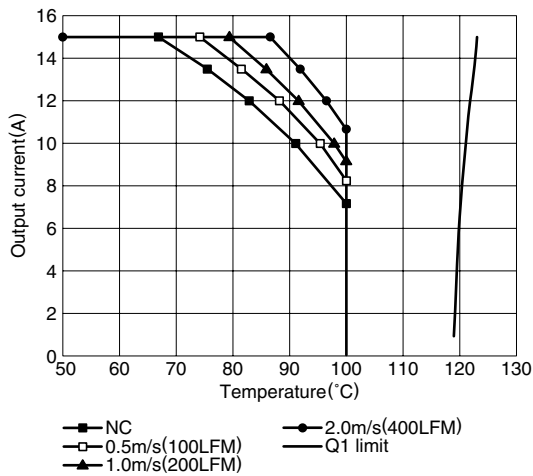
1	Vin
2	GND
3	Trim
4	Vout
5	ON/OFF

Characteristics, Functions, and Applications

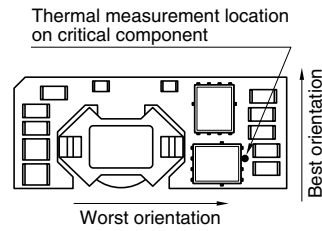
OUTPUT POWER-AMBIENT TEMPERATURE (DERATING)

MAXIMUM OUTPUT CURRENT vs. AMBIENT TEMPERATURE(T_a)

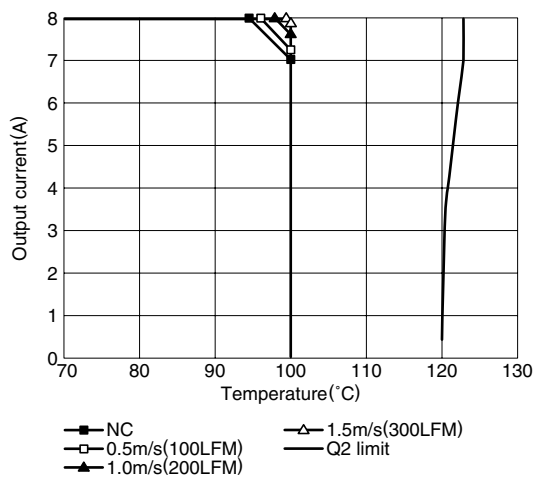
iAA05015A008V($V_{in}=5V$, $V_{out}=3.3V$)



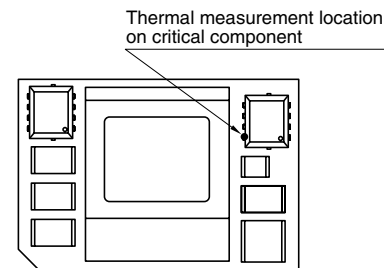
T_c TEMPERATURE MEASUREMENT POINT AND WIND DIRECTION



iBA05008A008V



T_c TEMPERATURE MEASUREMENT POINT



COMMON SPECIFICATIONS

Temperature and humidity		
Temperature range	Operating(°C)	-40 to +125 [Temperature at the measurement point in the above drawing]
	Storage(°C)	
Humidity range	Operating(%)RH	10 to 85[Without dewing]
	Storage(%)RH	
Vibration and shock		
Vibration	5 to 50Hz	Acceleration: 0.5G
	50 to 500Hz	Acceleration: 1.5G
Shock	Acceleration	50G[Half sine wave, 3 directions]
	Pulse duration	6ms