DC to DC Converters
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 to5.5V)
- The output voltage is a fixed type of 3.3V and 2.5V, and 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

PRODUCT IDENTIFICATION

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

(1) Type name
Point of Load-brick type
iAA: 33×13.5mm
iBA: 20×11mm
(2) Rated input voltage
(3) Output current
(4) Output voltage
(5) Option code
00: Standard（Positive on/off logic）
01: Negative on/off logic

PART NUMBERS AND RATINGS

Output voltage(V)	Current(A)	Part No.
3.3	15	iAA05015A033V
2.5	15	iAA05015A025V
0.75 to 3.63	15	iAA05015A008V
0.75 to 3.63	8	iBA05008A008V

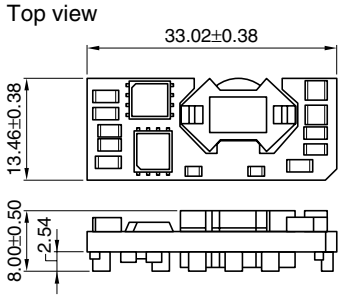
SPECIFICATIONS AND STANDARDS

Part No.			iAA05015A033V	iAA05015A025V	iAA05015A008V	iBA05008A008V
Rated output voltage and current*1			3.3V • 15A	2.5V • 15A	0.75 to 3.63V • 15A	0.75 to 3.63V • 8A
Maximum output power		W	50	37.5	54.5	54.5
Input conditions						
Input voltage Edc		V	3 to 5.5[Continuation]	3 to 5.5[Continuation]	3 to 5.5[Continuation]	3 to 5.5[Continuation]
Transient input voltage		V	6[100ms]	6[100ms]	6[100ms]	6[100ms]
Input current		A	16max.	16max.	16max.	8max.
Efficiency		%	89typ.	88typ.	86typ.	82typ.
Output characteristics						
Output voltage Edc		V	3.3	2.5	0.75 to 3.63	0.75 to 3.63
Voltage adjustment range		%	±10	±10	—	—
Maximum output current		A	15	15	15	8
Minimum output current		A	0	0	0.02	0.02
Output voltage initial setting		%	±2max.	±2max.	±2max.	±2max.
Overcurrent protection		A	35typ.	35typ.	35typ.	17typ.
Voltage stability	Line regulation	mV	5max.(2typ.)	5max.(2typ.)	5max.(2typ.)	5max.(1typ.)
	Load regulation	mV	10max.(3typ.)	10max.(3typ.)	10max.(3typ.)	10max.(1typ.)
	Temperature regulation	mV	60max.(15typ.)	60max.(15typ.)	60max.(15typ.)	60max.(15typ.)
	Dynamic response*2	mV	±185typ.	±185typ.	±185typ.	±200typ.
Ripple noise Ep-p		mV	75max.	75max.	75max.	75max.
Start up time*3		ms	14	14	14	14
Rise time*4		ms	10	10	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 +)			
Parallel operation			Impossible			
Output voltage adjustment			Yes			
Master slave operation			No			
Standards						
Safety standards			UL60950 and VDE0805 approved. EN60950 approved.			
Constructions						
External dimensions		mm	8.0×13.5×33.2 [H×W×L]			8.4×11.4×20.3 [H×W×L]
Weight		g	12	12	12	7
Mounting method			Surface mounting method			
Oscillating method			Fixed frequency			
Oscillating frequency		kHz	350	400	350	350

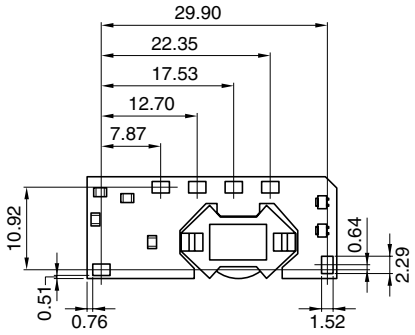
*1 Verify the rated current (maximum output current) because this involves derating.
*2 Load step from 50 to 100% of Io max. with at least one 0.1μF and 47μF ceramic capacitors across the output terminals.
*3 Time to reaching to 90% by output voltage after input applies (t: Vin=0 to Vout=0.9Vo, nom. Tc=25°C, Io=Io, max.)
*4 Time to reaching to 10 to 90% by output voltage (t: Co=0.1 to 0.9 Vo, nom.)

iAA TYPE
SHAPES AND DIMENSIONS

Top view

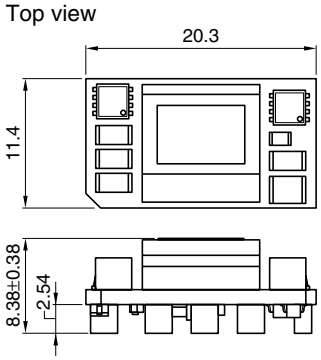


Bottom view

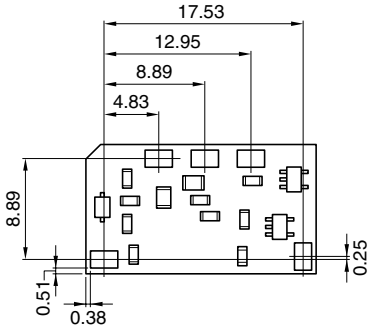


iBA TYPE
SHAPES AND DIMENSIONS

Top view

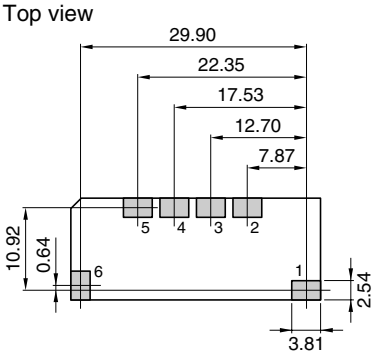


Bottom view



TERMINAL DESIGNATIONS AND FUNCTIONS

Top view

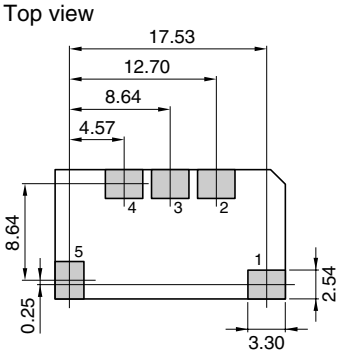


Dimensions in mm

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

TERMINAL DESIGNATIONS AND FUNCTIONS

Top view



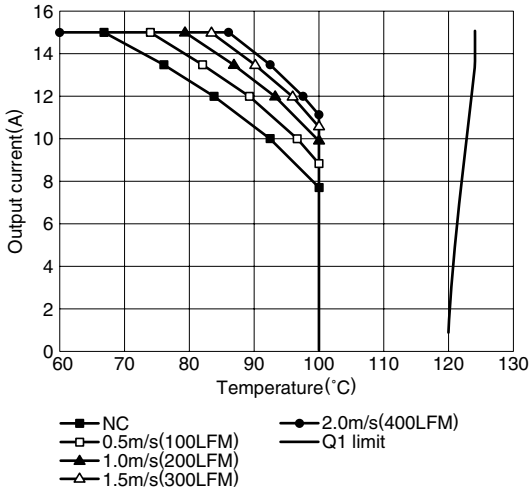
Dimensions in mm

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

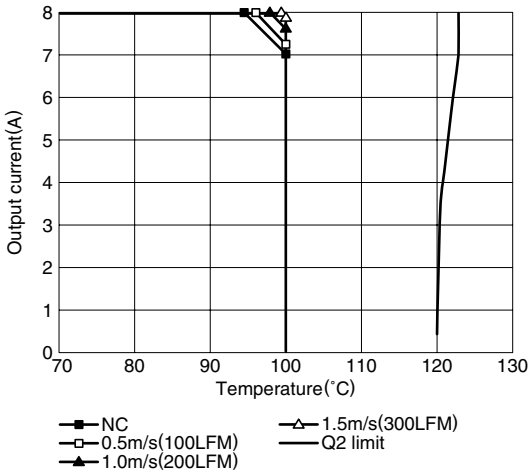
OUTPUT POWER-AMBIENT TEMPERATURE (DERATING)

MAXIMUM OUTPUT CURRENT vs. AMBIENT TEMPERATURE(Ta)

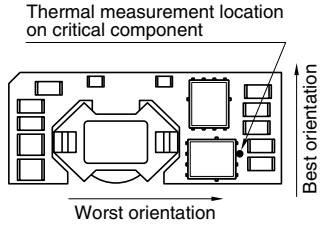
iAA05015A033V



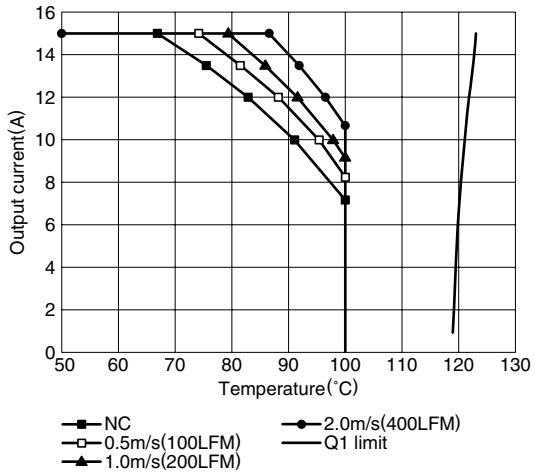
iAA05015A008V



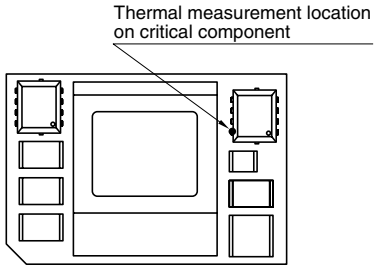
Tc TEMPERATURE MEASUREMENT POINT AND WIND DIRECTION



iBA05008A008V



Tc TEMPERATURE MEASUREMENT POINT



COMMON SPECIFICATIONS

Temperature and humidity		
Temperature range	Operating(°C)	–40 to +117 [Temperature at the measurement point in the above drawing]
	Storage(°C)	–55 to +125[Ambient temperature of the power supply]
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