

**MESSRS :**

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## Comparison with the Specifications

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**CUSTOMER'S PRODUCT NAME :**

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**TDK PRODUCT NAME : DC/AC INVERTER UNIT CXA-0535**

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**TDK-Lambda Corporation**

PREPARED BY	APPROVED BY	AUTHORIZED BY
<i>Apr. 28, 2010 N.Suzuki</i>	<i>Apr. 28, 2010 K.Yamaishi</i>	<i>Apr. 28, 2010 H.Masuoka</i>

DWG. No.

CTR-3912-X

## The difference between CXA-0384 and CXA-0535

<Product Description>

Compared with CXA-0384 to CXA-0535 , we will expand the operating temperature range , improve the start up characteristic at low temperature and protect circuit.

We have changed the fuse rating for lamp impedance at the low temperature .

### 1. Outline , Connector

		<b>CXA-0384</b>	<b>CXA-0535</b>
Outline	(mm)	50X150X8.5	←
Input Conector		S7B-PH-SM4-TB(LF)(SN)	←
Output Conector		SM02B-BHSS-1-TB(LF)(SN) SM02(4.0)B-BHS-1-TB(LF)(SN)	←
Mounting hole location		— — —	←
Mounting hole diameter	(mm)	2.5	←

### 2. Absolute maximum rating

		<b>CXA-0384</b>	<b>CXA-0535</b>
Vin	(V)	0~15	←
Vrmt	(V)	0~Vin	←
Vbr	(V)	0~16	←
Load	(KΩ)	100max	←
Operation Temperature range	(°C)	0~70	-30~80
Strage Temperature range	(°C)	-30~85	←
Humidity range	(%RH)	95max	←

### 3. Electrical characteristics

		Vin	Vrmt	Vbr(V)	Load	<b>CXA-0384</b>	<b>CXA-0535</b>
Output current (Dimming max)	(mArms)	12±1.2	5	0/0	TYP	6.5typ	←
Output current (Dimming min)	(mArms)	12±1.2	5	2.5/50	TYP	2.0typ	←
Input current	(A)	12±1.2	5	0/0	TYP	0.9typ	←
Frequency (Dimming max)	(KHz)	12±1.2	5	0/0	TYP	50typ	←
Frequency (Dimming min)	(Hz)	12±1.2	5	2.5/50	TYP	270typ	150typ
Open circuit voltage	(Vrms)	10.8	5	0/0	∞	1500min	1700min
Alarm output	(V)	12±1.2	5	0~2.5 /0~50	∞	5.0typ	←
Protect circuit		12±1.2	5	0~2.5 /0~50	-	Shutdown at all road open	Shutdown at one road open

※CXA-0384:0~70°C、CXA-0535:-30~80°C

	No.	MATERIALS NAME	QU	MATERIAL	REMARK
	PRODUCT NAME or MODEL, TITLE				
	DC-AC INVERTER UNIT CXA-0535				
TDK-Lambda	NAME OF DRAWING			DRAWING No.	PAGE
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<The drawings may be changed without any notice.>

# CXA-0535

## Features

- 2 outputs
- UL60950-1 acquisition product
- Applicable panel size\*: 15 to 17 inches
- With brightness control function (Pulse Width Modulation Dimming).
- With shut down function.
- With a sensing function for running out of lamp (alarm output).
- In the high-voltage generator (a terminal and a pattern), an anti-dust measure by silicone application is taken.

(Notice) Applicable panel size becomes a standard.

## Applications



DC-AC Inverter

# CXA-0535 Specifications (Please refer to each specification before use)

### Electrical Characteristics

Item	Unit	Symbol	Specification			Condition							Remarks
			min	typ	max	Vin(V)	Vrmt(V)	Vbr(V)	Rbr(k.Ω)	Ta(°C)	RL(k.Ω)	CL(pF)(*3)	
Output Current	mA	Iout1,2 (Maximum dimmer)	5.9	6.5	7.1	12±1.2	5	0	-	-30 to +80	90	6	Voltage dimmer (*1)
			5.9	6.5	7.1	12±1.2	5	-	0	-30 to +80	90	6	Volume dimmer (*1)
		Iout1,2 (Minimum dimmer)	2.2	3.0	3.8	12±1.2	5	2.5	-	-30 to +80	90	6	Voltage dimmer (*1)
			2.2	3.0	3.8	12±1.2	5	-	50	-30 to +80	90	6	Volume dimmer (*1)
Input Current	A	Iin1	-	0.80	1.58	12±1.2	5	0		-30 to +80	90	6	Remote ON
	mA	Iin2	-		1	12±1.2	0	0 to 2.5	0 to 50	-30 to +80	90	6	Remote OFF
Oscillatory Frequency	kHz	Freq1	45	50	55	12±1.2	5	0		-30 to +80	90	6	
	Hz	Freq2 (Duty frequency)	125	155	185	12±1.2	5	2.5	50	-30 to +80	90	6	
Open Circuit Voltage	Vrms	Vopen	1700	2000	2300	12±1.2	5	0		-30 to +80	∞		Open load
Alarm Signal	V	Vst	4.5	5.0	5.5	12±1.2	5	0 to 2.5	0 to 50	-30 to +80	∞		In case of lamp anomaly (*2)
			-	0	0.5	12±1.2	5	0 to 2.5	0 to 50	-30 to +80	90	6	On a normal operation (*2)

(\*1) Please refer to the connection diagram for details of a dimming method.

(\*2) Please refer to the connection diagram for details of alarm output.

(\*3) As equivalent circuit of panel load, connect resistance load (RL) and distributed capacity (CL), and have provided by an electrical characteristic.

### Other Specifications

Dimming Function		Yes
Operating Temperature	°C	-30 to +80
Storage Temperature	°C	-30 to +85
Operating Humidity Ratio	RH%	95Max
Safety Standard		UL60950-1
Weight	g	33typ.
Dimensions (WxDxH)	mm	150x50x8.5 (*4)
Fused Input		Yes
Remote ON / OFF		Yes
Alarm Signal Function		Yes
Shutdown Function		Yes
Silicone Coating on High Voltage Area		Yes

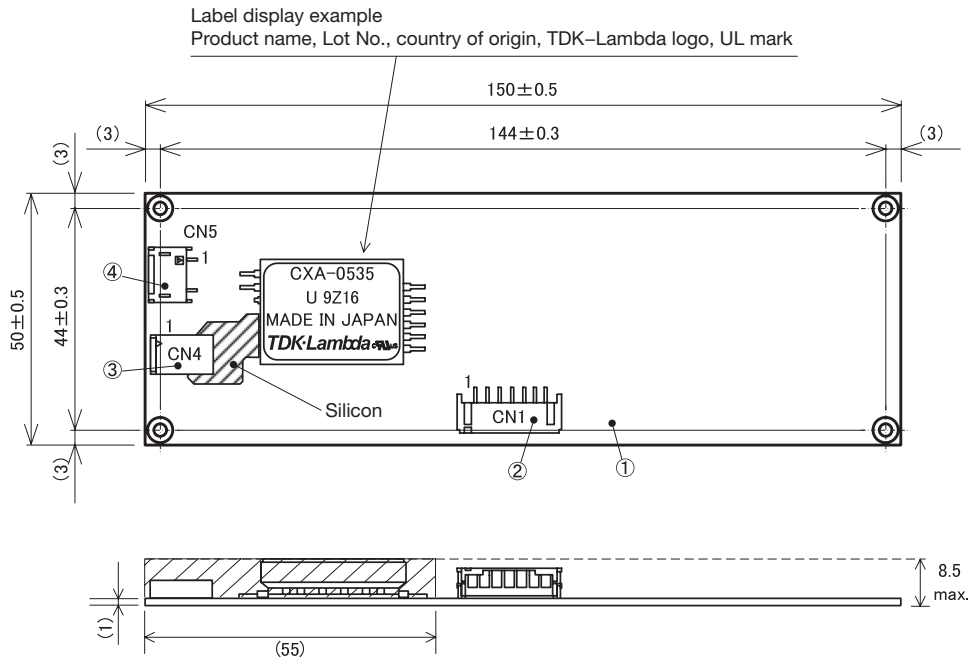
(\*4) These dimensions are indicated the maximum only H. Others are typical values.

## Conformity to RoHs Directive

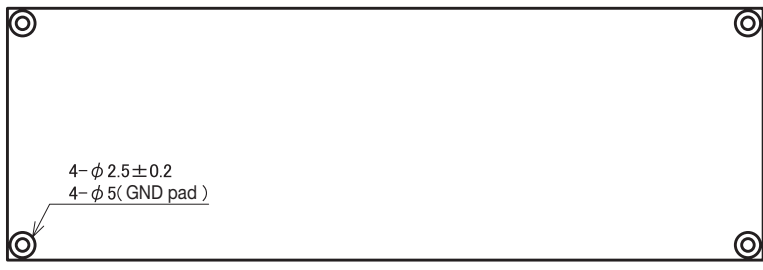
This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.

Connector type/2 outputs

# Outline Drawing



High voltage generating area (Complete area of 55mm from board end panel)\*  
 \*From high-voltage generator, please secure space distance more than 3mm in top and bottom right and left.



Unit: mm

**Connector**

NO.	Component name	Type name	Qty	Remarks	Recommended suitable connector
①	Printed circuit board PCB	Composite (CEM-3)	1	UL94V-0 t = 1.0	—
②	Input connector CN1	S7B-PH-SM4-TB (LF) (SN)	1	J.S.T Mfg., Co., Ltd	PHR-7
③	Output connector CN4	SM02B-BHSS-1-TB (LF) (SN)	1	J.S.T Mfg., Co., Ltd	BHSR-02VS-1
④	Output connector CN5	SM02 (4.0) B-BHS-1-TB (LF) (SN)	1	J.S.T Mfg., Co., Ltd	BHR-02VS-1

**Terminal Number & Function**

**Input side CN1**

Terminal No.	Symbol	Rating	Remarks
CN1-1	Vin	12±1.2V	Power source input
CN1-2			
CN1-3	GND	0V	Ground
CN1-4			
CN1-5	Vbr/Rbr	0 to 2.5V/0 to 50kΩ	Dimmer terminal
CN1-6	Vst (output)	0V/5V	Alarm output Lump open : 5V
CN1-7	Vrmt	0V/2.5V to Vin	Remote terminal 0 to 0.4V:OFF 2.5 to Vin :ON

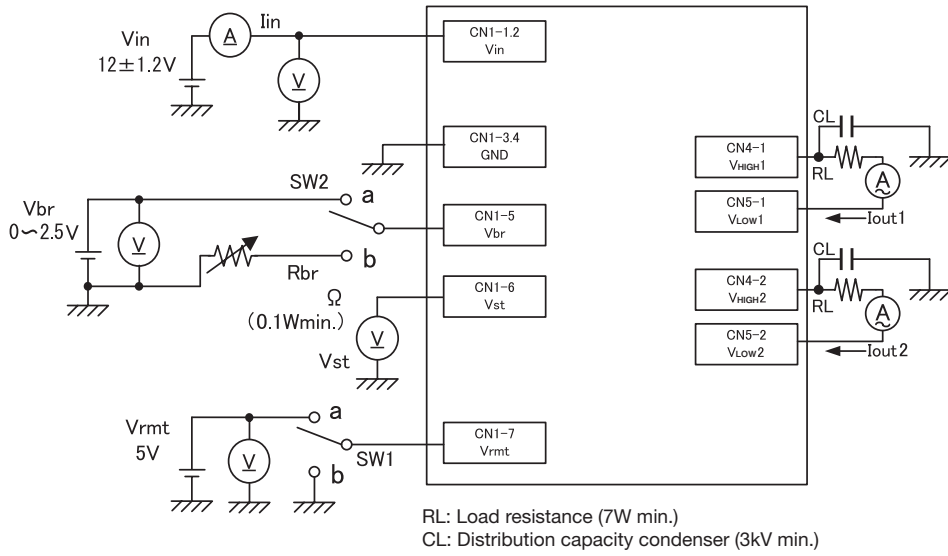
**Output side CN4**

Terminal No.	Symbol	Rating	Remarks
CN4-1	V <sub>HIGH1</sub>	(585Vrms)	Output 1
CN4-2	V <sub>HIGH2</sub>	(585Vrms)	Output 2

**Output side CN5**

Terminal No.	Symbol	Rating	Remarks
CN5-1	V <sub>Low1</sub>	(3.8V)	Output 1 return
CN5-2	V <sub>Low2</sub>	(3.8V)	Output 2 return

Connections



Operate as follows by switching a SW1.

SW1	Unit operates
a	Operates
b	Does not operate
Open	Does not operate

Operate as follows by switching a SW2.

SW2	Unit operates
a	Voltage dimmer Vbr=0 to 2.5V (0V: Maximum brightness)
b	Volume dimmer VR=0 to 50kΩ (0Ω: Maximum brightness)

Protection Circuit Operation

Load condition	Alarm output (CN1-6)*1	Shutdown function*2
When normal	0.5V max.	Does not shut down
When 1 load (lamp) are NG	5±0.5V	Shuts down
When 2 load (lamp) are NG	5±0.5V	Shuts down

\*1 If any one of switches SW3 to 6 becomes open, shutdown will operate, and warning (5V output) will be output.

\*2. The inverter has built in protection function to stop operation after 3 seconds when one or more of the lamps has become open.