

# PRELIMINARY

HYBRID IC  
**VLA129-2400GTR**

ISOLATED TYPE DC-DC CONVERTER

## DESCRIPTION

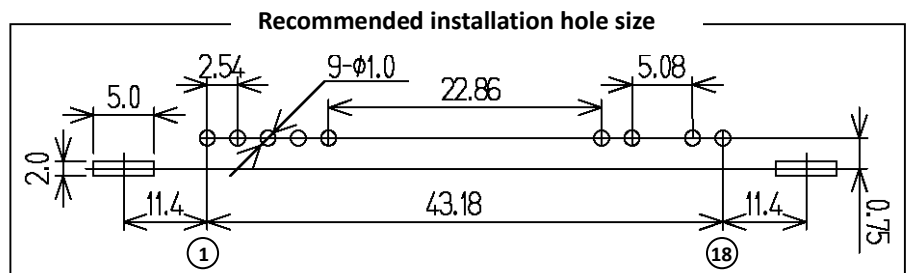
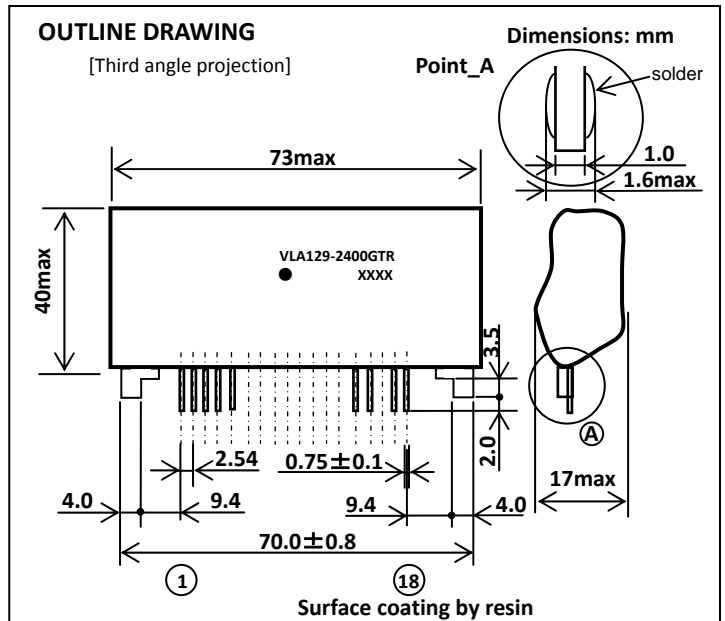
The VLA129-2400GTR is a DC-DC converter for IGBT gate drive. Output power is 13W and the input is isolated from the output. Isolation strength is 4000Vrms between input and output so as to drive IGBT.

## FEATURES

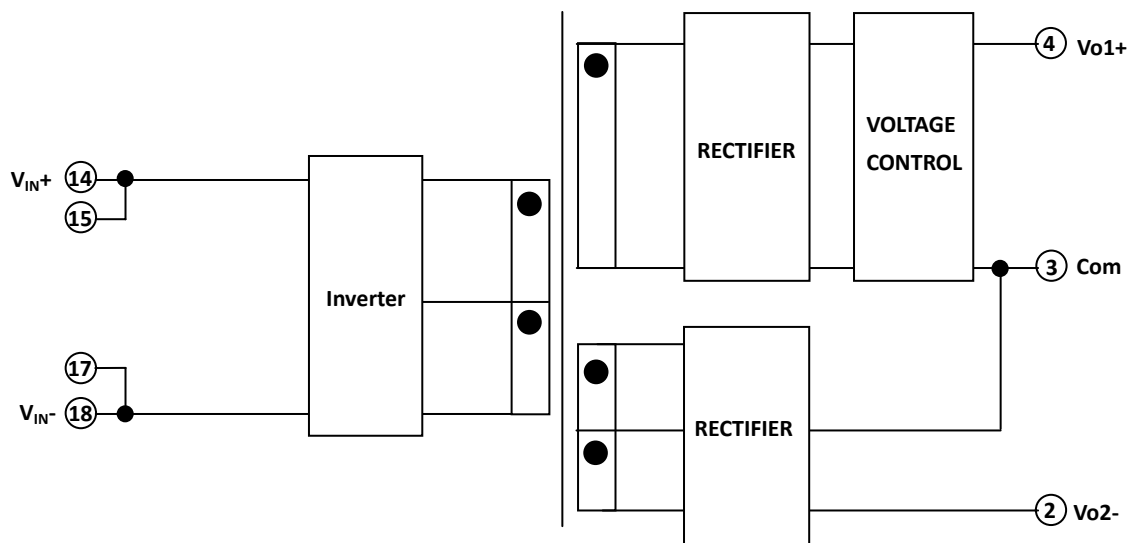
- Input voltage range ----- DC 22.8 to 25.2V
- Output ----- +15V, 550mA
- 8V, 550mA (output power 13W)
- Isolation between input and output---- 4000Vrms, 1min

## APPLICATIONS

On-board power supply for IGBT gate drive



## BLOCK DIAGRAM



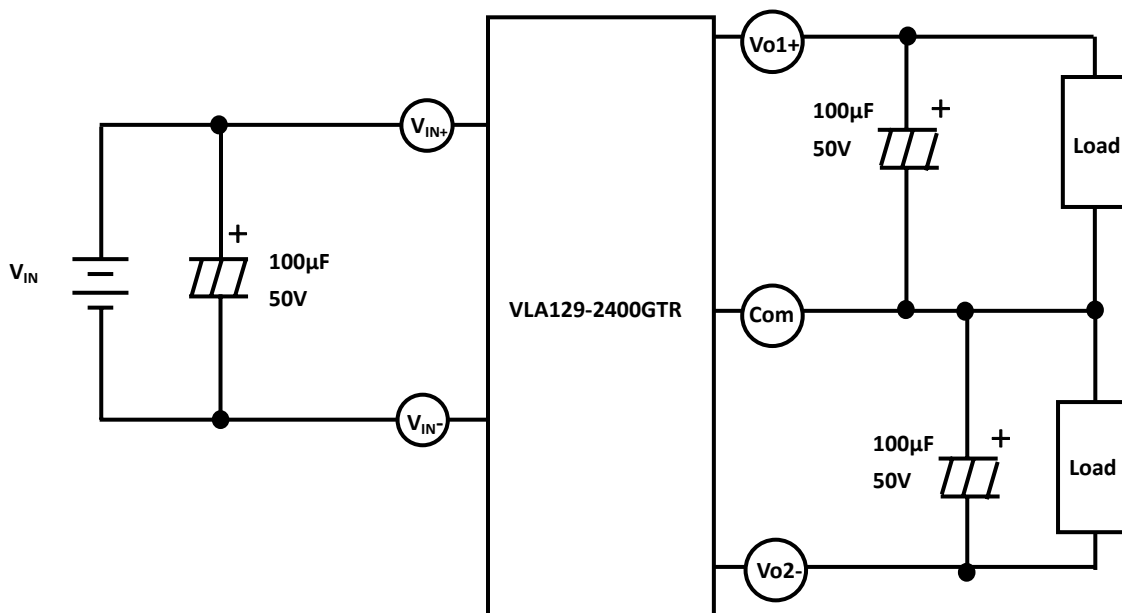
**MAXIMUM RATINGS** (unless otherwise noted,  $T_a=25^\circ\text{C}$ )

Symbol	Parameter	Conditions	Ratings	Unit
$V_{IN}$	Input voltage		26	V
$I_{o1}$	Output current 1		550	mA
$I_{o2}$	Output current 2		550	mA
$T_{opr}$	Operating temperature	No condensation	-20 ~ +60	$^\circ\text{C}$
$T_{stg}$	Storage temperature	No condensation	-40 ~ +100	$^\circ\text{C}$
$V_{iso}$	Input-output isolation voltage	AC 60Hz, 1min	4000	V <sub>rms</sub>

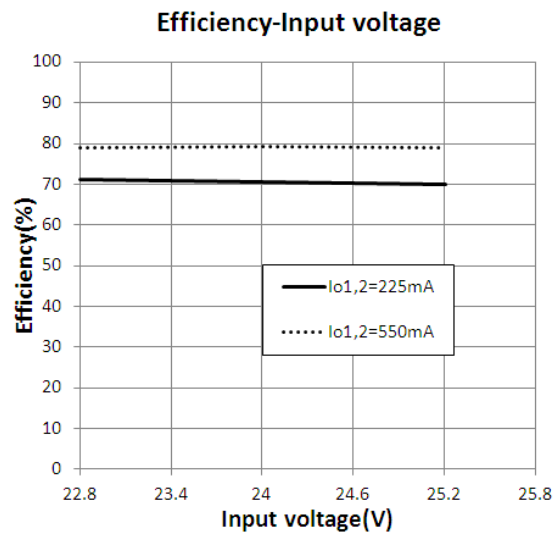
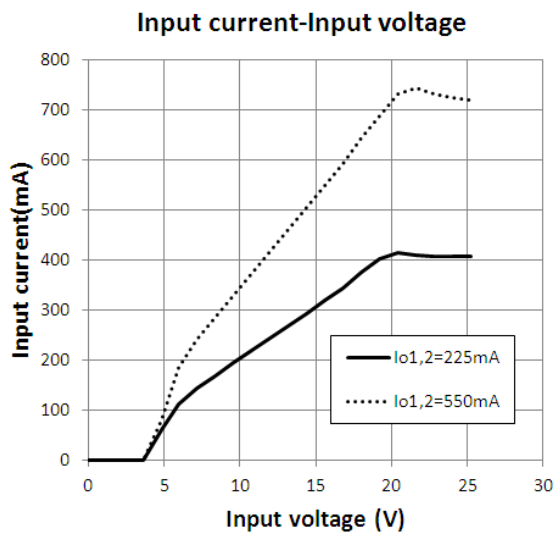
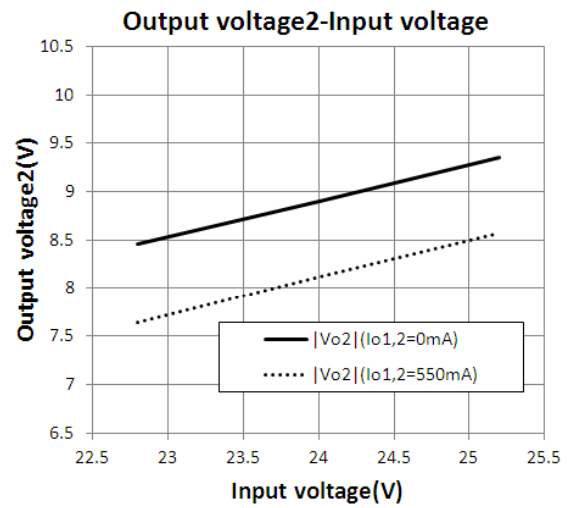
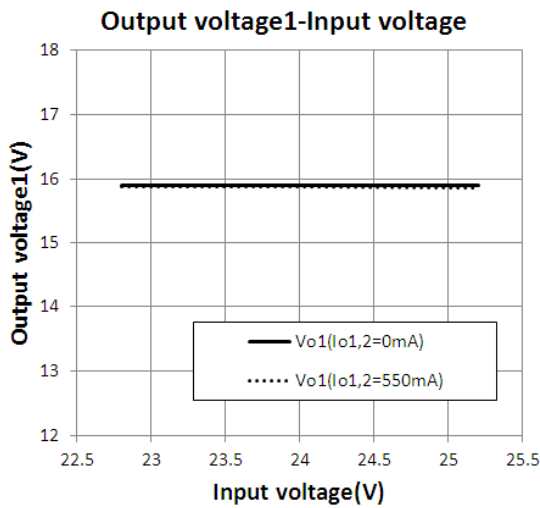
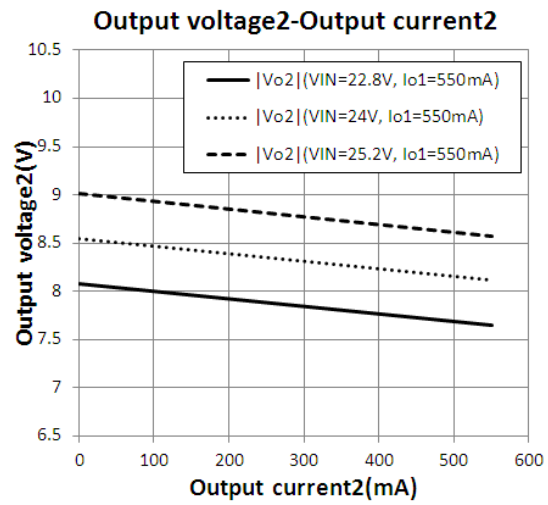
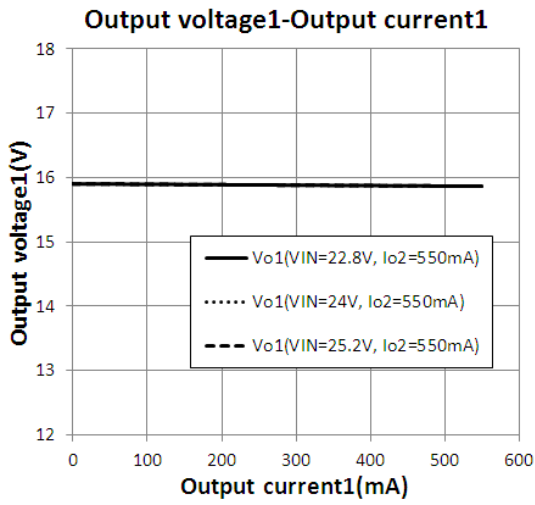
**ELECTRICAL CHARACTERISTICS** (unless otherwise noted,  $V_{IN}=24\text{V}$ ,  $T_a=25^\circ\text{C}$ )

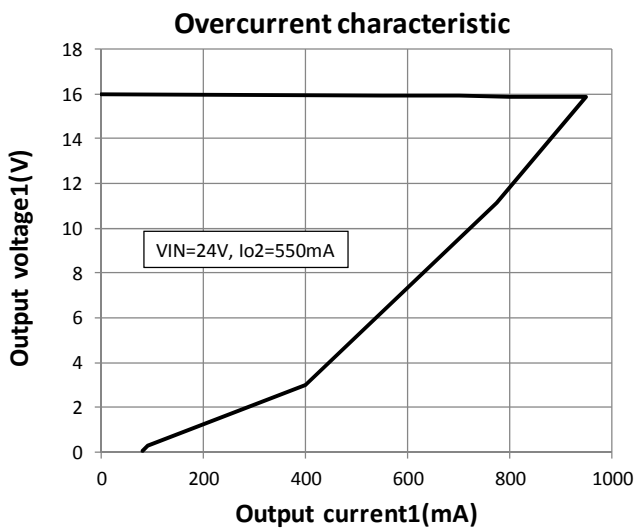
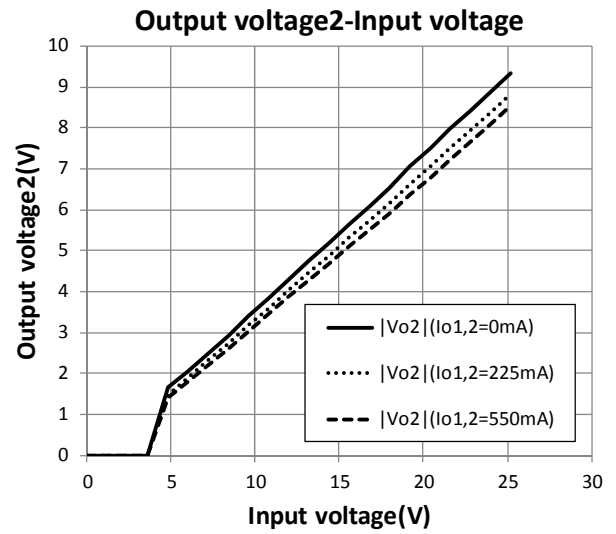
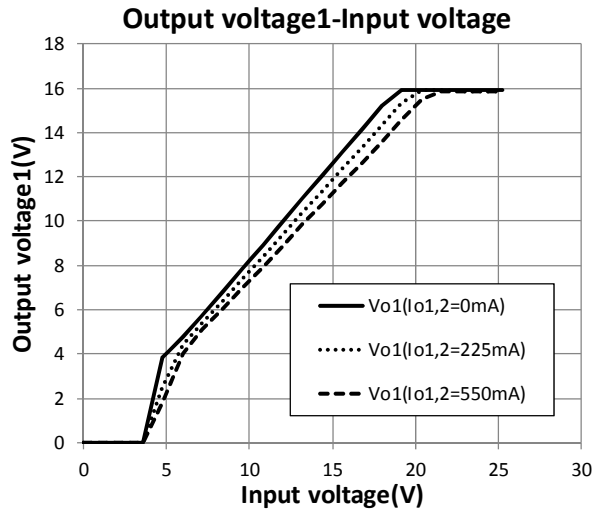
Symbol	Parameter	Test conditions	Limits			Unit
			MIN.	TYP.	MAX.	
$V_{IN}$	Input voltage	Recommended range	22.8	24	25.2	V
$V_{o1}$	Output voltage 1	$I_{o1,2}=0\sim 550\text{mA}$	15	15.8	16.6	V
$V_{o2}$	Output voltage 2	$I_{o1,2}=0\sim 550\text{mA}$	-6.5	-8	-10.5	V
$Reg-I$	Vo1 Input regulation	$I_{o1,2}=550\text{mA}$ , $V_{IN}=22.8 \sim 25.2\text{V}$	—	—	500	mV
$Reg-L$	Vo1 Load regulation	$I_{o1,2}=0\sim 550\text{mA}$	—	—	500	mV
$V_{p-p}$	Ripple voltage	$I_{o1,2}=550\text{mA}$	—	—	200	mV
$\eta$	Efficiency	$I_{o1,2}=550\text{mA}$	—	80	—	%

**TEST CIRCUIT DIAGRAM**



TYPICAL CHARACTERISTIC CURVES(Ta=25°C)





**FOR SAFETY USING**

Great detail and careful attention are given to the production activity of Hics, such as the development, the quality of production, and in its reliability. However the reliability of Hics depends not only on their own factors but also in their condition of usage. When handling Hics, please note the following cautions.

CAUTIONS	
Packing	The materials used in packing Hics can only withstand normal external conditions. When exposed to outside shocks, rain and certain environmental contaminators, the packing materials will deteriorates. Please take care in handling.
Carrying	<ol style="list-style-type: none"> <li>1) Don't stack boxes too high. Avoid placing heavy materials on boxes.</li> <li>2) Boxes must be positioned correctly during transportation to avoid breakage.</li> <li>3) Don't throw or drop boxes.</li> <li>4) Keep boxes dry. Avoid rain or snow.</li> <li>5) Minimal vibration and shock during transportation is desirable.</li> </ol>
Storage	<p>When storing Hics, please observe the following notices or possible deterioration of their electrical characteristics, risk of solderability, and external damage may occur.</p> <ol style="list-style-type: none"> <li>1) Devices must be stored where fluctuation of temperature and humidity is minimal, and must not be exposed to direct sunlight. Store at the normal temperature of 5 to 30 degrees Celsius with humidity at 40 to 60%.</li> <li>2) Avoid locations where corrosive gasses are generated or where much dust accumulates.</li> <li>3) Storage cases must be static proof.</li> <li>4) Avoid putting weight on boxes.</li> </ol>
Extended storage	When extended storage is necessary, Hics must be kept non-processed. When using Hics which have been stored for more than one year or under severe conditions, be sure to check that the exterior is free from flaw and other damages.
Maximum ratings	To prevent any electrical damages, use Hics within the maximum ratings. The temperature, current, voltage, etc. must not exceed these conditions.
Polarity	To protect Hics from destruction and deterioration due to wrong insertion, make sure of polarity in inserting leads into the board holes, conforming to the external view for the terminal arrangement.

**Keep safety first in your circuit designs!**

- ISAHAYA Electronics Corporation puts the maximum effort into making semiconductor products better and more reliable, but there is always the possibility that trouble may occur with them. Trouble with semiconductors may lead to personal injury, fire or property damage. Remember to give due consideration to safety when making your circuit designs, with appropriate measures such as (1)placement of substitutive, auxiliary circuits, (2)use of non-flammable material or (3)prevention against any malfunction or mishap.

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