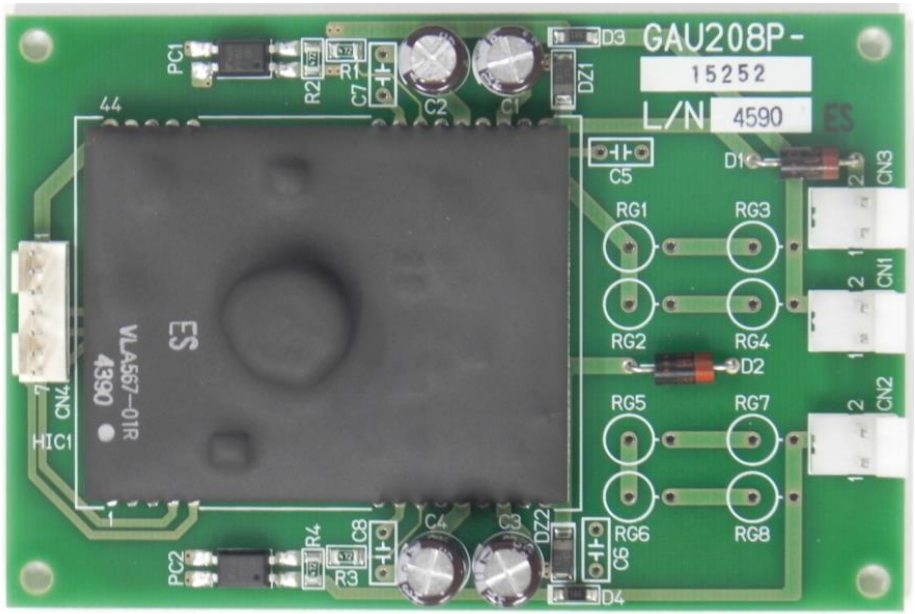
GAU208P-15252　Universal Gate Drive Prototype Board



Size : 73 x 110 x 23t

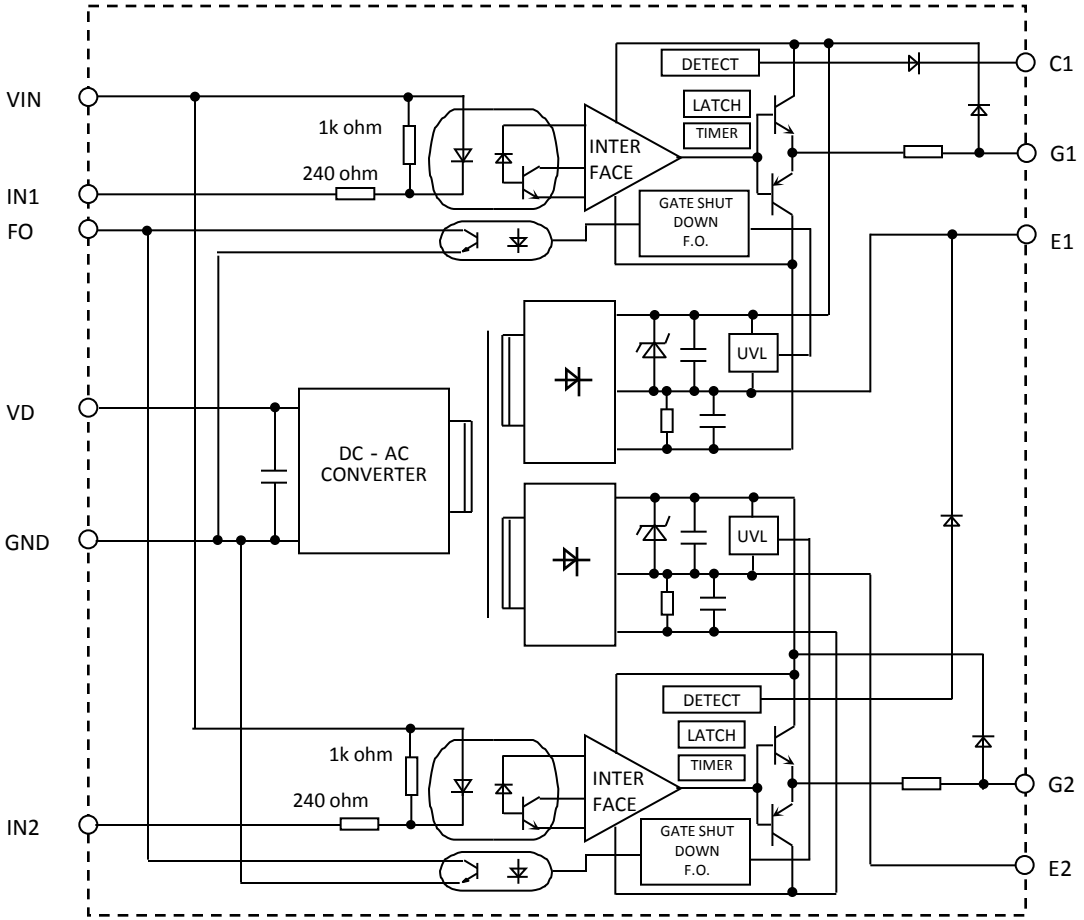
Image Photo

Gate Driver : VLA567-01R (Built in DCDC converter)

FEATURE

>Built in 2 gate drive circuits
>Low height, DIP structure
>Built in isolated type DC-DC converter for gate drive.
>Output peak current is +/-8A(max)
>Built in short circuit protection
>Electrical isolation voltage is 2500Vrms (for 1 minute)
>CMOS compatible input interface
>Adjustable fall time on activity of short circuit protection.

Block diagram



MAXIMUM RATINGS (Unless otherwise noted, Ta=25deg C)

Symbol	Parameter	Conditions	Ratings	Unit
VD	Supply voltage	DC	16.5	V
VI	Input signal voltage	Applied between VI+ - IN1,2 50% Duty cycle , pulse width 1ms	-1 ~ +7	V
IOHP	Output peak current	Pulse width 2us	-8	A
IOLP			8	A
Viso	Isolation voltage between input and output	Isolation voltage between input and output	2500	Vrms
Topr	Operating temperature	No condensation allowable	-20 ~ 70	deg C
Tstg	Storage temperature	No condensation allowable(*1)	-25 ~ 85	deg C
Idrive	Gate drive current	Gate average current (Per one circuit)	100	mA

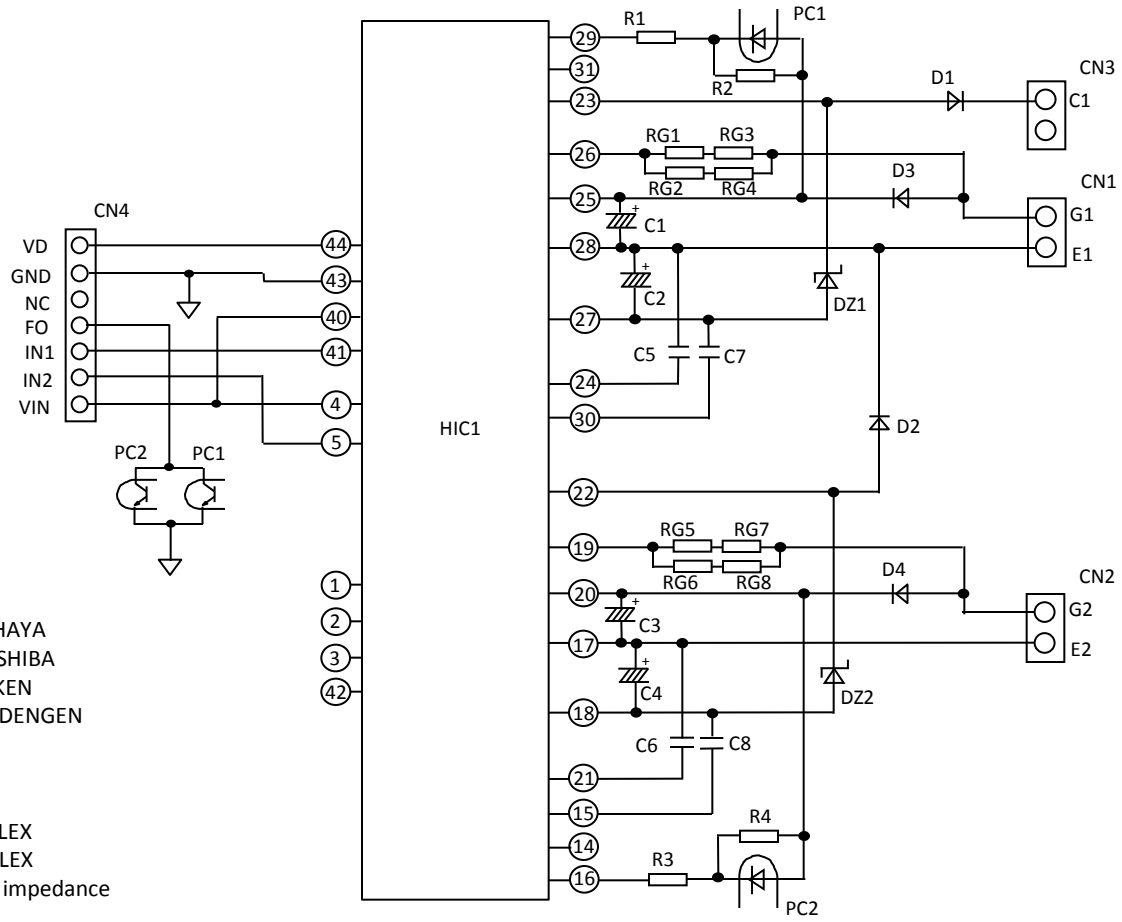
(*1) Differs from heat cycle condition

ELECTRICAL CHARACTERISTICS (Unless otherwise noted, Ta=25deg C, VD=15V)

Symbol	Parameter	Conditions	Limits			Unit
			Min	Typ	Max	
VD	Supply voltage	Recommended range	14.2	15	15.8	V
VIN	Pull-up voltage on input side	Recommended range	4.75	5	5.25	V
IIH	“H” input signal current(*2)	Recommended range	10	13	16	mA
f	Switching frequency	Recommended range	-	-	20	kHz
RG	Gate resistance	Recommended range	2	-	-	ohm
VOH	“H” output voltage (*2)	-	13.5	15.5	16.5	V
VOL	“L” output voltage (*2)	-	-	-8	-	V
tPLH	“L-H” propagation time (*2)	IIH = 13mA	0.2	0.4	1	µs
tPHL	“H-L” propagation time (*2)	IIH = 13mA	0.2	0.4	1	µs
VSC	SC detect voltage	Collector voltage of module	15	-	-	V

(*2) When LED of PC is ON, Vo is high.

INNER CIRCUIT

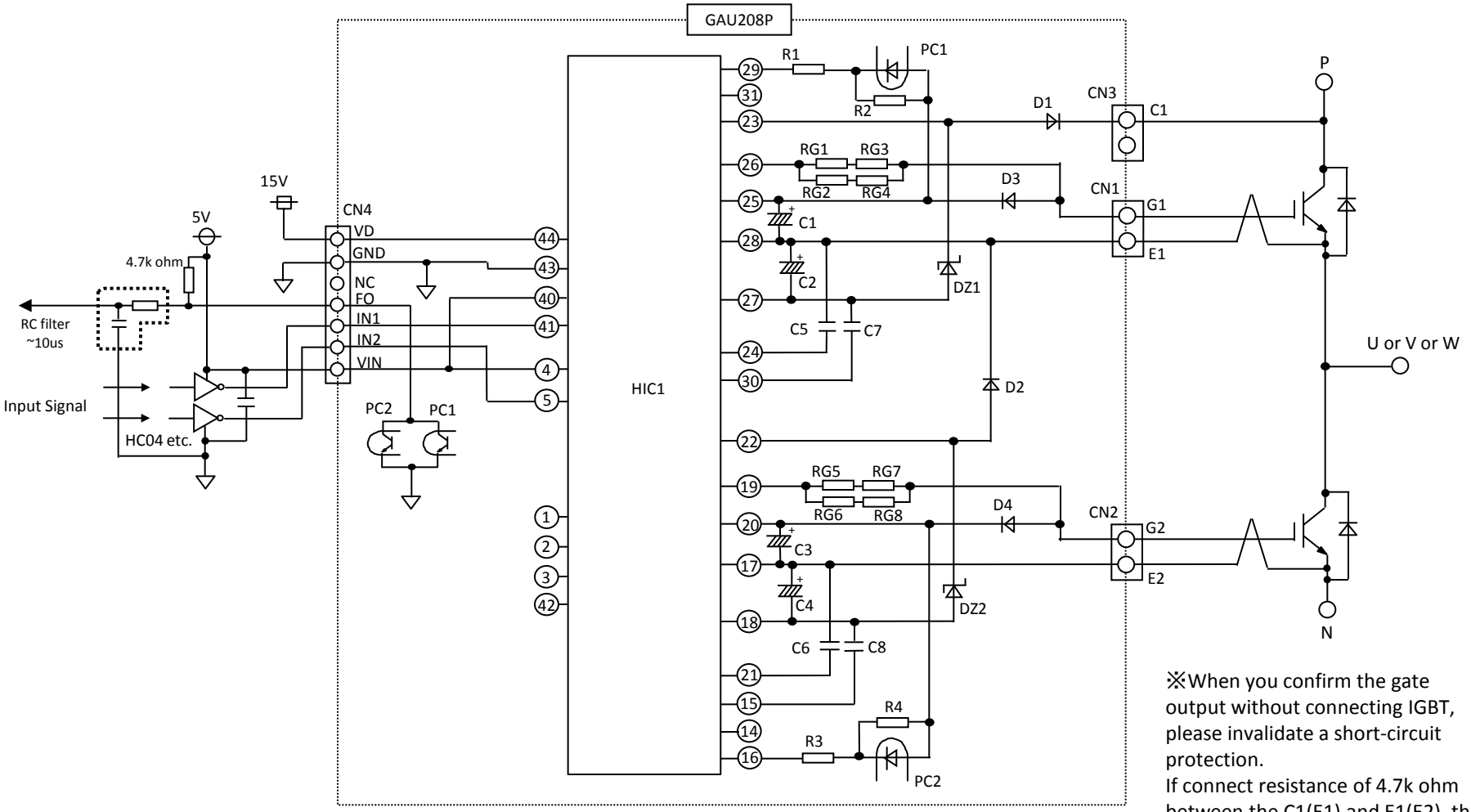


HIC1	VLA567-01R	ISAHAYA
PC1,2	TLP785 compatible	TOSHIBA
D1,2	RP1H	SANKEN
D3,4	M1FS6	SHINDENGEN
DZ1,2	Vz=30V, over than 500mW	
RG	Gate Resistor (*3)	
R1,2,3,4	4.7kΩ, 250mW	
CN1,2,3	5273-02A	MOLEX
CN4	5045-07A	MOLEX
C1,2,3,4	220uF,35V	Low impedance
C5,6,7,8	Refer to (*4)	

*3) Gate Resistor is not installed at the time of shipment.
Please solder the chosen resistor.

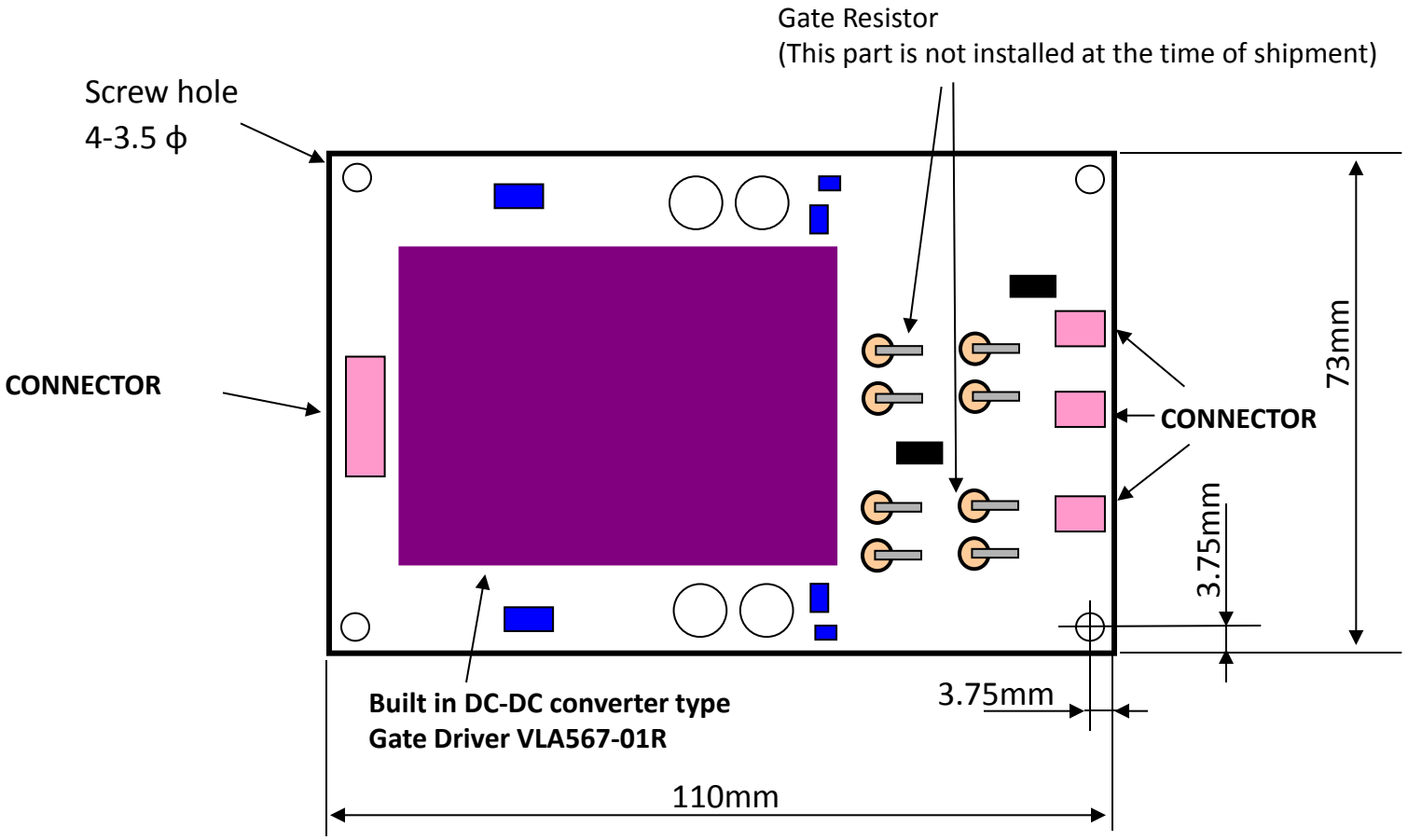
*4) C5,6,7,8 is not installed at the time of shipment.
Please solder the chosen condenser if needed. (50V,ceramic)

APPLICATION EXAMPLE



※When you confirm the gate output without connecting IGBT, please invalidate a short-circuit protection.
If connect resistance of 4.7k ohm between the C1(E1) and E1(E2), the short circuit protection becomes invalid.

Part arrangement & Size



FOR SAFETY USING

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

CAUTIONS	
Packing	The materials used in packing devices 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	1) Don't stack boxes too high. Avoid placing heavy materials on boxes. 2) Boxes must be positioned correctly during transportation to avoid breakage. 3) Don't throw or drop boxes. 4) Keep boxes dry. Avoid rain or snow. 5) Minimal vibration and shock during transportation is desirable.
Storage	When storing the devices, please observe the following notices or possible deterioration of their electrical characteristics, risk of solderability, and external damage may occur. 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%. 1) Avoid locations where corrosive gasses are generated or where much dust accumulates. 2) Storage cases must be static proof. 3) Avoid putting weight on boxes.
Extended storage	When extended storage is necessary, the devices must be kept non-processed. When using devices 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 devices within the maximum ratings. The temperature, current, voltage, etc. must not exceed these conditions.
Polarity	To protect devices 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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