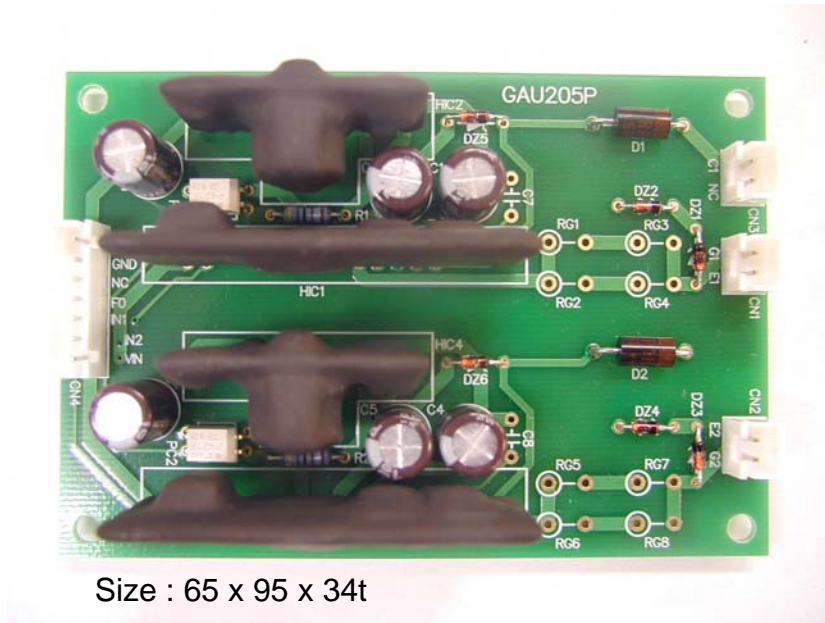


GAU205P-15252 Universal Gate Drive Prototype Board



FEATURE

- >Built in the isolated DC-DC converter for gate drive
- >Output peak current is +/-5A(max)
- >Built in short circuit protection
- >Electrical isolation voltage is 2500Vrms (for 1 minute)
- >Two way power supply system for drivers and input signal (VD=15V , VIN=5V)
- >CMOS compatible input interface

RECOMMENDED IGBT MODULES

MITSUBISHI NF series IGBT modules

(f : ~ 20kHz)

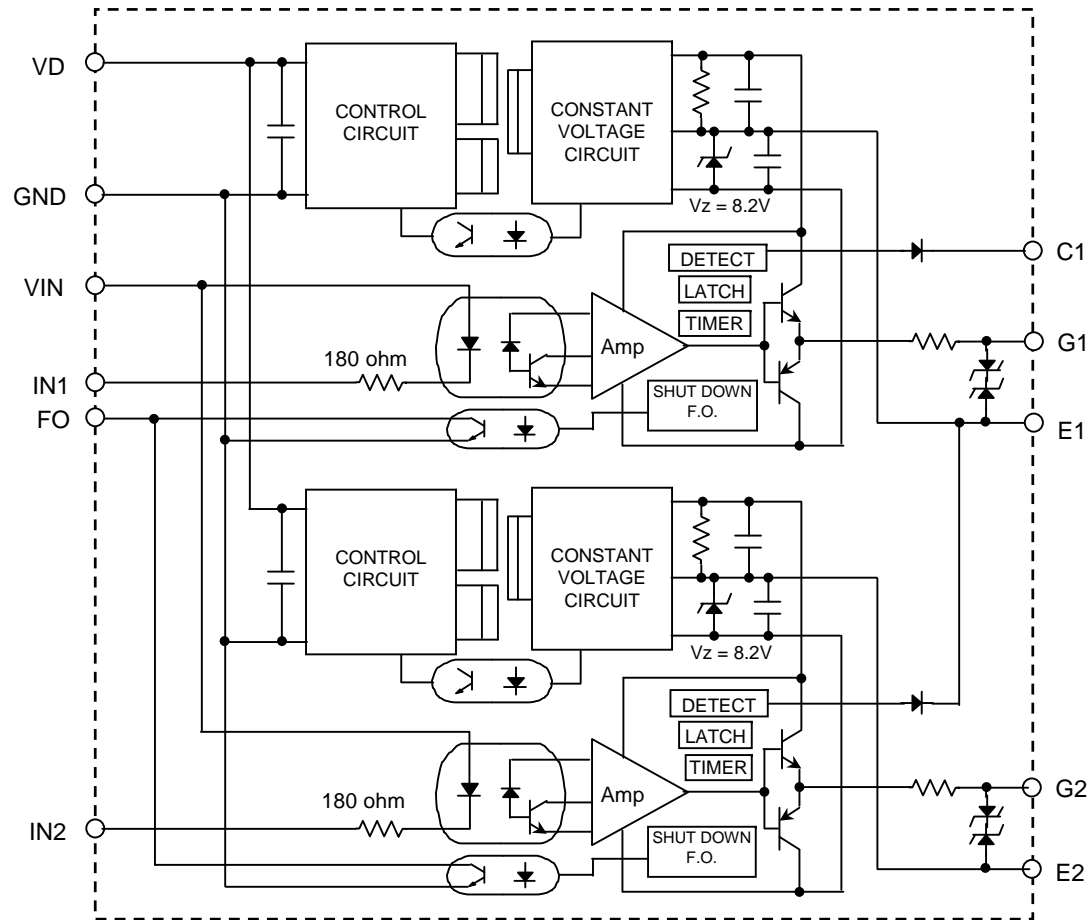
VCES = 600V series ~ 600A class

VCES = 1200V series ~ 400A class

Gate Driver : VLA542-01R

DC-DC Converter : VLA106-15242

BLOCK DIAGRAM



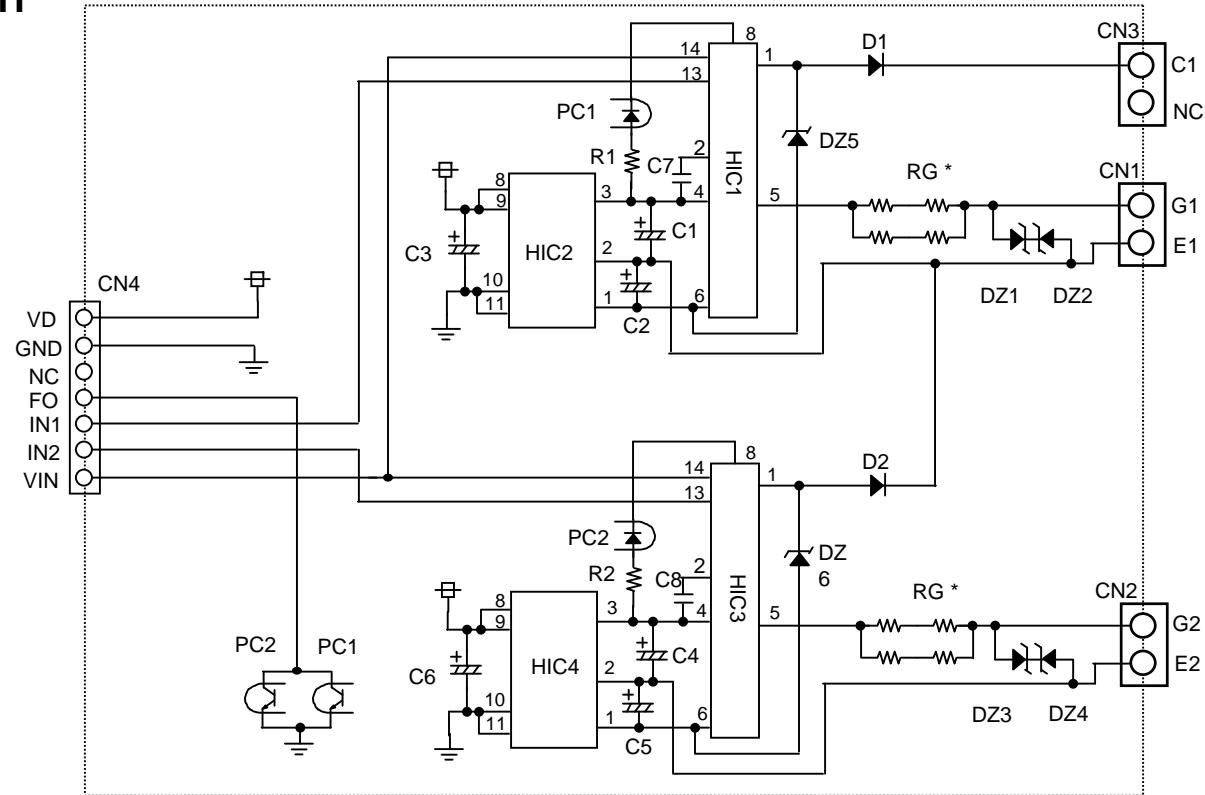
MAXIMUM RATINGS (unless otherwise noted, Ta=25C)

Symbol	Parameter	Conditions	Ratings	Unit
VD	Supply voltage	DC	18	V
VI	Input signal voltage	Applied between VIN – IN1,2 50% Duty cycle , pulse width 1ms	-1 ~ +7	V
IOHP	Output peak current	Pulse width 2us	-5	A
IOLP			5	A
Viso	Isolation voltage	Sine wave voltage 60Hz, for 1min	2500	Vrms
Topr	Operating temperature	No condensation allowable	-10 ~ 70	deg
Tstg	Storage temperature	No condensation allowable	-25 ~ 85	deg
Idrive	Gate drive current	Gate average current (Per one circuit)	85	mA

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

Symbol	Parameter	Conditions	Limits			Unit
			Min	Typ	Max	
VD	Supply voltage	Recommended range	12	15	18	V
VIN	Pull-up voltage on input side	Recommended range	4.75	5	5.25	V
IIH	"H" input signal current	Recommended range	15.2	16	19	mA
f	Switching frequency	Recommended range	-	-	20	kHz
RG	Gate resistance	Recommended range	2	-	-	ohm
VOH	Plus bias voltage	-	13.5	15	16.5	V
VOL	Minus bias voltage	-	-9.6	-8.0	-6.5	V
tPLH	"L-H" propagation time	IIH = 16mA	-	0.5	1	us
tPHL	"H-L" propagation time	IIH = 16mA	-	1	1.3	us
VSC	SC detect voltage	-	15	-	-	V

INNER CIRCUIT

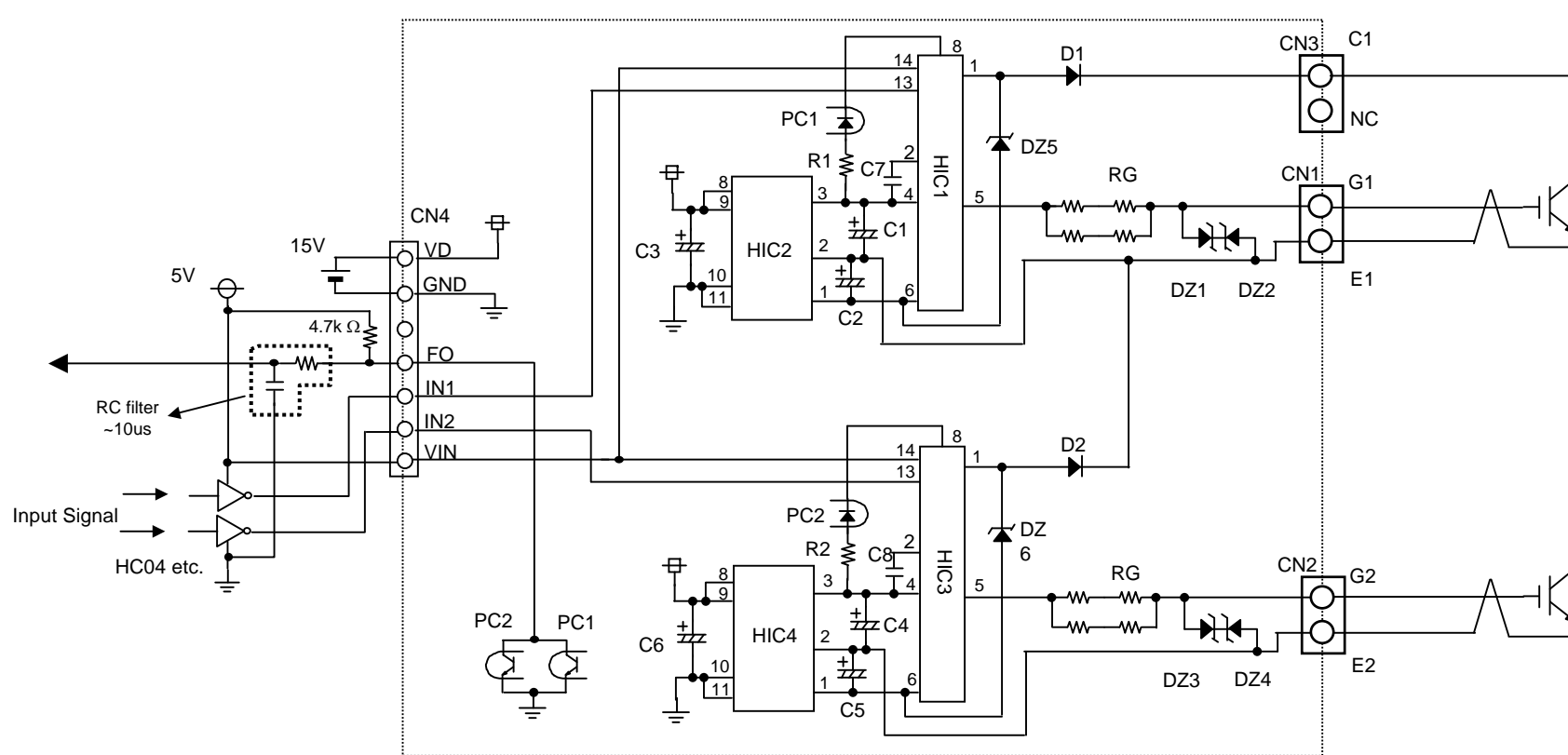


HIC1,3	VLA542-01R	ISAHAYA
HIC2,4	VLA106-15242	ISAHAYA
PC1,2	TLP781 compatible	TOSHIBA
DZ1,2,3,4	Vz=18V,500mW	
DZ5,6	Vz=30V,500mW	
D1,2	RP1H	SanKen
RG	Gate Resistor	
R1,2	4.7k ohm,250mW	
CN1,2,3	B2B-XH-A	JST
CN4	B7B-XH-A	JST
C1-6	100uF,50V	Low impedance

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

*2) C7,8 is not installed at the time of shipment.
Please solder the chosen condenser if needed.
(50V,ceramic)

APPLICATION EXAMPLE



Part arrangement & Size

