



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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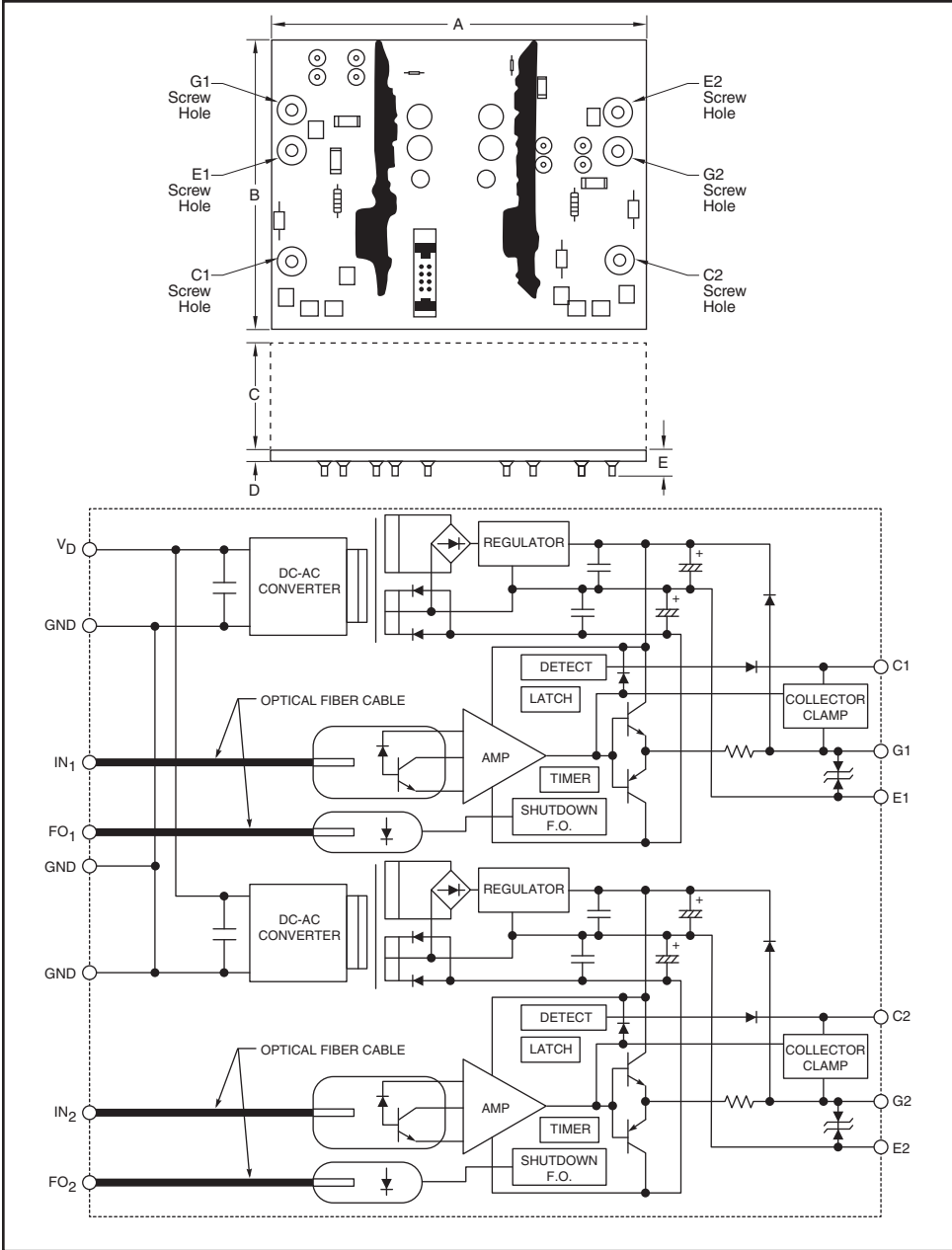
Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



Dual IGBT Gate Driver + DC/DC Converter



Circuit Diagram

Dimensions	Inches	Millimeters
A	5.63	143.0
B	4.13	105.0
C	1.69 Max.	43.0 Max.
D	0.063	1.6
E	0.12 Max.	3.0 Max.



Description:

VLA555-01R / -02R is a hybrid integrated circuit designed for driving IGBT modules in the new Mega Power Dual package.

Features:

- Directly Mountable on the New Mega Power Dual package
- Built in Isolated DC-DC Converter for Gate Drive
- Output Peak Current is $\pm 24A$ (max)
- Built in Short Circuit Protection with Soft Shutdown
- Built in Collector Clamp Circuit
- Electrical Isolation Voltage 4000 V_{rms} (for 1 Minute)
- CMOS Compatible Input Interface
- Fiber Optic Interface

Applications:

- Gate Driver for 1200V and 1700V New Mega Power Dual IGBT Modules

Recommended IGBT Modules:

CM2500DY-24S – VLA555-01R
 CM1800DY-34S – VLA555-02R



VLA555-01R / -02R
Dual IGBT Gate Driver + DC/DC Converter

Absolute Maximum Ratings, $T_a = 25^\circ\text{C}$ unless otherwise specified

Characteristics	Symbol	Rating	Units
Supply Voltage (DC)	V_D	-1 ~ 16.5	Volts
Input Signal Voltage (Applied Between IN+ and IN-, 50% Duty Cycle, Pulse Width 1ms)	V_I	-7 ~ +7	Volts
Input Current (Pulse, At Power Supply Start-up, PW 10msec)	$I_{D(\text{Pulse})}$	4	Amperes
Output Peak Current (Pulse Width 3 μ s)	I_{OHP}	-24	Amperes
	I_{OLP}	24	Amperes
Isolation Voltage (Sine Wave Voltage 60Hz, for 1 min.)	V_{iso}	4000	V_{rms}
Operating Temperature (No Condensation Allowable)	T_{opr}	-30 ~ 70	$^\circ\text{C}$
Storage Temperature (No Condensation Allowable)	T_{stg}	-40 ~ 85	$^\circ\text{C}$
Gate Drive Current (Gate Average Current Per One Circuit)	I_{drive}	210	mA
Main Circuit Voltage (Voltage Between P and N)	V_{DC_Link}	840 (-01R)	Volts
	V_{DC_Link}	1200 (-02R)	Volts

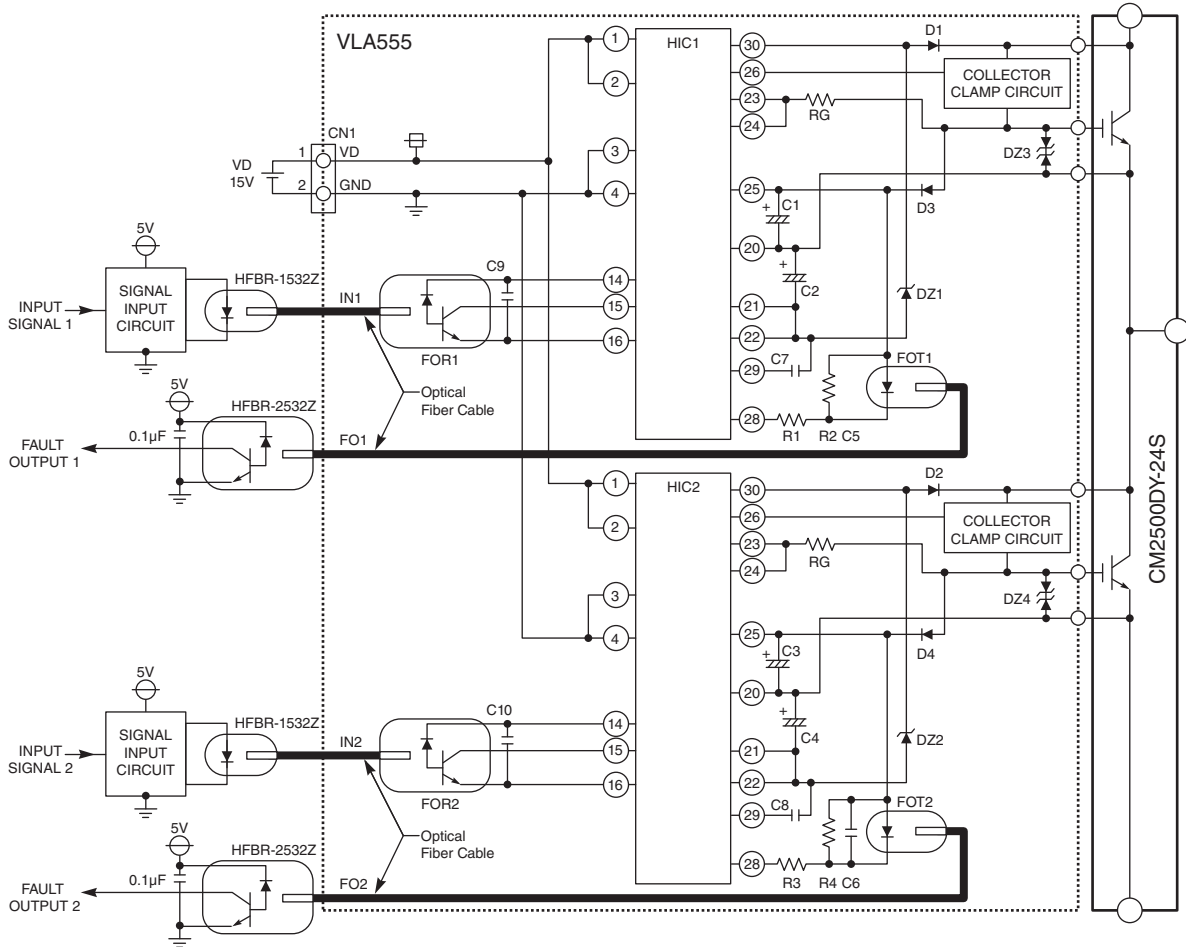
Electrical Characteristics, $T_a = 25^\circ\text{C}$, $V_D = 15\text{V}$, $f = 3\text{kHz}$ unless otherwise specified

Characteristics	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Supply Voltage	V_D	Recommended Range	14.2	15	15.8	Volts
Pull-up Voltage on Input Side	V_{IN}	Recommended Range (For Input Signal)	4.75	5	5.25	Volts
"H" Input Signal Current	I_{IH}	Recommended Range	10	12	16	mA
Switching Frequency	f	Recommended Range	—	—	10	kHz
Gate Resistance	R_G	Recommended Range	0	—	—	Ω
Plus Bias Output Voltage	V_{OH}		14	15.3	16.5	Volts
Minus Bias Output Voltage	V_{OL}		-5.5	-7	-11	Volts
"L-H" Propagation Time	t_{PLH}	$I_{IH} = 12\text{mA}$	0.3	—	1	μs
"H-L" Propagation Time	t_{PHL}	$I_{IH} = 12\text{mA}$	0.3	—	1	μs
Clamp Zener Voltage	V_Z^{*1}	Total Zener Voltage in Collector	901	950 (-01R)	999	Volts
		Clamp Circuit at $I_Z = 1\text{mA}$, $T_j = 25^\circ\text{C}$	1284	1350 (-02R)	1419	Volts
SC Detect Voltage	V_{SC}		15	—	—	Volts

*1 It depends on the condition of use, however actual clamp voltage of collector rises by 250V from V_Z .

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Application Example



Details of Connector CN1 : 5045-02A (MOLEX)

Pin Number	Signal
1	VD
2	GND

Recommended Part for Connector

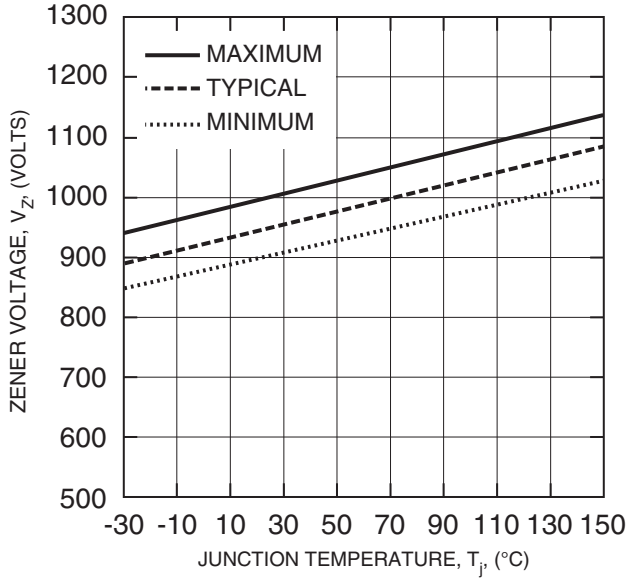
Housing	Strain Relief	Manufacturer
5051-02	#2759 or #5159	MOLEX

Details of Fiber Optic Connector

Part Number	Part	Function	Signal Rate	Structure	Manufacturer
FOR1	HFBR-2532Z	Receiver	1MBd (High Performance)	Horizontal Package	AVAGO
FOR2					
FOT1	HFBR-1532Z	Transmitter			
FOT2					

VLA555-01R / -02R
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TOTAL ZENER VOLTAGE CHARACTERISTICS OF VLA555-01R (TYPICAL)



TOTAL ZENER VOLTAGE CHARACTERISTICS OF VLA555-02R (TYPICAL)

