

SIC DUAL DRIVER ADAPTER BOARD

TECHNICAL FEATURES



- Designed for use with V P Electronics' Driver High-Performance VP007478.
- Single-Ended Inputs for Interfacing with 3.3V or 5V Micro controllers
- Differential Outputs for Increased Noise Immunity
- High-Frequency, Ultra-Fast Switching Operation
- Enables Retrofitting Single-Ended Systems for Differential Signals

MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
VDC	Supply Voltage	-0.5to18	V
VI	Logic Level Inputs	-0.5to5.5	
Top	Ambient Operating Temperature	-50 to 85	°C
Tstg	Storage Temperature	-50to125	

GATE DRIVER ELECTRICAL CHARACTERIZATION

Symbol	Parameter	Min.	Typ.	Max.	Unit	Test Conditions
V_{DC}	Supply Voltage	9	15	18	V	
V_{IH}	High Level Logic Input Voltage	2.0		5.5		Single-Ended Inputs
V_{IL}	Low Level Logic Input Voltage	0		0.8		
V_{IDCM}	Differential Input Common Mode Range	-7		+12		Differential Inputs
V_{IDTH}	Differential Input Threshold Voltage	-200	-125	-50	mV	VID =VPos -Line–VNeg-Line
V_{HYST}	Differential Voltage Hysteresis	15	70			
V_{ODH}	Differential Output High Level	2.2	3.4		V	IOD=-20mA
V_{ODL}	Differential Output Low Level		0.2	0.4		IOD=20mA
V_{OD}	Differential Output Magnitude	2	3.1			RL=100Ω
$t_{PHL/PLH}$	Propagation Delay		15		ns	CL=30pF
f_c	PWM Inputs First-Order Low-Pass Filter Cutoff Frequency		1		MHz	

INPUT CONNECTOR INFORMATION

Pin Number	Parameter	Description
1	VDC	Power Supply Input Pin
2	Common	Common
3	HS-PWM	High Side PWM Signal. 3.3V or 5V Logic Compatible. Active High.
4	Common	Common
5	LS-PWM	Low Side PWM Signal. 3.3V or 5V Logic Compatible. Active High.
6	Common	Common
7	FAULT(OUTPUT)	5V Fault Condition. Caution for 3.3V systems :this output is 5V. Active Low.
8	Common	Common

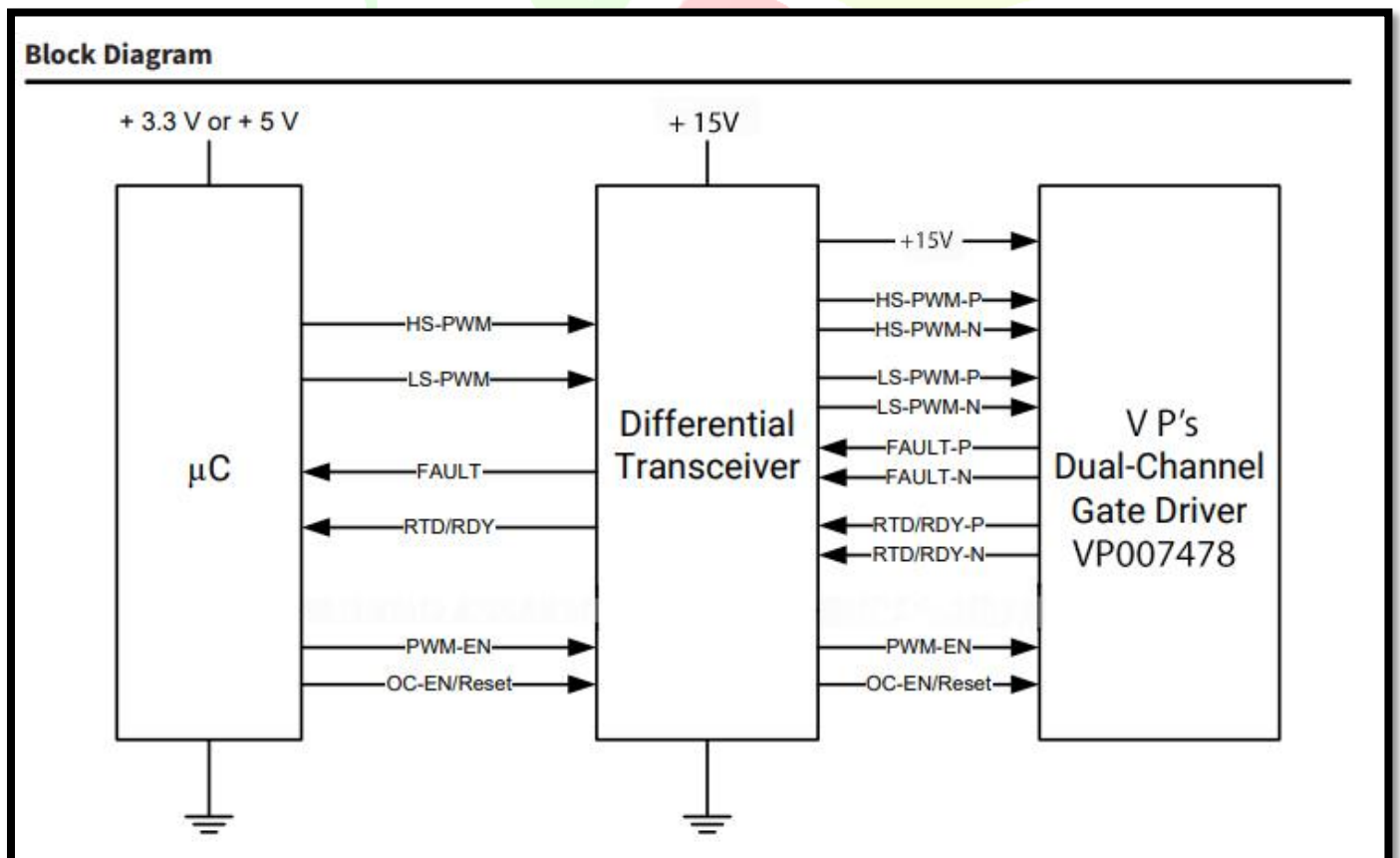
9	RTD(OUTPUT)	5V Temperature Dependent Resistor Output. Caution for 3.3V systems: this output is 5V. Duty cycle modulated.
10	Common	Common
11	NOT USE	NOT USE
12	Common	Common
13	PWM-EN	Pull Down to Disable PWM Input Logic. Pull Up /Leave floating to enable. Gate-source will be held low through gate resistor if power supplies are enabled. Straight pass-through to gate driver.
14	Common	Common
15	Reset	Over-current Protection Reset. If a fault condition is detected, momentarily set the reset pin high to reactivate the gate driver. Straight pass-through to gate driver.
16	Common	Common

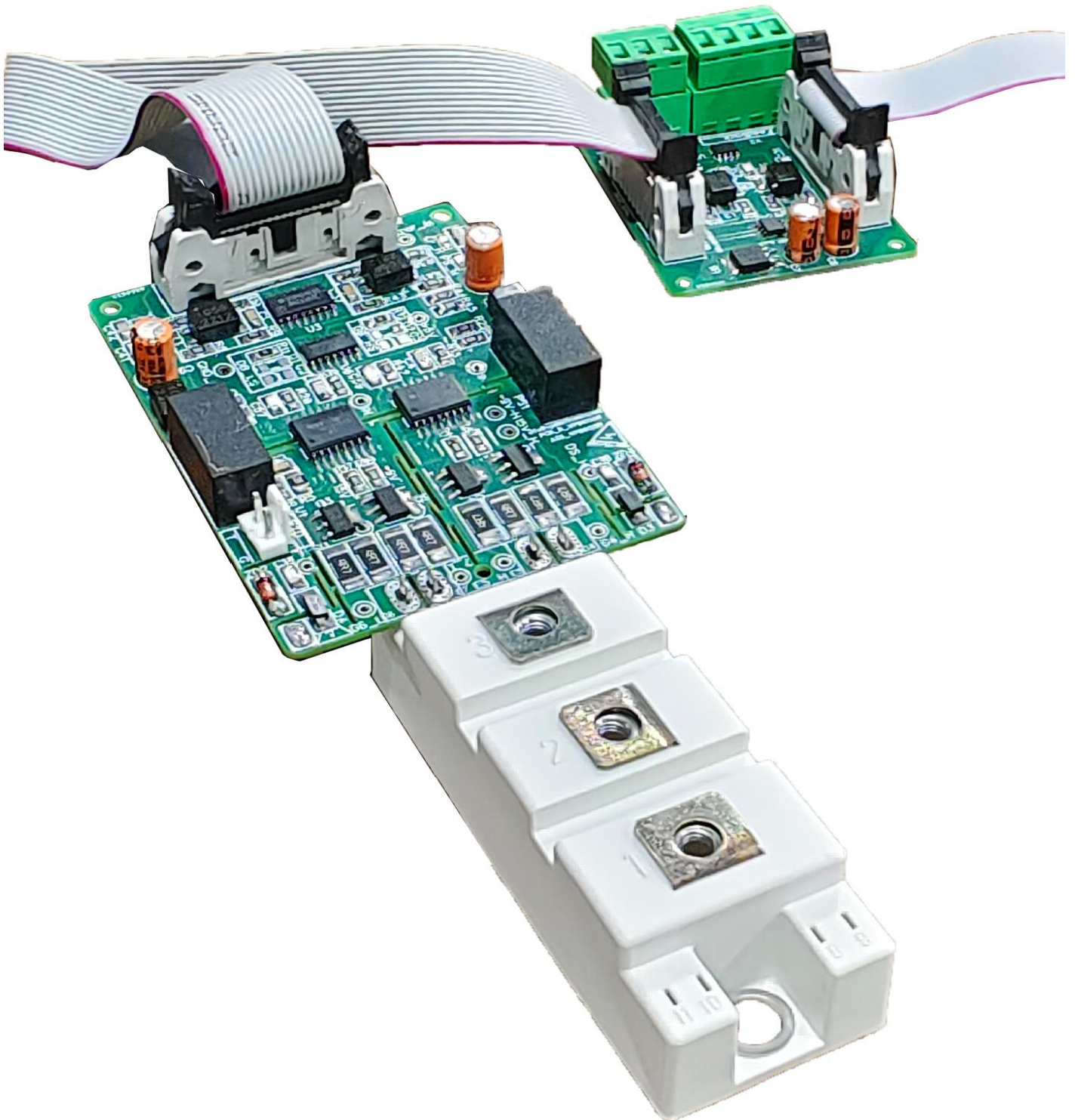
OUTPUT CONNECTOR INFORMATION

Pin Number	Parameter	Description
1	VDC	Power supply input pin
2	Common	Common
3	HS-P(*)	Positive Line of Differential High Side PWM Signal Pair.
4	HS-N(*)	Negative Line of Differential High Side PWM Signal Pair.
5	LS-P(*)	Positive Line of Differential Low Side PWM Signal Pair.
6	LS-N(*)	Negative Line of Differential Low Side PWM Signal Pair.
7	FAULT-P(*)	Positive Line of Differential Fault Condition Signal Pair. Drive Strength 20mA.
8	FAULT-N(*)	Negative Line of Differential Fault Condition Signal Pair. Drive Strength 20mA.

9	RTD-P(*)	Positive Line of Temperature Dependent Resistor Output Signal Pair.
10	RTD-N(*)	Negative Line of Temperature Dependent Resistor Output Signal Pair.
11	NOT USE	NOT USE
12	Common	Common
13	PWM-EN	Low Logic Level Disables PWM Signals on the Gate Driver. Straight pass-through from single-ended input.
14	Common	Common
15	OC-EN	Over-current Protection Enable. Straight pass-through to gate Driver.
	Reset	Over-current Protection Reset. Straight pass-through to gate driver.
16	Common	Common

* Inputs 3- 10 are differential pairs.





INTERFACING CARD FOR MICRO CONTROLLER OR DSP INPUT / OUTPUT SIGNAL TO DIFFERENTIAL OUTPUT FOR DUAL SIC DRIVER

Connector	Name	Description
X3	Single-Ended	Signal Input (from micro controller). It is crucial to keep the single-ended connection as short as possible.
X4	Differential	Signal Output (to Dual-Channel Gate Driver)

SAFETY NOTICE!

ATTENTION PLEASE! THIS DEVICE IS ESD SENSITIVE AND NEEDS TO BE HANDLED WITH CARE. HIGH VOLTAGE CONDITION MAY OCCUR DURING OPERATION OF THE DEVICE, AND HENCE USER IS SOLELY RESPONSIBLE OF EQUIPMENT AND PERSONNEL SAFETY. VP ELECTRONICS SHALL NOT BE HOLD LIABLE FOR ANY DAMAGE TO PERSONNEL AND/OR PROPERTIES AS A RESULT OF USING THIS DEVICE. USER MUST TAKE ADEQUATE STEPS TO ENSURE ELECTRICAL AND MECHANICAL SAFETY OF THE DEVICE IN USE.

For Further information or purchasing, please go to our web site:

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