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			IOD=-20mA
V_{ODL}	Differential Output Low Level		0.2	0.4	V	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.
15	Reset	Over-current Protection Reset. Straight pass –through to gate driver.
16	Common	Common

* Inputs 3- 10are differential pairs.

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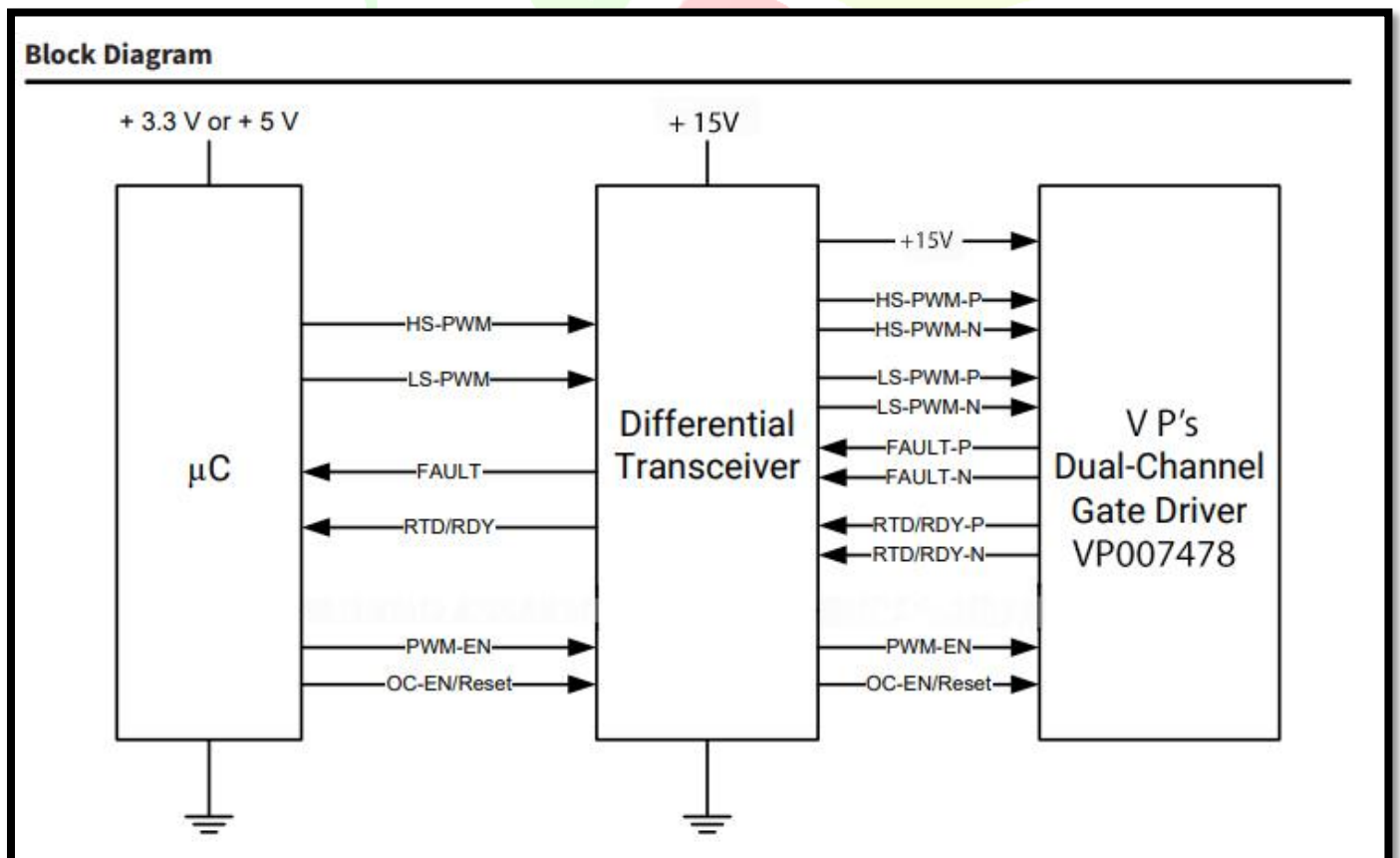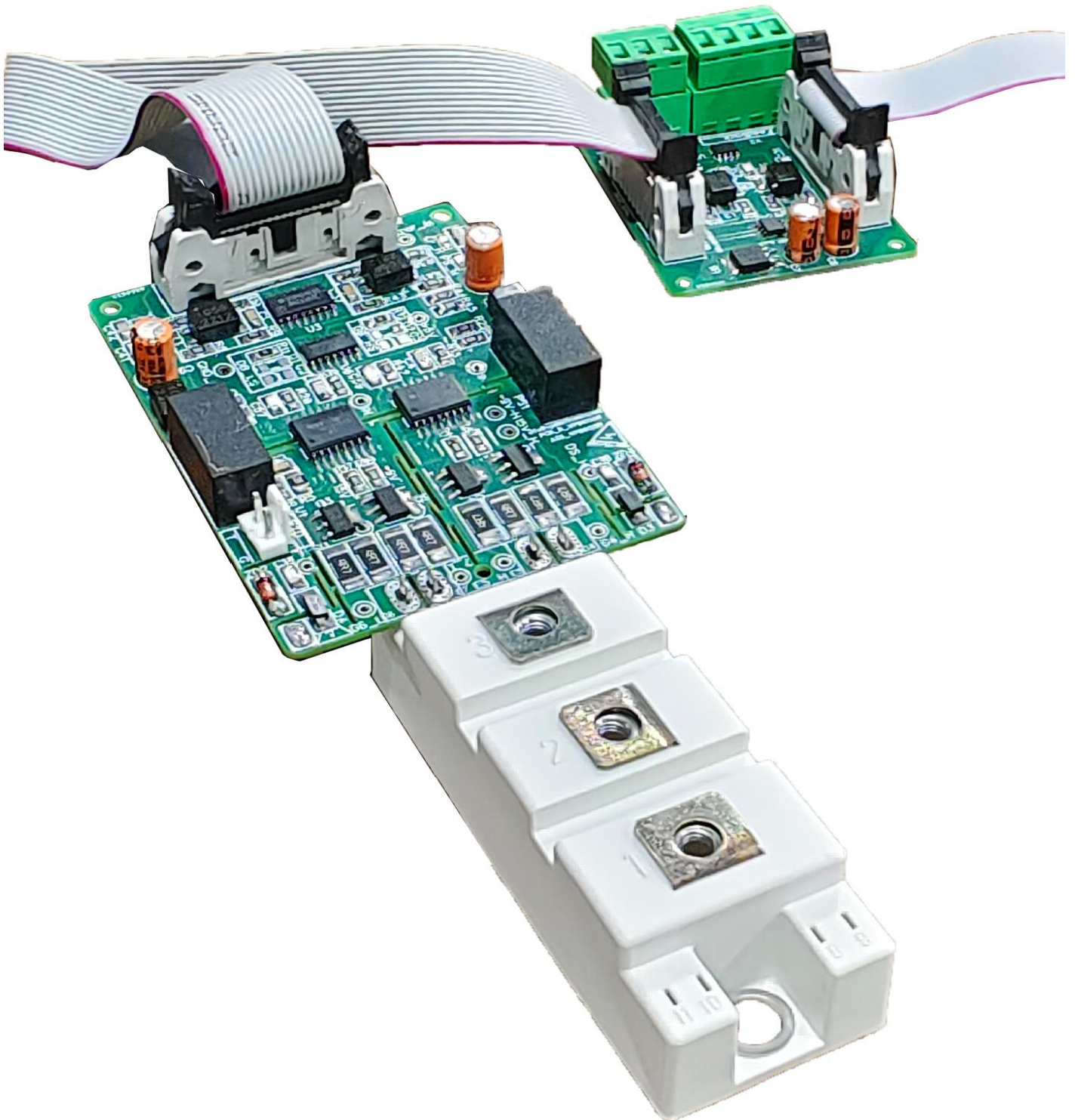
INTERFACING CARD FOR MICRO CONTROLLER OR DSP INPUT / OUTPUT SIGNAL TO DIFFERENTIAL OUTPUT FOR DUAL SIC DRIVER

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)

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

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