

Next-generation gate driver shared to SiC and IGBT

TAMURA

2DMB Series

Under Development

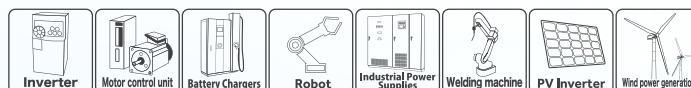
The next generation gate driver emerges with high insulation voltage (support to 1700V module) and low profile, in addition to the conventional low stray capacity.



Features

1. All-in-one (built-in DC-DC converter/Gate driver)
2. High insulation voltage (AC5kV)
3. Low stray capacity (12pF TYP)
4. Dual output corresponding to 2 in 1
5. Wide input voltage range (DC13V~28V)

Applications



General characteristics (Ta=25°C)

Item		Model			
		2DMB151507C*	2DMB151008C*	2DMB180407C*	2DMB180206C*
Application		IGBT		SiC-MOSFET	
Input	Input Voltage Range	DC13V~28V			
	Logic Input Voltage	DC3.3V~5V			
Output	Number of Output	2			
	Output Power (per 1ch)	3.6W (T.B.D)	4.0W (T.B.D)	3.3W (T.B.D)	3.0W (T.B.D)
	Gate Voltage (ON)	+14V~+16V	+14V~+16V	+17V~+19V	+17V~+19V
	Gate Voltage (OFF)	-14V~-16V	-9V~-11V	-3V~-5V	-1V~-3V
	Peak Output Current (Gate Current)	±35A(T.B.D)			
Insulation	Withstand Voltage	Primary to secondary : AC5000V			
		Secondary to secondary : AC4000V			
	Delay Time	150ns(T.B.D)			
	Minimum Clearance Distance	Primary to secondary : 14mm			
		Secondary to secondary : 7mm			
	Minimum Creepage Distance	Primary to secondary : 14mm			
Secondary to secondary : 12mm					
Function	Switching Mode Select	Direct mode and half bridge mode can be selected			
	Dead Time (Half Bridge Mode)	Adjustable by external circuit			
	Desaturation Protection	Yes			
	Soft Turn Off	Yes			
	Miller Clamp	Yes			
	Protection Release Condition	Auto recovery			
Environment	Ambient Temperature (Operating)	-40~+85℃ (Input Voltage : DC13V~18V) (TBD)			
		-40~+75℃ (Input Voltage : DC13V~28V) (TBD)			
	Ambient Humidity (Operating)	20~95%RH (Nil condensation)			
	Ambient Temperature (Storage)	-40~+90℃			
	Ambient Humidity (Storage)	5~95%RH (Nil condensation)			

*The content of this document is subject to change without prior notice for the purpose of improvements, etc.

*Blocking voltage up to 1700V

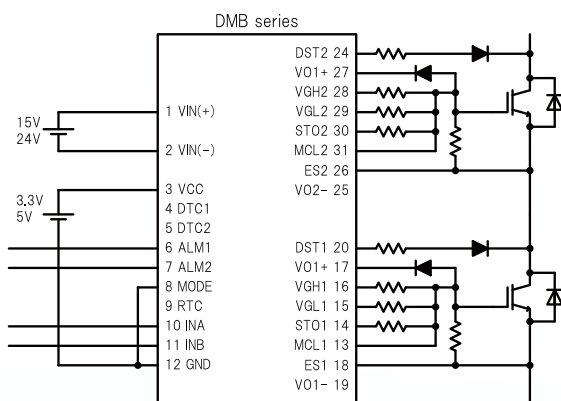
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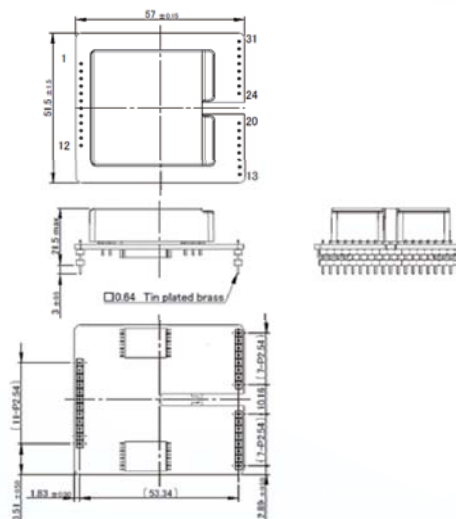
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Application Image



Outline Dimensional Drawing

No.	Name	No.	Name
1	VIN(+)	13	MCL1
2	VIN(-)	14	STO1
3	VCC	15	VGL1
4	DTC1	16	VGH1
5	DTC2	17	VO1+
6	ALM1	18	ES1
7	ALM2	19	VO1-
8	MODE	20	DST1
9	RTC	21	None
10	INA	22	None
11	INB	23	None
12	GND	24	DST2
		25	VO2-
		26	ES2
		27	VO2+
		28	VGH2
		29	VGL2
		30	STO2
		31	MCL2



Unit:mm

Note :1.The dimensional tolerance without directions is ± 0.5 mm.

Pin assignment

Input side

Pin No.	Name	Explanation of terminal
1	Vin(+)	Power supply terminal for DC/DC converter(+)
2	Vin(-)	Power supply terminal for DC/DC converter(-)
3	VCC	Power supply input pin of driver circuit
4	DTC1	Dead time adjustment pin (CH1)
5	DTC2	Dead time adjustment pin (CH2)
6	ALM1	Fault signal output pin (CH1)
7	ALM2	Fault signal output pin (CH2)
8	MODE	Mode selection pin
9	RTC	Pin for adjusting the recovery time of the protection circuit
10	INA	Control input terminal A
11	INB	Control input terminal B
12	GND	Ground pin for drive circuit

Output side

Pin No.	Name	CH	Explanation of terminal
13	MCL1	1	Miller clamp pin
14	STO1	1	Soft turn off pin
15	VGL1	1	OFF side of gate output
16	VGH1	1	ON side of gate output
17	VO1+	1	DC/DC converter output pin
18	ES1	1	Emitter or source connection pin
19	VO1-	1	DC/DC converter output pin
20	DST1	1	Desaturation protection pin
21	None		None
22	None		None
23	None		None
24	DST2	2	Desaturation protection pin
25	VO2-	2	DC/DC converter output pin
26	ES2	2	Emitter or source connection pin
27	VO2+	2	DC/DC converter output pin
28	VGH2	2	ON side of gate output
29	VGL2	2	OFF side of gate output
30	STO2	2	Soft turn off pin
31	MCL2	2	Miller clamp pin

Contact

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