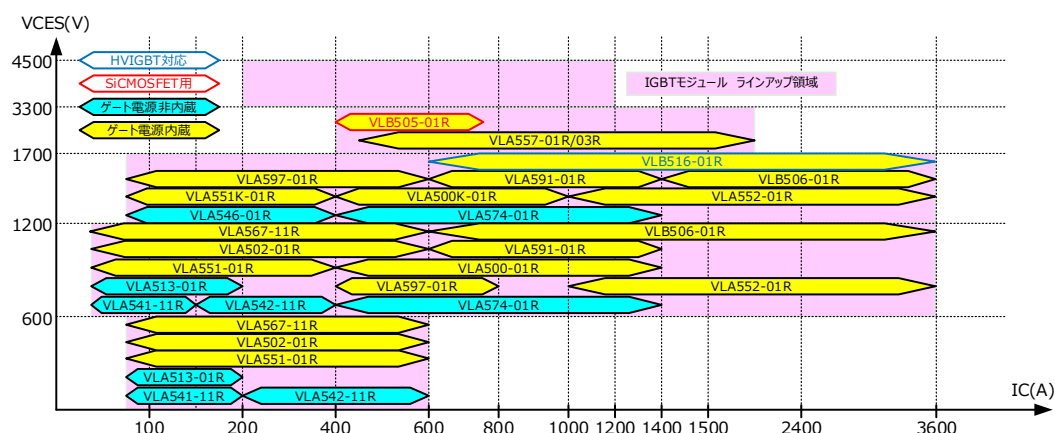


■ 特徴 Feature

イサハヤ製のゲートドライバは、50Aから3600Aクラスのパワーモジュールに幅広く対応しております。ほとんどの製品には短絡保護回路を内蔵しており、安全にパワー素子の短絡破壊を防ぐことができます。

ISAHAYA gate drivers support the power module for the wide area (50A to 3600A class). It has a short-circuit protection circuit built-in in most products, and short destruction of power device can be stopped safely.

■ 対応領域 (目安) Cover Area Map (rough standard)



※あくまでも目安となりますので、詳細はP12～のIGBTモジュール対応表をご参照ください。

※This is ever a rough standard, so see guide table for IGBT modules (P12～) for more information.

■ 製品体系図 Products Matrix

オンボードタイプ (ハイブリッドIC) ON-BOARD type (Hybrid ICs)	ゲート電源非内蔵 Non built in gate power supply P7	入出力が絶縁されたゲートドライバのみのシンプルなスタンダード製品。別途ゲート電源をご用意いただく必要があります。 Simple and standard product only of the gate drive circuit by whom I/O was insulated. It's necessary to prepare a special gate power supply.
	ゲート電源内蔵 Built in gate power supply P8	ゲート電源内蔵のゲートドライバ。単電源の供給のみでパワーモジュールの駆動が可能です。 Gate driver of gate power supply having within. It's possible to drive a power module only by supply of a single power supply.
	パルス変圧器駆動 Pulse transformer drive type P8	パルス変圧器方式のゲートドライバで、低容量の素子駆動に最適。ゲート電源は必要ありません。 It's a gate driver of a pulse transformer system and is most suitable for a driven device of low power. A gate power supply isn't necessary.
ユニットタイプ Unit Type	パワーモジュール非搭載型 Module-non mountable type P9	基板上にオンボードタイプのゲートドライバを複数回路搭載したゲートドライブユニット。評価用にも最適。 The gate drive unit into which a gate driver of on-board-type was loaded on the substrate more than one circuits. It's also most suitable for evaluation.
	パワーモジュール搭載型 Module mountable type P11	パワーモジュールに直接搭載可能なゲートドライブユニット。ゲート配線長を最短で接続することが可能です。 The gate drive by which loading is possible directly mountable a power module. It's possible to connect the gate wiring length by the shortest course.

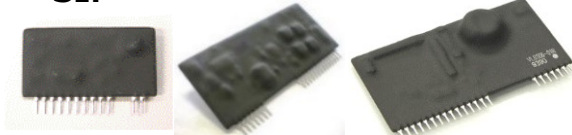
■ スペックマップ Spec Map

Structure	Gate power supply	Isolation voltage between primary and secondary		
		2.5kVrms	4kVrms	6kVrms
SIP	Non built in	M57159L (1.5A) VLA531 (2.5A) VLA507(3A) VLA541 (3A) VLA513(5A) M57962AL (5A) VLA542 (5A) VLA520(5A)	VLA546 (5A) VLA574 (15A)	
	Built in	VLA551(5A) VLA500(12A) VLA502(12A)	VLA551K(5A) VLA500K(12A) VLA552(24A) VLA554(24A) VLB506(40A)	
DIP	Built in	VLA567 (8A)	VLA597 (10A) VLA591 (20A)	
Unit	Non built in	VLA586(7A) for FMF800DX-24A/B		
	Built in	VLA536(5A) for EconoDUAL VLA592(5A) for EconoDUAL GAU205S-15252(5A) GAU205P-15252A(5A) GAU208P-15252(8A) GAU212S-15255(12A) GAU212P-15255(12A)	VLA598(10A) for EconoDUAL VLA593(20A) for PrimePACK VLA557-11R(24A) GAU205P-15402(5A) GAU220P-15402(20A) GAU240P-15405(40A) VLB512(30A) for SiC-MOSFET	VLA557-01R(24A) VLA557-03R(24A) VLB505(36A) for FMF750DC-66A VLB516-01R(40A)

() : Output peak current for gate

■ 構造例 Structure Example

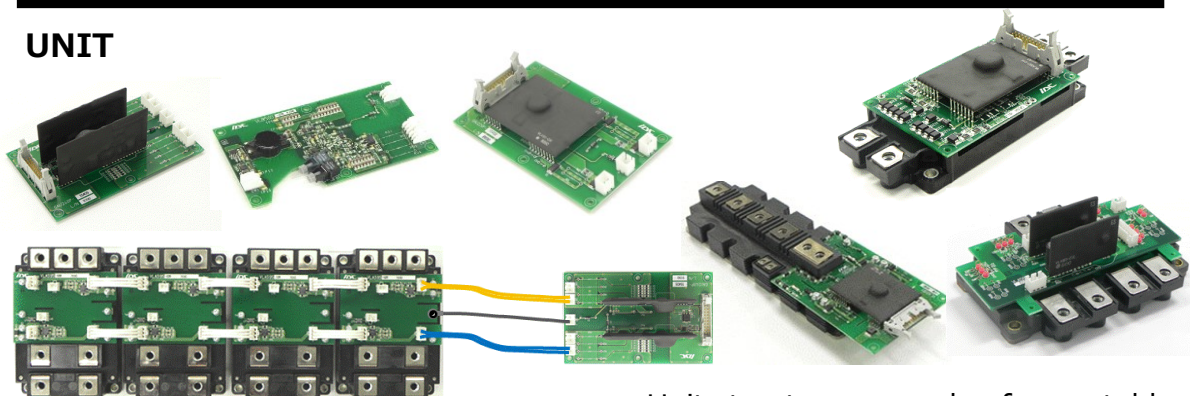
SIP



DIP



UNIT



Unit structure example of mountable

■ オンボード ゲート電源非内蔵 On-board, Non built in gate power supply



<1> Short current protection, <2> Adjustable fall time at protection, <3> Number of drive circuit

形名 Type Name	ターゲット IGBTモジュール仕様 Targeted IGBT Module Specification	構造 Structure	機能 Function		絶縁耐圧 Isolation		電源電圧 Power Supply VCC/ VEE (V)	出力 数 <3>	出力 Output			サイズ Size (H x W x D) (mm)	備考 Note
			短絡 保護 <1>	遮断 時間 調整 <2>	2500 V	4000 V			tPLH (us)	tPHL (us)	IOP (A)		
M57159L-01R	600V,~150A 1200V,~75A	SIP	○	—	○	—	+15V/ -10V	1	1.3	1.3	±1.5	22 x 43 x 11	
VLA531-01R	600V,~200A 1200V,~150A	SIP	○	—	○	—	+15V/ -10V	1	1.3	1.3	±2.5	18 x 42 x 6.5	Simple protection circuit
VLA507-01R	600V,~200A 1200V,~150A	SIP	—	—	○	—	+15V/ -10V	1	0.8	0.9	±3	20 x 30 x 7	
VLA541-11R	600V,~200A 1200V,~150A	SIP	○	—	○	—	+15V/ -10V	1	1	1	±3	26 x 44 x 8	Pin compatible with M57959AL
VLA513-01R	600V,~200A 1200V,~200A	SIP	—	—	○	—	+15V/ -10V	1	0.5	0.5	±5	27 x 48 x 7	fsw≤60kHz
M57962AL -01R-02	600V,~600A 1200V,~400A	SIP	○	—	○	—	+15V/ -10V	1	1	1.3	±5	25 x 51 x 12	
VLA542-11R	600V,~600A 1200V,~400A	SIP	○	—	○	—	+15V/ -10V	1	1	1	±5	26 x 44 x 8	Pin compatible with M57962AL
VLA520-01R	600V,~600A 1200V,~450A	SIP	○	—	○	—	+15V/ -10V	1	0.8	0.7	±5	27 x 45 x 12	Built-in error Signal coupler
VLA546-01R	600V,~600A 1200V,~400A 1700V,~400A	SIP	○	○	—	○	+15V/ -10V	1	1	1	±5	26 x 44 x 9	Pin compatible with M57962CL
VLA574-01R	600V,~600A 1200V,~1400A 1700V,~1400A	SIP	○	○	—	○	+15V/ -10V	1	1	1	±15	32 x 51 x 8.5	

■ IPM信号インターフェイス Signal interface modules for IPM

形名 Type Name	機能 Function	電源電圧 (V) Power Supply (V)	サイズ / Size (H x L x W) (mm)	用途 Application	備考 Note
VLA606-01R	信号インターフェイス Signal Interface	1次側 : 5V / 2次側 : 15V Primary side:5V / Secondary side:15V	31 x 86 x 12.5	IPM駆動 IPM drive	Viso = AC2500V
VLA606A-01R	信号インターフェイス Signal Interface	1次側 : 5V / 2次側 : 15V Primary side:5V / Secondary side:15V	26 x 83 x 10	IPM駆動 IPM drive	Viso = AC2500V

(注意) 仕様についてはホームページ掲載のデータシートをご覧ください。

(Note) Please see a DATASHEET of home page carrying about the specification.



■ オンボード ゲート電源内蔵 On-board, Built in gate power supply type

<1> Short current protection, <2> Adjustable fall time at protection, <3> Number of drive circuit

形名 Type Name	ターゲット IGBTモジュール仕様 Targeted IGBT Module Specification	構造 Structure	機能 Function		絶縁耐圧 Isolation		電源 電圧 Power Supply (V)	出力 Output				サイズ Size (H x W x D) (mm)	備考 Note
			短絡 保護 <1>	遮断 時間 調整 <2>	2500 V	4000 V		出力 数 <3>	tPLH (us)	tPHL (us)	IOP (A)		
VLA500-01R	600V,~600A 1200V,~1400A	SIP	○	○	○	—	VD= +15V	1	1	1.3	±12	33 x 83 x 15.5	
VLA500-02R	600V,~600A 1200V,~1400A	SIP	○	○	○	—	VD= +24V	1	1	1.3	±12	33 x 83 x 15.5	
VLA500K-01R	1200V,~1400A 1700V,~1000A	SIP	○	○	—	○	VD= +15V	1	1	1.3	±12	33 x 83 x 17	
VLA502-01R	600V,~600A 1200V,~600A	SIP	○	○	○	—	VD= +15V	1	0.65	0.65	±12	33 x 83 x 15.5	fsw≤60kHz
VLA551-01R	600V,~600A 1200V,~400A	SIP	○	○	○	—	VD= +15V	1	1	1	±5	39 x 63 x 15.5	
VLA551K-01R	1200V,~400A 1700V,~400A	SIP	○	○	—	○	VD= +15V	1	1	1	±5	39 x 63 x 15.5	
VLA552-01R	1200V,~3600A 1700V,~3600A	SIP	○	○	—	○	VD= +15V	1	1.5	1.5	±24	42 x 88 x 17	
VLA554-01R	1200V,~3600A 1700V,~3600A	SIP	○	○	—	○	VD= +15V	1	1	1	±24	42 x 88 x 17	Opto-coupler less for gate signal
VLA567-11R	600V,~600A 1200V,~600A	DIP	○	○	○	—	VD= +15V	2	0.8	0.8	±8	17 x 62 x 48	
VLA567-12R	600V,~600A 1200V,~600A	DIP	○	○	○	—	VD= +24V	2	0.8	0.8	±8	17 x 62 x 48	
VLA591-01R	1200V,~1400A 1700V,~1400A	DIP	○	○	—	○	VD= +15V	2	0.4	0.3	±20	19 x 68 x 53	fsw≤50kHz
VLA597-01R	1200V,~800A 1700V,~600A	DIP	○	—	—	○	VD= +15V	2	0.3	0.3	±10	18 x 62 x 47	
VLB506-01R	1200V,~3600A 1700V,~3600A	SIP	○	○	—	○	VD= +15V	1	TBD	TBD	±40	42.5 x 78.5 x 15	

New

■ オンボード パルストランス駆動方式 On-board, Pulse transformer drive type

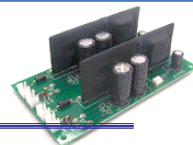
<1> Short current protection, <2> Adjustable fall time at protection, <3> Number of drive circuit

形名 Type Name	用途 Application		機能 Function		絶縁耐圧 Isolation		電源 電圧 Power Supply (V)	出力 Output				サイズ Size (H x W x D) (mm)	備考 Note
	IGBTモジュール 仕様 IGBT Module Specification	高速 High Speed	短絡 保護 <1>	遮断 時間 調整 <2>	2500 V	4000 V		出力 数 <3>	tPLH (us)	tPHL (us)	IOP (A)		
M57174L -03	Low power IGBT (less than 50A)	—	—	—	○	—	VCC1= +15V VCC2= +5V	3	2.2	2	±0.6	45 x 61 x 13	fsw≤3kHz
VLA526A -06AR	Low power IGBT (less than 50A)	—	—	—	○	—	VCC1= +15V VCC2= +5V	6	2.2/ 0.7 <4>	1.7/ 0.9 <4>	+0.6 -0.2	41.5 x 88 x 13	fsw≤3kHz

<4>... High-side / Low-side

(注意) 仕様についてはホームページ掲載のデータシートをご覧ください。

(Note) Please see a DATASHEET of home page carrying about the specification.



■ ユニット モジュール非搭載型 Unit, Module-non mountable type

<1> Short current protection, <2> Adjustable fall time at protection, <3> Number of drive circuit

形名 Type Name	ターゲット IGBTモジュール仕様 Targeted IGBT Module Specification	機能 Function		絶縁耐圧 Isolation			電源 電圧 Power Supply (V)	出力 Output				サイズ Size (W x D x T) (mm)	備考 Note
		短絡 保護 <1>	遮断 時間 調整 <2>	2500V	4000V	6000V		出力数 <3>	tPLH (us)	tPHL (us)	IOP (A)		
GAU205S -15252	600V,~200A 1200V,~200A	—	—	○	—	—	VD= +15V	2	0.5	0.5	±5	65 x 95 x 43	fsw≤ 60kHz
GAU205P -15252A	600V,~600A 1200V,~400A	○	—	○	—	—	VD= +15V	2	1	1	±5	65 x 95 x 43	
GAU405P -15252	600V,~600A 1200V,~400A	○	—	○	—	—	VD= +15V	4	1	1	±5	120x100 x 44	
GAU605P -15252	600V,~600A 1200V,~400A	○	—	○	—	—	VD= +15V	6	1	1	±5	188x100 x 44	
GAU208P -15252	600V,~600A 1200V,~600A	○	○	○	—	—	VD= +15V	2	1	1	±8	73 x 110 x 23	
GAU212S -15255	600V,~600A 1200V,~1400A	—	—	○	—	—	VD= +15V	2	0.65	0.65	±12	60 x 120 x 40	fsw≤ 60kHz
GAU212P -15255	600V,~600A 1200V,~1400A	○	○	○	—	—	VD= +15V	2	1	1.3	±12	65 x 120 x 40	
GAU205P -15402	1200V,~400A 1700V,~400A	○	○	—	○	—	VD= +15V	2	1	1	±5	74 x 100 x 40	
GAU215P -15405	1200V,~1400A 1700V,~1400A	○	○	—	○	—	VD= +15V	2	1	1	±15	77 x 100 x 38	
New GAU220P -15402	600V,~600A 650V,~600A 1200V,~1400A 1700V,~1800A	○	○	—	○	—	VD= +15V	2	0.4	0.3	±20	80 x 125 x 33	
New GAU240P -15405	1200V,~1400A 1700V,~1800A	○	○	—	○	—	VD= +15V	2	0.4	0.3	±40	80 x 130 x 48	
VLA557 -01R	3300V,~1500A	○	○	—	—	○	VD= +15V	1	0.8	0.5	±24	83 x 150 x 21	
VLA557 -03R	3300V,~600A	○	○	—	—	○	VD= +15V	1	0.8	0.5	±24	83 x 150 x 21	For LV100
VLA557 -11R	1700V,~2400A	○	○	—	○	—	VD= +15V	1	0.8	0.5	±24	83 x 150 x 21	
New VLB505 -01R	3300V,750A	○	—	—	—	○	VD= +15V	1	0.8	0.5	±36	83 x 150 x 14	For FMF75 ODC- 66A
UD VLB512 -01R	1200V,1200A 1700V,300A	○	—	—	○	—	VD= +15V	2	TBD	TBD	±30	90 x 145	For RTC
UD VLB516 -01R	1700V,~3600A	○	○	—	—	○	VD= +15V	1	TBD	TBD	±40	78 x 130 x 13.6	

■ 開発区分

New

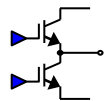
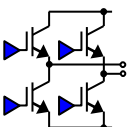
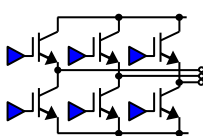
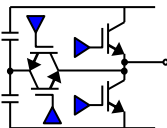
サンプル対応中 Samples available

UD

開発中 サンプルについてはお問い合わせください

Under development. Please ask for sample availability.

GAUシリーズセレクションマップ Selection Map (参考 Reference)

IGBT VCES	Output IC	Output Num.	Gate driver unit	Gate driver DC/DC CONVERTER	Application example
~1200V	200A	2	GAU205S-15252	VLA513-01R (x2) VLA106-15242 (x2)	 Half bridge
			GAU205P-15252A	VLA542-11R (x2) VLA106-15242 (x2)	
	400A	4	GAU405P-15252	VLA551-01R (x4) (Built in DC/DC type)	 Full bridge
		6	GAU605P-15252	VLA551-01R (x6) (Built in DC/DC type)	
	600A	2	GAU208P-15252	VLA567-11R (x1) (Built in DC/DC type)	 3-phase inverter
	1400A		GAU212S-15255	VLA502-01R (x2) (Built in DC/DC type)	
1700V	400A		GAU212P-15255	VLA500-01R (x2) (Built in DC/DC type)	 3-level inverter
	1400A		GAU205P-15402	VLA551K-01R (x2) (Built in DC/DC type)	
	1400A		GAU215P-15405	VLA574-01R (x2) VLA134-15255 (x2)	
	1800A		GAU220P-15402	VLA591-01R (x1) (Built in DC/DC type)	
	3600A		GAU240P-15405	VLB506-01R (x2) (Built in DC/DC type)	

(注意) 仕様についてはホームページ掲載のデータシートをご覧ください。

(Note) Please see a DATASHEET of home page carrying about the specification.

■ ユニット パワーモジュール搭載型

Unit, Power Module mountable type



<1> Short current protection, <2> Adjustable fall time at protection, <3> Number of drive circuit

形名 Type Name	用途 Application	機能 Function			絶縁耐圧 Isolation		電源 電圧 Power Supply (V)	出力 Output				サイズ Size (W x D x T) (mm)	備考 Note
	IGBTモジュール仕様 IGBT Module Specification	高速 High Speed	短絡保護 <1>	遮断時間調整 <2>	2500 V	4000 V		出力数 <3>	tPLH (us)	tPHL (us)	IOP (A)		
VLA536-01R	For MITSUBISHI NX series 600V, 400A 1200V, 450A	-	○	-	○	-	VD=+15V	2	0.8	0.7	±5	30.6 x 101 x 64	Built-in VLA520-01R
VLA553-01R	For MITSUBISHI CM2500DY-24S	-	○	-	-	○	VD=+15V	2	1	1	±24	44.6 x 143 x 110	Built-in VLA552-01R
VLA553-02R	For MITSUBISHI CM1800DY-34S	-	○	-	-	○	VD=+15V	2	1	1	±24	44.6 x 143 x 110	Built-in VLA552-01R
VLA555-01R	For MITSUBISHI CM2500DY-24S	-	○	-	-	○	VD=+15V	2	1	1	±24	44.6 x 143 x 110	Built-in VLA554-01R Fiber-optic interface
VLA555-02R	For MITSUBISHI CM1800DY-34S	-	○	-	-	○	VD=+15V	2	1	1	±24	44.6 x 143 x 110	Built-in VLA554-01R Fiber-optic interface
VLA559-01R	For Prime PACK VCES:1200V series	-	○	-	-	○	VD=+15V	2	1	1	±24	44.6 x 149 x 95	Built-in VLA552-01R
VLA586-01R	For MITSUBISHI FMF800DX-24B (SiC-MOSFET)	-	○	-	○	-	VCC=+16V VEE=-13V	2	1	0.8	±7	128 x 65.5 x 30	Built-in VLA561-01R
VLA592-01R	For Econo Dual 1200V,450A	-	○	-	○	-	VD=+15V	2	0.8	0.7	±5	30.6 x 101 x 64	Built-in VLA520-01R
VLA593-11R	For Prime PACK 1700V,~1400A	○	○	○	-	○	VD=+15V	2	0.4	0.3	±20	24.6 x 149 x 94	Built-in VLA591-01R
VLA598-01R	For Econo Dual 1200V,800A	○	○	-	-	○	VD=+15V	2	TBD	TBD	±10	31.4 x 101 x 64	Built-in VLA597-01R
VLA598-11R	For Econo Dual 1700V,600A	○	○	-	-	○	VD=+15V	2	TBD	TBD	±10	31.4 x 101 x 64	Built-in VLA597-01R

(注意) 仕様についてはホームページ掲載のデータシートをご覧ください。

(Note) Please see a DATASHEET of home page carrying about the specification.

■ 三菱IGBTモジュール対応表 Guide table for MITSUBISHI IGBT modules

Character symbol ... (D) Gate Driver, (P) Gate Power supply,
(H) Built in gate power supply type Gate Driver

<For T series NX type> T series : 7th generation Mitsubishi IGBT modules								
VCES \ IC	100A	150A	200A	225A	300A	450A	600A	1000A
650V	(D)VLA541 (P)VLA106 (H)VLA567			No IGBT	(D)VLA541 (P)VLA106 (H)VLA567	(D)VLA542, VLA546 (P)VLA106 (H)VLA567		No IGBT
1200V	(D)VLA541, (P)VLA106 (H)VLA567		(D)VLA542, VLA546, (P)VLA106 (H)VLA567, VLA597			(H)VLA567, VLA591, VLA597		(H)VLA500 (H)VLA591
1700V	No IGBT			(D)VLA546, (P)VLA124 (H)VLA551K, VLA597		(H)VLA500K, VLA591, VLA597		No IGBT

<For T series std. type> T series : 7th generation Mitsubishi IGBT modules							
VCES \ IC	100A	150A	200A	300A	400A	450A	600A
650V	(D)VLA541 (P)VLA106 (H)VLA567				(D)VLA542, VLA546 (P)VLA106 (H)VLA567	No IGBT	(D)VLA542, VLA546 (P)VLA106 (H)VLA567
1200V	(D)VLA541 (P)VLA106 (H)VLA567,VLA597		(D)VLA542, VLA546 (P)VLA106 (H)VLA567,VLA597		No IGBT	(D)VLA542, VLA546 (P)VLA106 (H)VLA567,VLA597	(H)VLA567 (H)VLA591,VLA597
1700V	(D)VLA546, (P)VLA124 (H)VLA551K, VLA591,VLA597					No IGBT	

<For NF series> NF series : 5th generation Mitsubishi IGBT modules										
VCES \ IC	50A	75A	100A	150A	200A	300A	400A	600A	900A	1400A
600V	No IGBT	(D)M57159L (P)VLA106		(D)VLA541 (P)VLA106 (H)VLA567		(D)VLA542 / (D)VLA546 (P)VLA106 (H)VLA567			No IGBT	
1200V		(D)M57159L (P)VLA106		(D)VLA541 (P)VLA106 (H)VLA567,VLA597		(D)VLA542, VLA546 (P)VLA106 (H)VLA567,VLA597			(H)VLA500, VLA591	

<For A series> A series : 5th generation Mitsubishi IGBT modules							
VCES\IC	75A	100A	150A	200A	300A	400A	600A
1200V	No IGBT	(D)VLA541, (P)VLA106 (H)VLA567,VLA597			(D)VLA542, VLA546, (P)VLA106 (H)VLA567,VLA597		
1700V	(D)VLA546, (P)VLA124 (H)VLA551K, VLA591,VLA597						No IGBT

<For 6 th Generation series>														
VCES \ IC	35A	50A	75A	100A	150A	200A	300A	400A	450A	600A	1000A 1100A	1500A	1800A	2500A
1200V	(D)M57159L (P)VLA106					(D)VLA541 (P)VLA106 (H)VLA567		(D)VLA542, VLA546 (P)VLA106 (H)VLA567, VLA597			(H)VLA500		(H)VLA552	
1700V	No IGBT	(D)VLA546, (P)VLA124 (H)VLA551K, VLA597									(H)VLA500K (H)VLA591		(H)VLA552	No IGBT

<For NFH series> NFH series : MITSUBISHI high frequency switching IGBT modules ~ Up to 60kHz use ~						
VCES \ IC	100A	150A	200A	300A	400A	600A
600V	(D)VLA513			(H)VLA502		No Driver
1200V	(D)VLA513			(H)VLA502		

Note) 600V,100A Class → CM100DUS-12F / 600V,150A Class → CM150DUS-12F

<For 3-Level IGBT CM400ST-24S1>			
Power Module	Ratings	Bridge part	AC switch part
CM400ST-24S1	1200V / 400A	(D)VLA542 (P)VLA106	(D)VLA513 (P)VLA106

■ 富士電機 IGBTモジュール対応表 Guide table for FUJII IGBT modules

Character symbol ... (D) Gate Driver, (P) Gate Power supply,
(H) Built in gate power supply type Gate Driver

< For V series >													
VCES \ IC	50A	75A	100A	150A	200A	225A	300A	400A	450A	550A	600A	800A	900A
600V	(D) M57159L (P) VLA106		(D) VLA541 (P) VLA106			NO IGBT	(D) VLA542 (P) VLA106 (H) VLA551		NO IGBT		(D) VLA574 (H) VLA500		NO IGBT
1200V	(D) M57159L (P) VLA106		(D) VLA541 (P) VLA106			(D) VLA542 (P) VLA106 (H) VLA551		(D) VLA574 (H) VLA500					
1700V	NO IGBT						(D)VLA546 (P)VLA124 (H)VLA551K	NO IGBT		(D) VLA574 (H) VLA500K			NO IGBT

IC VCES	1000A	1200A	1400A	1600A
600V	NO IGBT			
1200V	NO IGBT	(H) VLA552		
1700V	(H) VLA552			

< For X series >										
VCES \ IC	75A	100A	150A	200A	225A	300A	400/ 450A	600A	650A	800A
650V	No IGBT		(D)VLA541 (P)VLA106			(D)VLA542, (P)VLA106 (H)VLA567		No IGBT		
1200V	No IGBT		(D)VLA541 (P)VLA106			(D)VLA542, (P)VLA106 (H)VLA567		No IGBT		(H)VLA567
1700V	(D)VLA546 (P)VLA124 (H)VLA597							(H)VLA597		

< For X series >					
IC VCES	900	1000A	1200A	1400A	1800A
650V	No IGBT				
1200V	(H)VLA597			(H)VLA591	
1700V	(H)VLA597		(H)VLA591		

■ インフィニオンIGBTモジュール対応表 Guide table for Infineon IGBT modules

Character symbol ... (D) Gate Driver, (P) Gate Power supply,
(H) Built in gate power supply type Gate Driver

< For Infineon IGBT3 >														For example : FF300R12KE3 → 300A	
VCES \ IC	35A	40A	50A	75A	100A	150A	200A	225A	300A	400A	450A	600A	800A		
600V 650V	NO IGBT		(D) M57159L (P) VLA106		(D) VLA541 (P) VLA106		(D) VLA542 (P) VLA106 (H) VLA551					(D)VLA574 (H)VLA500	NO IGBT		
1200V	(D) M57159L (P) VLA106				(D) VLA541 (P) VLA106			(D) VLA542 (P) VLA106 (H) VLA551				(D) VLA574 (H) VLA500			
1600V 1700V	NO IGBT		(D) VLA546 (P) VLA124 (H) VLA551K									(D) VLA574 (H) VLA500K			

IC VCES	1200A	1600A	1800A	2400A
600V 650V	NO IGBT			
1200V	(D) VLA574 (H) VLA500	(H) VLA552	NO IGBT	(H) VLA552
1600V 1700V	(H) VLA552			

< For Infineon IGBT3 Fast >										
IC VCES	35A	40A	50A	75A	100A	150A	200A	225A	300A	400A
1200V			(D) M57159L (P) VLA106		(D) VLA541 (P) VLA106			NO IGBT		(D) VLA542 (P) VLA106 (H) VLA551

< For Infineon IGBT4 >													
IC VCES	35A	50A	75A	100A	150A	200A	225A	300A	400A	450A	600A	650A	800A
600V 650V	NO IGBT	(D) M57159L (P) VLA106		(D) VLA541 (P) VLA106		(D) VLA542, (P) VLA106 (H) VLA551				NO IGBT			
1200V		(D) M57159L (P) VLA106			(D) VLA541 (P) VLA106			(D) VLA542, (P) VLA106 (H) VLA551					NO IGBT
1600V 1700V	NO IGBT			(D) VLA546, (P) VLA124 (H) VLA551K								(D) VLA574 (H) VLA500K	

< For Infineon IGBT4 >

VCES \ IC	900A	1000A	1200A	1400A	1600A	1800A	2400A	3600A
600V 650V	NO IGBT							
1200V	(D)VLA574 (H)VLA500	NO IGBT	(D) VLA574 (H) VLA500	(H) VLA552				
1600V 1700V	NO IGBT	(D) VLA574 (H) VLA500K	(H) VLA552					(H) VLB506

< For Infineon IGBT4 Fast >

VCES \ IC	50A	75A	100A	150A	200A	300A	450A
1200V	(D) M57159L (P) VLA106			(D) VLA541 (P) VLA106		(D) VLA542, (P) VLA106 (H) VLA551	

< For Infineon IGBT5 >

VCES \ IC	1200A	1500A	1800A
650V	No IGBT		
1200V	(H)VLA597 (H)VLA591		(H)VLA591
1700V	(H)VLA597 (H)VLA591		(H)VLA591

■ イサハヤ独自技術 パワーモジュールゲート並列駆動システム Isahaya Original Design Power Module Parallel Gate Drive System

3.3kV、750AクラスSiC-MOSFETモジュールへの応用例

Example using 3.3kV, 750A class SiC-MOSFET module

◆コネクタを接続するだけでゲート並列接続が完成

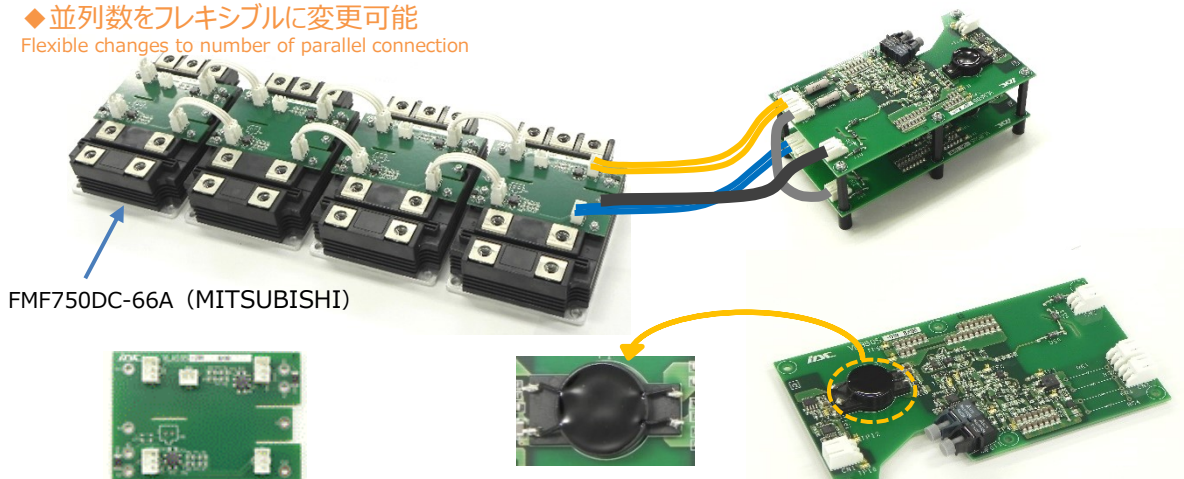
Simple connectors to establish parallel gate connection

◆当社独自のTLAC接続法により並列素子間のゲート、エミッタ配線長バランスを自動調整
(TLAC → Total Line length Adjustment Circuit)

Isahaya original TLAC connection method enabling auto adjustments of gate and emitter wiring length between parallel elements

◆並列数をフレキシブルに変更可能

Flexible changes to number of parallel connection



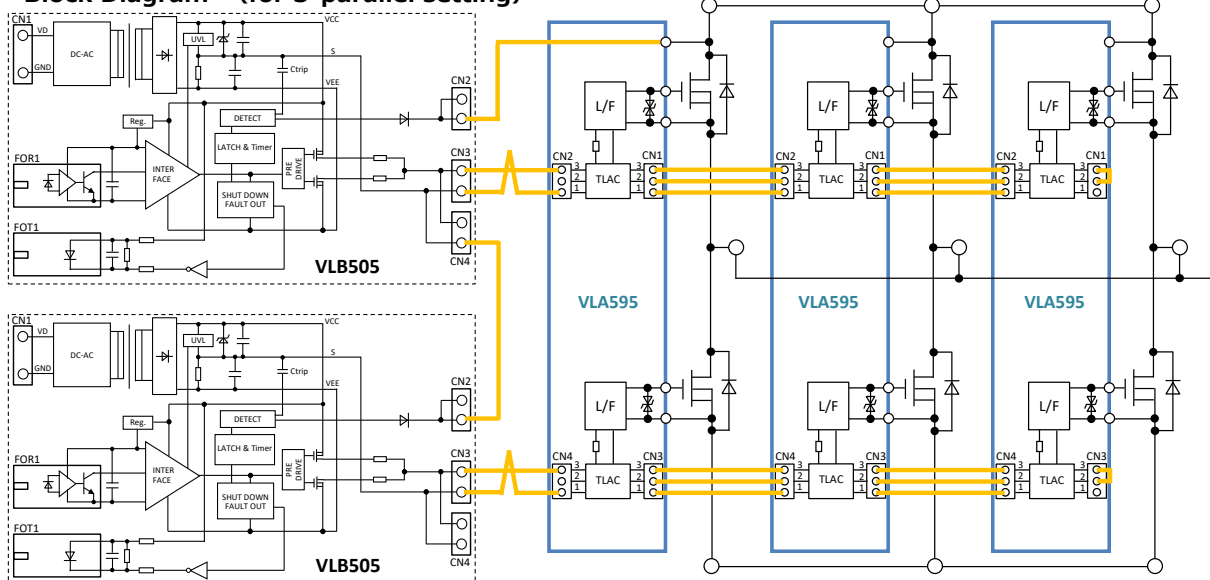
FMF750DC-66A (MITSUBISHI)

Adapter Unit : VLA595-04R

高絶縁耐圧電源トランス内蔵
絶縁耐圧6kVrms
Built-in high Isolation voltage power
transformer Isolation voltage 6kVrms

Gate Driver Unit : VLB505-01R

Block Diagram (for 3-parallel setting)



特 徴 Features

- 一次-二次間絶縁耐圧 6000Vrms 1分間保証
Isolated Primary-Secondary, 6000Vrms, 1min guaranteed
- ゲート駆動用絶縁型電源内蔵
Built-in isolated power supply for gate driver
- トータルゲート出力ピーク電流 ±36A(max)
Total gate output peak current ±36A(max)
- 短絡保護回路内蔵
Built-in short circuit protection
- 光ファイバーインターフェイス対応 (PWM信号入力およびエラー信号出力)
Optic fibre interface (PWM signal input and error signal output)

用 途 Application

高圧インバータ、高圧直流送電システム、風力発電、VVVF 等

Medium voltage inverter, HVDC infrastructure,
Wind power generator, VVVF, etc.

製品商談情報 Product business discussion information

必須*	貴社情報 Company Information	貴社名 Company Name	
必須*		部署名 Department	
必須*		ご担当様名 PIC Name	
必須*		ご担当様勤務地 PIC Address	
必須*		ご連絡先メールアドレス PIC Email Address	
必須*		ご連絡先電話番号 PIC Phone Number	
必須*	ご希望仕様情報 Requested Specifications	対象IGBT名 (複数社併用が決定しているのであれば全て) IGBT Module (in the case of multiple IGBT modules used, please indicate all)	☐ 三菱電機 モジュール名 : ☐ Mitsubishi Electric P/N :
必須*			☐ 富士電機 モジュール名 : ☐ Fuji Electric P/N :
必須*			☐ インフィニオン モジュール名 : ☐ Infineon P/N :
必須*			☐ セミクロン モジュール名 : ☐ Semikron P/N :
必須*			☐ その他 モジュール名 : ☐ Others P/N :
必須*			使用スイッチング周波数 Switching Frequency
必須*		ゲート電源 Gate Power Supply	☐ 内蔵 • ☐ 非内蔵 • ☐ 不問 • ☐ その他 ☐ Built-in • ☐ Non built-in • ☐ N/A • ☐ Others
必須*		構造 Type/Structure	☐ 搭載型 • ☐ 別置き • ☐ ハイブリッドIC • ☐ 不問 • ☐ その他 ☐ Mountable • ☐ Non-mountable • ☐ Hybrid IC • ☐ N/A • ☐ Others
		インターフェース Interface	☐ 電気信号 • ☐ 光ファイバー ☐ Electric Signal • ☐ Optic Fibre
		ドライバ使用形態 Driver Usage	☐ 単一ドライバ 単一IGBT接続 • ☐ 単一ドライバ複数IGBT接続(パラ数 個) • ☐ その他 ☐ Single driver single IGBT ☐ Single driver multiple IGBT(No of parallel __) • ☐ Others
必須*	商談情報 Project Information その他 Others	用途 Application	
必須*		数量条件 Production Quantity	☐ 継続使用 個/月 • ☐ スポット生産 個/月 ☐ Continuous pcs/month • ☐ Lot-based pcs/month
		その他ご希望事項 Additional Requests	
		ご購入中のイサハヤ製品の有無 Purchase History of Isahaya Products	☐ 有り 品種例 : • ☐ 無し ☐ Yes P/N: • ☐ None
		上記有りの場合ご購入先代理店名 Distributor Name for Previous Purchase	

All fields marked with * must be completed.