



IGBTモジュールの特長 Features of the IGBT Module

第6世代IGBTモジュール Vシリーズ 6th Gen. IGBT Module V-series

■特長 Features

パッケージ小型化と出力のパワー UP を実現！

- ・高性能、低損失な第六世代 IGBT チップ・FWD を使用
- ・ $T_j \text{ max } 175^\circ\text{C}$ 、連続動作保証 150°C

環境に優しいモジュール

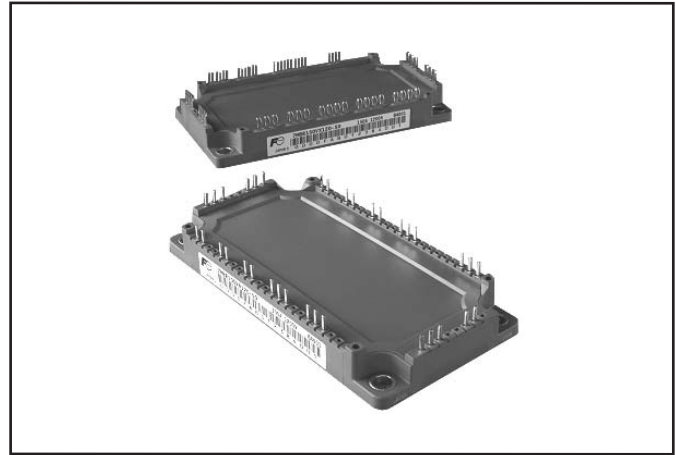
- ・豊富な組立性、ハンダレス組立への対応
- ・RoHS 対応

ターンオン特性

- ・ノイズー損失トレードオフの改善
- ・ dv/dt , dic/dt 低減によるノイズ・振動の抑制

ターンオフ特性

- ・ソフトスイッチング特性・ターンオフ振動の抑制



A compact design allows for greater power output

- ・High performance 6th gen. IGBT/FWD chipset
- ・ $T_j(\text{max.})=175^\circ\text{C}$, $T_j(\text{op})=150^\circ\text{C}$

Environmentally friendly modules

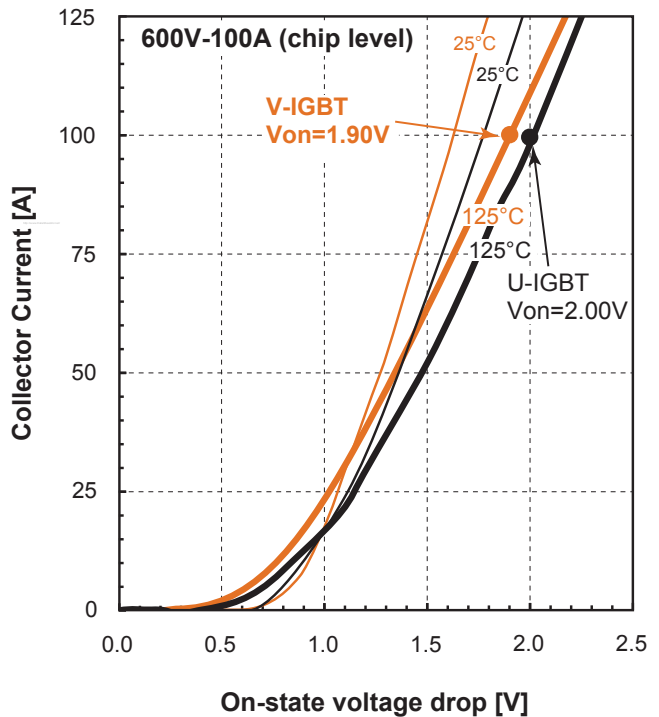
- ・Easy assemblage, solder free options
- ・RoHS compliant

Turn-on switching characteristics

- ・Improved noise-loss trade-off
- ・Reduced turn-on dv/dt , excellent turn-on dic/dt

Turn-off switching characteristic

- ・Soft switching behavior, turn-off oscillation free

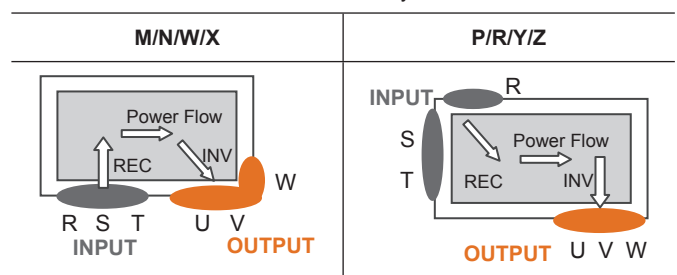


EP2 and EP3 Lineup

| U,U4 series | | V series | | | | | |
|-------------|-----|-------------------|-------|----------------|-------|------------|-------|
| | | A | B | M/P | N/R | W/Y | X/Z |
| 1200V | | EP2XT | | EP2XT | | EP2XT | |
| 25A | EP2 | | | | | | |
| 35A | | | EP3XT | | | | |
| 50A | EP3 | | | | EP3XT | | EP3XT |
| 75A | | | | | | | |
| 100A | | | | | | | |
| 150A | | | | | | | |
| | | Legacy Pin Layout | | New Pin Layout | | Solderless | |

入出力端子配置

In/Out Pin Layout





IGBTモジュールVシリーズ IGBT Modules V series

Vシリーズ PIM (コンバータ部・ブレーキ部内蔵) EconoPIM™ 600V,1200Vクラス
 V series PIM/Built-in converter and brake EconoPIM™ 600,1200 volts class

| 型 式 Device type | インバータ部 Inverter [IGBT] | | | | ブレーキ部 Brake [IGBT+FWD] | | | コンバータ部 Converter [Diode] | | | | パッケージ Package | 質量 Net mass Grams |
|--------------------|------------------------|----------------|----------------|----------------------|------------------------|----------------|------------------|--------------------------|----------------|-----------------|------------------|------------------|-------------------------|
| | V _{CEs} | I _c | P _c | V _{CE(sat)} | V _{CEs} | I _c | V _{RRM} | V _{RRM} | I _o | V _{FM} | I _{FSM} | | |
| | Volts | Cont. Amps. | Watts | Typ. Volts | Volts | Cont. Amps. | Volts | Volts | Cont. Amps. | Typ. Volts | Amps. | | |
| 7MBR50VP060-50 | 600 | 50 | 200 | 1.6 | 600 | 50 | 600 | 800 | 50 | 1.3 | 210 | M719 | 200 |
| 7MBR75VP060-50 | 600 | 75 | 300 | 1.6 | 600 | 50 | 600 | 800 | 75 | 1.25 | 500 | M719 | 200 |
| 7MBR100VP060-50 | 600 | 100 | 430 | 1.85 | 600 | 50 | 600 | 800 | 100 | 1.25 | 700 | M719 | 200 |
| 7MBR100VR060-50 | 600 | 100 | 335 | 1.6 | 600 | 50 | 600 | 800 | 100 | 1.25 | 700 | M720 | 310 |
| 7MBR150VR060-50 | 600 | 150 | 485 | 1.6 | 600 | 75 | 600 | 800 | 150 | 1.25 | 700 | M720 | 310 |
| 7MBR50VY060-50 | 600 | 50 | 215 | 1.6 | 600 | 50 | 600 | 800 | 50 | 1.3 | 210 | M721 | 200 |
| 7MBR75VY060-50 | 600 | 75 | 300 | 1.6 | 600 | 50 | 600 | 800 | 75 | 1.25 | 500 | M721 | 200 |
| 7MBR100VY060-50 | 600 | 100 | 430 | 1.85 | 600 | 50 | 600 | 800 | 100 | 1.25 | 700 | M721 | 200 |
| 7MBR100VZ060-50 | 600 | 100 | 335 | 1.6 | 600 | 50 | 600 | 800 | 100 | 1.25 | 700 | M722 | 310 |
| 7MBR150VZ060-50 | 600 | 150 | 485 | 1.6 | 600 | 75 | 600 | 800 | 150 | 1.25 | 700 | M722 | 310 |
| 7MBR50VA060-50 | 600 | 50 | 200 | 1.6 | 600 | 50 | 600 | 800 | 50 | 1.3 | 210 | M711 | 180 |
| 7MBR75VB060-50 | 600 | 75 | 300 | 1.6 | 600 | 50 | 600 | 800 | 75 | 1.25 | 500 | M712 | 300 |
| 7MBR100VB060-50 | 600 | 100 | 335 | 1.6 | 600 | 50 | 600 | 800 | 100 | 1.25 | 700 | M712 | 300 |
| 7MBR25VM120-50 | 1200 | 25 | 170 | 1.85 | 1200 | 25 | 1200 | 1600 | 25 | 1.4 | 155 | M719 | 200 |
| 7MBR35VM120-50 | 1200 | 35 | 210 | 1.85 | 1200 | 25 | 1200 | 1600 | 35 | 1.35 | 260 | M719 | 200 |
| 7MBR50VM120-50 | 1200 | 50 | 280 | 1.85 | 1200 | 35 | 1200 | 1600 | 50 | 1.35 | 360 | M719 | 200 |
| 7MBR50VN120-50 | 1200 | 50 | 280 | 1.85 | 1200 | 35 | 1200 | 1600 | 50 | 1.35 | 360 | M720 | 310 |
| 7MBR75VN120-50 | 1200 | 75 | 385 | 1.85 | 1200 | 50 | 1200 | 1600 | 75 | 1.4 | 520 | M720 | 310 |
| 7MBR100VN120-50 | 1200 | 100 | 520 | 1.75 | 1200 | 75 | 1200 | 1600 | 100 | 1.5 | 520 | M720 | 310 |
| 7MBR150VN120-50 | 1200 | 150 | 885 | 1.85 | 1200 | 100 | 1200 | 1600 | 150 | 1.4 | 780 | M720 | 310 |
| 7MBR25VY120-50 | 1200 | 25 | 170 | 1.85 | 1200 | 25 | 1200 | 1600 | 25 | 1.42 | 155 | M721 | 200 |
| 7MBR35VY120-50 | 1200 | 35 | 210 | 1.85 | 1200 | 25 | 1200 | 1600 | 35 | 1.35 | 260 | M721 | 200 |
| 7MBR50VY120-50 | 1200 | 50 | 280 | 1.85 | 1200 | 35 | 1200 | 1600 | 50 | 1.35 | 360 | M721 | 200 |
| 7MBR50VZ120-50 | 1200 | 50 | 280 | 1.85 | 1200 | 35 | 1200 | 1600 | 50 | 1.35 | 360 | M722 | 310 |
| 7MBR75VZ120-50 | 1200 | 75 | 385 | 1.85 | 1200 | 50 | 1200 | 1600 | 75 | 1.4 | 520 | M722 | 310 |
| 7MBR100VZ120-50 | 1200 | 100 | 520 | 1.75 | 1200 | 75 | 1200 | 1600 | 100 | 1.5 | 520 | M722 | 310 |
| 7MBR150VZ120-50 | 1200 | 150 | 885 | 1.85 | 1200 | 100 | 1200 | 1600 | 150 | 1.4 | 780 | M722 | 310 |
| 7MBR25VP120-50 | 1200 | 25 | 170 | 1.85 | 1200 | 25 | 1200 | 1600 | 25 | 1.4 | 155 | M719 | 200 |
| 7MBR35VP120-50 | 1200 | 35 | 210 | 1.85 | 1200 | 25 | 1200 | 1600 | 35 | 1.35 | 260 | M719 | 200 |
| 7MBR50VP120-50 | 1200 | 50 | 280 | 1.85 | 1200 | 35 | 1200 | 1600 | 50 | 1.35 | 360 | M719 | 200 |
| 7MBR50VR120-50 | 1200 | 50 | 280 | 1.85 | 1200 | 35 | 1200 | 1600 | 50 | 1.35 | 360 | M720 | 310 |
| 7MBR75VR120-50 | 1200 | 75 | 385 | 1.85 | 1200 | 50 | 1200 | 1600 | 75 | 1.4 | 520 | M720 | 310 |
| 7MBR100VR120-50 | 1200 | 100 | 520 | 1.75 | 1200 | 75 | 1200 | 1600 | 100 | 1.5 | 520 | M720 | 310 |
| 7MBR150VR120-50 | 1200 | 150 | 885 | 1.85 | 1200 | 100 | 1200 | 1600 | 150 | 1.4 | 780 | M720 | 310 |
| 7MBR25VW120-50 | 1200 | 25 | 170 | 1.85 | 1200 | 25 | 1200 | 1600 | 25 | 1.4 | 155 | M721 | 200 |
| 7MBR35VW120-50 | 1200 | 35 | 210 | 1.85 | 1200 | 25 | 1200 | 1600 | 35 | 1.35 | 260 | M721 | 200 |
| 7MBR50VW120-50 | 1200 | 50 | 280 | 1.85 | 1200 | 35 | 1200 | 1600 | 50 | 1.35 | 360 | M721 | 200 |
| 7MBR50VX120-50 | 1200 | 50 | 280 | 1.85 | 1200 | 35 | 1200 | 1600 | 50 | 1.35 | 360 | M722 | 310 |
| 7MBR75VX120-50 | 1200 | 75 | 385 | 1.85 | 1200 | 50 | 1200 | 1600 | 75 | 1.4 | 520 | M722 | 310 |
| 7MBR100VX120-50 | 1200 | 100 | 520 | 1.75 | 1200 | 75 | 1200 | 1600 | 100 | 1.5 | 520 | M722 | 310 |
| 7MBR150VX120-50 | 1200 | 150 | 885 | 1.85 | 1200 | 100 | 1200 | 1600 | 150 | 1.4 | 780 | M722 | 310 |
| 7MBR25VA120-50 | 1200 | 25 | 170 | 1.85 | 1200 | 25 | 1200 | 1600 | 25 | 1.4 | 155 | M711 | 180 |
| 7MBR35VA120-50 | 1200 | 35 | 210 | 1.85 | 1200 | 25 | 1200 | 1600 | 35 | 1.35 | 260 | M711 | 180 |
| 7MBR35VB120-50 | 1200 | 35 | 210 | 1.85 | 1200 | 25 | 1200 | 1600 | 35 | 1.35 | 260 | M712 | 300 |
| 7MBR50VB120-50 | 1200 | 50 | 280 | 1.85 | 1200 | 35 | 1200 | 1600 | 50 | 1.35 | 360 | M712 | 300 |
| 7MBR75VB120-50 | 1200 | 75 | 385 | 1.85 | 1200 | 50 | 1200 | 1600 | 75 | 1.4 | 520 | M712 | 300 |

注: EconoPIM™ は Infineon Technology 社の登録商標です。

V_{CE(sat)}, V_{FM}: at T_j=25°C, Chip

Note: EconoPIM™ is registered trademarks of Infineon Technology AG, Germany.

記号 Letter symbols

| | | | |
|---------------------------------|---|--------------------------------------|---|
| V _{CEs} : コレクタ・エミッタ間電圧 | Collector-to-emitter rated voltage (Gate-to-emitter short-circuited) | P _c : 最大損失 | Maximum power dissipation |
| V _{GES} : ゲート・エミッタ間電圧 | Gate-to-emitter rated voltage (Collector-to-emitter short-circuited) | V _{CE(sat)} : コレクタ・エミッタ飽和電圧 | Collector-to-emitter saturation voltage |
| I _c : コレクタ電流 | Rated collector current | t _{on} : ターンオン時間 | Turn-on time |
| | | t _{off} : ターンオフ時間 | Turn-off time |
| | | t _r : 立下り時間 | Fall time |



IGBTモジュール Vシリーズ IGBT Modules V series

Vシリーズ 6個組 EconoPACK™, EconoPACK™+ 600V,1200V,1700Vクラス

V series 6 in 1 package EconoPACK™ and EconoPACK™+ 600,1200,1700 volts class

| 型式 Device type | V _{CES} Volts | V _{GES} Volts | I _C Cont. Amps. | P _C Watts | V _{CE(sat)} (V _{GE} =15V) | | スイッチングタイム Switching time | | | | | | パッケージ Package | 質量 Net mass Grams |
|-------------------|---------------------------|---------------------------|----------------------------------|-------------------------|---|-------------------------|--------------------------|---------------|-----------------------|---------------|---------------------|---------------|------------------|-------------------------|
| | | | | | Typ. Volts | I _C Amps. | ton Typ. μsec. | Max. μsec. | toff Typ. μsec. | Max. μsec. | tf Typ. μsec. | Max. μsec. | | |
| 6MBI50VA-060-50 | 600 | ±20 | 50 | 200 | 1.6 | 50 | 0.36 | 1.2 | 0.52 | 1.2 | 0.03 | 0.45 | M636 | 180 |
| 6MBI75VA-060-50 | 600 | ±20 | 75 | 275 | 1.6 | 75 | 0.36 | 1.2 | 0.52 | 1.2 | 0.03 | 0.45 | M636 | 180 |
| 6MBI100VA-060-50 | 600 | ±20 | 100 | 335 | 1.6 | 100 | 0.36 | 1.2 | 0.52 | 1.2 | 0.03 | 0.45 | M636 | 180 |
| 6MBI150VB-060-50 | 600 | ±20 | 150 | 485 | 1.6 | 150 | 0.36 | 1.2 | 0.52 | 1.2 | 0.03 | 0.45 | M633 | 300 |
| 6MBI50VW-060-50 | 600 | ±20 | 50 | 215 | 1.6 | 50 | 0.36 | 1.2 | 0.52 | 1.2 | 0.03 | 0.45 | M647 | 200 |
| 6MBI75VW-060-50 | 600 | ±20 | 75 | 300 | 1.6 | 75 | 0.36 | 1.2 | 0.52 | 1.2 | 0.03 | 0.45 | M647 | 200 |
| 6MBI100VW-060-50 | 600 | ±20 | 100 | 335 | 1.6 | 100 | 0.36 | 1.2 | 0.52 | 1.2 | 0.03 | 0.45 | M647 | 200 |
| 6MBI150VX-060-50 | 600 | ±20 | 150 | 485 | 1.6 | 150 | 0.36 | 1.2 | 0.52 | 1.2 | 0.03 | 0.45 | M648 | 300 |
| 6MBI50VA-120-50 | 1200 | ±20 | 50 | 280 | 1.85 | 50 | 0.39 | 1.2 | 0.53 | 1.0 | 0.06 | 0.3 | M636 | 180 |
| 6MBI75VA-120-50 | 1200 | ±20 | 75 | 385 | 1.85 | 75 | 0.39 | 1.2 | 0.53 | 1.0 | 0.06 | 0.3 | M636 | 180 |
| 6MBI100VA-120-50 | 1200 | ±20 | 100 | 520 | 1.75 | 100 | 0.39 | 1.2 | 0.53 | 1.0 | 0.06 | 0.3 | M636 | 180 |
| 6MBI100VB-120-50 | 1200 | ±20 | 100 | 520 | 1.75 | 100 | 0.39 | 1.2 | 0.53 | 1.0 | 0.06 | 0.3 | M633 | 300 |
| 6MBI150VB-120-50 | 1200 | ±20 | 150 | 770 | 1.75 | 150 | 0.39 | 1.2 | 0.53 | 1.0 | 0.06 | 0.3 | M633 | 300 |
| 6MBI180VB-120-50 | 1200 | ±20 | 150 | 835 | 1.85 | 200 | 0.39 | 1.2 | 0.53 | 1.0 | 0.06 | 0.3 | M633 | 300 |
| 6MBI180VB-120-55 | 1200 | ±20 | 150 | 1075 | 1.85 | 200 | 0.39 | 1.2 | 0.53 | 1.0 | 0.06 | 0.3 | M633 | 300 |
| 6MBI50VW-120-50 | 1200 | ±20 | 50 | 280 | 1.85 | 50 | 0.39 | 1.2 | 0.53 | 1.0 | 0.06 | 0.3 | M647 | 200 |
| 6MBI75VW-120-50 | 1200 | ±20 | 75 | 385 | 1.85 | 75 | 0.39 | 1.2 | 0.53 | 1.0 | 0.06 | 0.3 | M647 | 200 |
| 6MBI100VW-120-50 | 1200 | ±20 | 100 | 520 | 1.75 | 100 | 0.39 | 1.2 | 0.53 | 1.0 | 0.06 | 0.3 | M647 | 200 |
| 6MBI100VX-120-50 | 1200 | ±20 | 100 | 520 | 1.75 | 100 | 0.39 | 1.2 | 0.53 | 1.0 | 0.06 | 0.3 | M648 | 300 |
| 6MBI150VX-120-50 | 1200 | ±20 | 150 | 770 | 1.75 | 150 | 0.39 | 1.2 | 0.53 | 1.0 | 0.06 | 0.3 | M648 | 300 |
| 6MBI180VX-120-50 | 1200 | ±20 | 150 | 835 | 1.85 | 200 | 0.39 | 1.2 | 0.53 | 1.0 | 0.06 | 0.3 | M648 | 300 |
| 6MBI180VX-120-55 | 1200 | ±20 | 150 | 1075 | 1.85 | 200 | 0.39 | 1.2 | 0.53 | 1.0 | 0.06 | 0.3 | M648 | 300 |
| 6MBI225V-120-50 | 1200 | ±20 | 225 | 1070 | 1.85 | 225 | 0.55 | - | 1.05 | - | 0.11 | - | M629 | 950 |
| 6MBI300V-120-50 | 1200 | ±20 | 300 | 1600 | 1.75 | 300 | 0.55 | - | 1.05 | - | 0.11 | - | M629 | 950 |
| 6MBI450V-120-50 | 1200 | ±20 | 450 | 2250 | 1.75 | 450 | 0.55 | - | 1.05 | - | 0.11 | - | M629 | 950 |
| 6MBI550V-120-50 | 1200 | ±20 | 550 | 2500 | 1.85 | 600 | 0.55 | - | 1.05 | - | 0.11 | - | M629 | 950 |
| 6MBI300V-170-50 | 1700 | ±20 | 300 | 1665 | 2.00 | 300 | 0.90 | - | 1.30 | - | 0.10 | - | M629 | 950 |
| 6MBI450V-170-50 | 1700 | ±20 | 450 | 2500 | 2.00 | 450 | 0.90 | - | 1.30 | - | 0.10 | - | M629 | 950 |

注: EconoPACK™、EconoPACK™+ は Infineon Technology 社の登録商標です。

V_{CE} (sat): at T_j=25°C, Chip

6MBI180VB-120-55、6MBI180VX-120-55 は低熱抵抗パッケージ適用

Note: EconoPACK™、and EconoPACK™+ are registered trademarks of Infineon Technology AG, Germany.

6MBI180VB-120-55, 6MBI180VX-120-55; Premium type (Low Thermal Impedance Version)



■ IGBTモジュール Vシリーズ IGBT Modules V series

Vシリーズ 小容量PIM (コンバータ部・ブレーキ部内蔵) 600V,1200Vクラス

V series Compact PIM/Built-in converter and brake 600,1200 volts class

| 型 式 Device type | インバータ部 Inverter [IGBT] | | | | ブレーキ部 Brake [IGBT+FWD] | | | コンバータ部 Converter [Diode] | | | | パッケージ Package | 質量 Net mass Grams |
|--------------------|------------------------|----------------|----------------|----------------------|------------------------|----------------|------------------|--------------------------|----------------|-----------------|------------------|------------------|-------------------------|
| | V _{CES} | I _C | P _C | V _{CE(sat)} | V _{CES} | I _C | V _{RRM} | V _{RRM} | I _O | V _{FM} | I _{FSM} | | |
| | Volts | Amps. | Watts | Typ. Volts | Volts | Amps. | Volts | Volts | Amps. | Volts | Amps. | | |
| 7MBR10VKA060-50 | 600 | 10 | 65 | 1.70 | 600 | 10 | 600 | 800 | 10 | 0.95 | 360 | M726 | 25 |
| 7MBR15VKA060-50 | 600 | 15 | 80 | 1.70 | 600 | 15 | 600 | 800 | 15 | 1.00 | 360 | M726 | 25 |
| 7MBR20VKA060-50 | 600 | 20 | 90 | 1.70 | 600 | 20 | 600 | 800 | 20 | 1.05 | 360 | M726 | 25 |
| 7MBR30VKA060-50 | 600 | 30 | 115 | 1.70 | 600 | 30 | 600 | 800 | 30 | 1.15 | 360 | M726 | 25 |
| 7MBR50VKB060-50 | 600 | 50 | 180 | 1.60 | 600 | 50 | 600 | 800 | 50 | 1.25 | 580 | M727 | 45 |
| 7MBR10VKC060-50 | 600 | 10 | 65 | 1.70 | 600 | 10 | 600 | 800 | 10 | 0.95 | 360 | M728 | 25 |
| 7MBR15VKC060-50 | 600 | 15 | 80 | 1.70 | 600 | 15 | 600 | 800 | 15 | 1.00 | 360 | M728 | 25 |
| 7MBR20VKC060-50 | 600 | 20 | 90 | 1.70 | 600 | 20 | 600 | 800 | 20 | 1.05 | 360 | M728 | 25 |
| 7MBR30VKC060-50 | 600 | 30 | 115 | 1.70 | 600 | 30 | 600 | 800 | 30 | 1.15 | 360 | M728 | 25 |
| 7MBR50VKD060-50 | 600 | 50 | 180 | 1.60 | 600 | 50 | 600 | 800 | 50 | 1.25 | 580 | M729 | 45 |
| 7MBR10VKA120-50 | 1200 | 10 | 110 | 1.85 | 1200 | 10 | 1200 | 1600 | 10 | 0.95 | 245 | M726 | 25 |
| 7MBR15VKA120-50 | 1200 | 15 | 135 | 1.90 | 1200 | 15 | 1200 | 1600 | 15 | 1.00 | 245 | M726 | 25 |
| 7MBR15VKB120-50 | 1200 | 15 | 135 | 1.90 | 1200 | 15 | 1200 | 1600 | 15 | 1.00 | 245 | M727 | 45 |
| 7MBR25VKB120-50 | 1200 | 25 | 180 | 1.85 | 1200 | 25 | 1200 | 1600 | 25 | 1.00 | 370 | M727 | 45 |
| 7MBR35VKB120-50 | 1200 | 35 | 215 | 1.85 | 1200 | 35 | 1200 | 1600 | 35 | 1.05 | 370 | M727 | 45 |
| 7MBR10VKC120-50 | 1200 | 10 | 110 | 1.85 | 1200 | 10 | 1200 | 1600 | 10 | 0.95 | 245 | M728 | 25 |
| 7MBR15VKC120-50 | 1200 | 15 | 135 | 1.90 | 1200 | 15 | 1200 | 1600 | 15 | 1.00 | 245 | M728 | 25 |
| 7MBR15VKD120-50 | 1200 | 15 | 135 | 1.90 | 1200 | 15 | 1200 | 1600 | 15 | 1.00 | 245 | M729 | 45 |
| 7MBR25VKD120-50 | 1200 | 25 | 180 | 1.85 | 1200 | 25 | 1200 | 1600 | 25 | 1.00 | 370 | M729 | 45 |
| 7MBR35VKD120-50 | 1200 | 35 | 215 | 1.85 | 1200 | 35 | 1200 | 1600 | 35 | 1.05 | 370 | M729 | 45 |

V_{CE(sat)}, V_{FM} : at T_J=25°C, Chip



IGBTモジュール Vシリーズ IGBT Modules V series

Vシリーズ 2個組 600V,1200V,1700Vクラス
 V series 2 in 1 package 600,1200 1700 volts class

| 型式 Device type | V _{CES} Volts | V _{GES} Volts | I _C Cont. Amps. | P _C Watts | V _{CE(sat)} (V _{GE} =15V) | | スイッチングタイム Switching time | | | | | | パッケージ Package | 質量 Net mass Grams |
|-------------------|---------------------------|---------------------------|----------------------------------|-------------------------|---|-------------------------|--------------------------|---------------|---------------|---------------|---------------|---------------|------------------|-------------------------|
| | | | | | Typ. Volts | I _C Amps. | ton | | toff | | tf | | | |
| | | | | | | | Typ. μsec. | Max. μsec. | Typ. μsec. | Max. μsec. | Typ. μsec. | Max. μsec. | | |
| 2MBI100VA-060-50 | 600 | ±20 | 100 | 330 | 1.60 | 100 | 0.65 | - | 0.60 | - | 0.04 | - | M263 | 180 |
| 2MBI150VA-060-50 | 600 | ±20 | 150 | 480 | 1.60 | 150 | 0.65 | - | 0.60 | - | 0.04 | - | M263 | 180 |
| 2MBI200VA-060-50 | 600 | ±20 | 200 | 640 | 1.60 | 200 | 0.65 | - | 0.60 | - | 0.04 | - | M263 | 180 |
| 2MBI300VB-060-50 | 600 | ±20 | 300 | 1360 | 1.60 | 300 | 0.65 | - | 0.60 | - | 0.07 | - | M274 | 240 |
| 2MBI400VB-060-50 | 600 | ±20 | 400 | 1970 | 1.60 | 400 | 0.65 | - | 0.60 | - | 0.07 | - | M274 | 240 |
| 2MBI400VD-060-50 | 600 | ±20 | 400 | 1970 | 1.60 | 400 | 0.65 | - | 0.60 | - | 0.07 | - | M275 | 370 |
| 2MBI600VD-060-50 | 600 | ±20 | 600 | 2940 | 1.60 | 600 | 0.75 | - | 0.75 | - | 0.07 | - | M275 | 370 |
| 2MBI600VE-060-50 | 600 | ±20 | 600 | 2940 | 1.60 | 600 | 0.75 | - | 0.75 | - | 0.07 | - | M277 | 470 |
| 2MBI75VA-120-50 | 1200 | ±20 | 75 | 390 | 1.85 | 75 | 0.60 | - | 0.60 | - | 0.04 | - | M263 | 180 |
| 2MBI100VA-120-50 | 1200 | ±20 | 100 | 555 | 1.85 | 100 | 0.60 | - | 0.60 | - | 0.04 | - | M263 | 180 |
| 2MBI150VA-120-50 | 1200 | ±20 | 150 | 785 | 1.85 | 150 | 0.60 | - | 0.60 | - | 0.04 | - | M263 | 180 |
| 2MBI150VB-120-50 | 1200 | ±20 | 150 | 1070 | 1.85 | 150 | 0.60 | - | 0.80 | - | 0.08 | - | M274 | 240 |
| 2MBI200VB-120-50 | 1200 | ±20 | 200 | 1500 | 1.75 | 200 | 0.60 | - | 0.80 | - | 0.08 | - | M274 | 240 |
| 2MBI200VH-120-50 | 1200 | ±20 | 200 | 1110 | 1.75 | 200 | 0.60 | - | 0.80 | - | 0.08 | - | M276 | 370 |
| 2MBI225VN-120-50 | 1200 | ±20 | 225 | 1070 | 1.85 | 225 | 0.55 | - | 1.05 | - | 0.11 | - | M254 | 350 |
| 2MBI225VJ-120-50 | 1200 | ±20 | 225 | 1070 | 1.85 | 225 | 0.55 | - | 1.05 | - | 0.11 | - | M260 | 360 |
| 2MBI300VD-120-50 | 1200 | ±20 | 300 | 2200 | 1.85 | 300 | 0.60 | - | 0.80 | - | 0.08 | - | M275 | 370 |
| 2MBI300VH-120-50 | 1200 | ±20 | 300 | 1600 | 1.75 | 300 | 0.60 | - | 0.80 | - | 0.08 | - | M276 | 370 |
| 2MBI300VE-120-50 | 1200 | ±20 | 300 | 2200 | 1.85 | 300 | 0.60 | - | 0.80 | - | 0.08 | - | M277 | 470 |
| 2MBI300VN-120-50 | 1200 | ±20 | 300 | 1595 | 1.75 | 300 | 0.55 | - | 1.05 | - | 0.11 | - | M254 | 350 |
| 2MBI300VJ-120-50 | 1200 | ±20 | 300 | 1595 | 1.75 | 300 | 0.55 | - | 1.05 | - | 0.11 | - | M260 | 360 |
| 2MBI400VD-120-50 | 1200 | ±20 | 400 | 3330 | 1.75 | 400 | 0.60 | - | 0.80 | - | 0.08 | - | M275 | 370 |
| 2MBI450VH-120-50 | 1200 | ±20 | 450 | 2400 | 1.80 | 450 | 0.60 | - | 0.80 | - | 0.08 | - | M276 | 370 |
| 2MBI450VE-120-50 | 1200 | ±20 | 450 | 3350 | 1.80 | 450 | 0.60 | - | 0.80 | - | 0.08 | - | M277 | 470 |
| 2MBI450VN-120-50 | 1200 | ±20 | 450 | 2270 | 1.75 | 450 | 0.55 | - | 1.05 | - | 0.11 | - | M254 | 350 |
| 2MBI450VJ-120-50 | 1200 | ±20 | 450 | 2270 | 1.75 | 450 | 0.55 | - | 1.05 | - | 0.11 | - | M260 | 360 |
| 2MBI600VE-120-50 | 1200 | ±20 | 600 | 4800 | 1.75 | 600 | 0.60 | - | 0.80 | - | 0.08 | - | M277 | 470 |
| 2MBI600VN-120-50 | 1200 | ±20 | 600 | 3750 | 1.85 | 600 | 0.55 | - | 1.05 | - | 0.11 | - | M254 | 350 |
| 2MBI600VJ-120-50 | 1200 | ±20 | 600 | 3750 | 1.85 | 600 | 0.55 | - | 1.05 | - | 0.11 | - | M260 | 360 |
| 2MBI600VG-120P | 1200 | ±20 | 600 | TBD | TBD | 600 | TBD | - | TBD | - | TBD | - | M256 | 1500 |
| 2MBI800VG-120P | 1200 | ±20 | 800 | TBD | TBD | 800 | TBD | - | TBD | - | TBD | - | M256 | 1500 |
| 2MBI1200VG-120P | 1200 | ±20 | 1200 | TBD | TBD | 1200 | TBD | - | TBD | - | TBD | - | M256 | 1500 |
| 2MBI75VA-170-50 | 1700 | ±20 | 75 | 555 | 2.00 | 75 | 1.25 | - | 1.30 | - | 0.15 | - | M263 | 180 |
| 2MBI100VA-170-50 | 1700 | ±20 | 100 | 665 | 2.00 | 100 | 1.25 | - | 1.30 | - | 0.15 | - | M263 | 180 |
| 2MBI150VH-170-50 | 1700 | ±20 | 150 | 1110 | 2.00 | 150 | 0.95 | - | 1.05 | - | 0.14 | - | M276 | 370 |
| 2MBI200VH-170-50 | 1700 | ±20 | 200 | 1250 | 2.00 | 200 | 1.15 | - | 1.05 | - | 0.14 | - | M276 | 370 |
| 2MBI300VH-170-50 | 1700 | ±20 | 300 | 1805 | 2.00 | 300 | 1.15 | - | 1.05 | - | 0.14 | - | M276 | 370 |
| 2MBI300VN-170-50 | 1700 | ±20 | 300 | 1665 | 2.00 | 300 | 0.90 | - | 1.30 | - | 0.10 | - | M254 | 350 |
| 2MBI450VN-170-50 | 1700 | ±20 | 450 | 2500 | 2.00 | 450 | 0.90 | - | 1.30 | - | 0.10 | - | M254 | 350 |
| 2MBI550VN-170-50 | 1700 | ±20 | 550 | 3750 | 2.15 | 550 | 1.00 | - | 1.30 | - | 0.10 | - | M254 | 350 |
| 2MBI550VJ-170-50 | 1700 | ±20 | 550 | 3750 | 2.15 | 550 | 1.00 | - | 1.30 | - | 0.10 | - | M260 | 360 |
| 2MBI600VG-170E | 1700 | ±20 | 600 | 4410 | 2.00 | 600 | 2.28 | - | 2.07 | - | 0.58 | - | M256 | 1500 |
| 2MBI600VT-170E | 1700 | ±20 | 600 | 4280 | 2.00 | 600 | 1.51 | - | 2.07 | - | 0.58 | - | M278 | 900 |
| 2MBI800VG-170E | 1700 | ±20 | 800 | 5760 | 2.00 | 800 | 2.41 | - | 2.13 | - | 0.55 | - | M256 | 1500 |
| 2MBI800VT-170E | 1700 | ±20 | 800 | 5370 | 2.00 | 800 | 2.00 | - | 2.13 | - | 0.55 | - | M278 | 900 |
| 2MBI1200VG-170E | 1700 | ±20 | 1200 | 7500 | 2.00 | 1200 | 2.76 | - | 2.29 | - | 0.33 | - | M256 | 1500 |
| 2MBI1200VT-170E | 1700 | ±20 | 1200 | 7040 | 2.00 | 1200 | 2.14 | - | 2.29 | - | 0.33 | - | M278 | 900 |

V_{CE} (sat): at T_j=25°C, Chip



■ IGBTモジュール Vシリーズ IGBT Modules V series

Vシリーズ 2個組 PrimePACK™ 1200V,1700Vクラス
 V series 2 in 1 package PrimePACK™ 1200,1700 volts class

| 型 式 Device type | V _{CES} Volts | V _{GES} Volts | I _C Amps. | P _C Watts | V _{CE(sat)} (V _{GE} =15V) | | スイッチングタイム Switching time | | | | | | パッケージ Package | 質量 Net mass Grams |
|---------------------|---------------------------|---------------------------|-------------------------|-------------------------|---|-------------------------|--------------------------|------|------|------|------|------|------------------|-------------------------|
| | | | | | Typ. | I _C Amps. | ton | | toff | | tf | | | |
| | | | | | | | Typ. | Max. | Typ. | Max. | Typ. | Max. | | |
| 2MBI600VXA-120E-50 | 1200 | ±20 | 600 | 3350 | 1.75 | 600 | 1.00 | - | 1.20 | - | 0.15 | - | M271 | 850 |
| 2MBI600VXA-120E-54 | 1200 | ±20 | 600 | 3350 | 1.75 | 600 | 1.00 | - | 1.20 | - | 0.15 | - | M271 | 850 |
| 2MBI900VXA-120E-50 | 1200 | ±20 | 900 | 5100 | 1.75 | 900 | 1.00 | - | 1.20 | - | 0.15 | - | M271 | 850 |
| 2MBI900VXA-120E-54 | 1200 | ±20 | 900 | 5100 | 1.75 | 900 | 1.00 | - | 1.20 | - | 0.15 | - | M271 | 850 |
| 2MBI900VXA-120P-50 | 1200 | ±20 | 900 | 5100 | 1.65 | 900 | 1.00 | - | 1.20 | - | 0.15 | - | M271 | 850 |
| 2MBI900VXA-120P-54 | 1200 | ±20 | 900 | 5100 | 1.65 | 900 | 1.00 | - | 1.20 | - | 0.15 | - | M271 | 850 |
| 2MBI1400VXB-120P-50 | 1200 | ±20 | 1400 | 7650 | 1.65 | 1400 | 1.00 | - | 1.20 | - | 0.15 | - | M272 | 1250 |
| 2MBI1400VXB-120P-54 | 1200 | ±20 | 1400 | 7650 | 1.65 | 1400 | 1.00 | - | 1.20 | - | 0.15 | - | M272 | 1250 |
| 2MBI650VXA-170E-50 | 1700 | ±20 | 650 | 4150 | 2.00 | 650 | 1.25 | - | 1.55 | - | 0.15 | - | M271 | 850 |
| 2MBI650VXA-170E-54 | 1700 | ±20 | 650 | 4150 | 2.00 | 650 | 1.25 | - | 1.55 | - | 0.15 | - | M271 | 850 |
| 2MBI1000VXB-170E-50 | 1700 | ±20 | 1000 | 6250 | 2.00 | 1000 | 1.25 | - | 1.55 | - | 0.15 | - | M272 | 1250 |
| 2MBI1000VXB-170E-54 | 1700 | ±20 | 1000 | 6250 | 2.00 | 1000 | 1.25 | - | 1.55 | - | 0.15 | - | M272 | 1250 |
| 2MBI1400VXB-170E-50 | 1700 | ±20 | 1400 | 8820 | 2.15 | 1400 | 1.25 | - | 1.55 | - | 0.15 | - | M272 | 1250 |
| 2MBI1400VXB-170E-54 | 1700 | ±20 | 1400 | 8820 | 2.15 | 1400 | 1.25 | - | 1.55 | - | 0.15 | - | M272 | 1250 |
| 2MBI1400VXB-170P-50 | 1700 | ±20 | 1400 | 8820 | 1.90 | 1400 | 1.35 | - | 1.80 | - | 0.20 | - | M272 | 1250 |
| 2MBI1400VXB-170P-54 | 1700 | ±20 | 1400 | 8820 | 1.90 | 1400 | 1.35 | - | 1.80 | - | 0.20 | - | M272 | 1250 |

注: PrimePACK™ は Infineon Technology 社の登録商標です。

V_{CE(sat)}: at T_J=25°C, Chip

-54…V_{sat} 及び VF のランクをラベルに表示

Note: PrimePACK™ is registered trademark of Infineon Technology AG, Germany.

-54…Attached to the level that discribed V_{sat} & VF classification

Vシリーズ 1個組 1200V,1700Vクラス
 V series 1 in 1 package 1200,1700 volts class

| 型 式 Device type | V _{CES} Volts | V _{GES} Volts | I _C Amps. | P _C Watts | V _{CE(sat)} (V _{GE} =15V) | | スイッチングタイム Switching time | | | | | | パッケージ Package | 質量 Net mass Grams |
|--------------------|---------------------------|---------------------------|-------------------------|-------------------------|---|-------------------------|--------------------------|------|------|------|------|------|------------------|-------------------------|
| | | | | | Typ. | I _C Amps. | ton | | toff | | tf | | | |
| | | | | | | | Typ. | Max. | Typ. | Max. | Typ. | Max. | | |
| 1MBI400V-120-50 | 1200 | ±20 | 400 | 2410 | 1.75 | 400 | 0.60 | - | 1.10 | - | 0.14 | - | M153 | 380 |
| 1MBI400VF-120-50 | 1200 | ±20 | 400 | 3330 | 1.75 | 400 | 0.60 | - | 1.10 | - | 0.14 | - | M153 | 380 |
| 1MBI600V-120-50 | 1200 | ±20 | 600 | 3000 | 1.75 | 600 | 0.70 | - | 0.90 | - | 0.10 | - | M153 | 380 |
| 1MBI600VF-120-50 | 1200 | ±20 | 600 | 4680 | 1.75 | 600 | 0.70 | - | 0.90 | - | 0.10 | - | M153 | 380 |
| 1MBI900V-120-50 | 1200 | ±20 | 900 | 4280 | 1.90 | 900 | 0.70 | - | 0.85 | - | 0.10 | - | M153 | 380 |
| 1MBI1200VC-120P | 1200 | ±20 | 1200 | TBD | TBD | 1200 | TBD | - | TBD | - | TBD | - | M151 | 1500 |
| 1MBI1600VC-120P | 1200 | ±20 | 1600 | TBD | TBD | 1600 | TBD | - | TBD | - | TBD | - | M151 | 1500 |
| 1MBI2400VC-120P | 1200 | ±20 | 2400 | TBD | TBD | 2400 | TBD | - | TBD | - | TBD | - | M151 | 1500 |
| 1MBI2400VD-120P | 1200 | ±20 | 2400 | TBD | TBD | 2400 | TBD | - | TBD | - | TBD | - | M152 | 2300 |
| 1MBI3600VD-120P | 1200 | ±20 | 3600 | TBD | TBD | 3600 | TBD | - | TBD | - | TBD | - | M152 | 2300 |
| 1MBI1200VC-170E | 1700 | ±20 | 1200 | 8820 | 2.00 | 1200 | 2.18 | - | 2.20 | - | 0.45 | - | M151 | 1500 |
| 1MBI1200VR-170E | 1700 | ±20 | 1200 | 8570 | 2.00 | 1200 | 1.51 | - | 2.20 | - | 0.45 | - | M155 | 900 |
| 1MBI1600VC-170E | 1700 | ±20 | 1600 | 11700 | 2.00 | 1600 | 2.28 | - | 2.17 | - | 0.40 | - | M151 | 1500 |
| 1MBI1600VR-170E | 1700 | ±20 | 1600 | 10710 | 2.00 | 1600 | 1.83 | - | 2.17 | - | 0.40 | - | M155 | 900 |
| 1MBI2400VC-170E | 1700 | ±20 | 2400 | 15000 | 2.00 | 2400 | 2.63 | - | 2.41 | - | 0.38 | - | M151 | 1500 |
| 1MBI2400VR-170E | 1700 | ±20 | 2400 | 14010 | 2.00 | 2400 | 2.51 | - | 2.41 | - | 0.38 | - | M155 | 900 |
| 1MBI2400VD-170E | 1700 | ±20 | 2400 | 17640 | 2.00 | 2400 | 2.30 | - | 2.22 | - | 0.43 | - | M152 | 2300 |
| 1MBI2400VS-170E | 1700 | ±20 | 2400 | 16120 | 2.00 | 2400 | 2.09 | - | 2.22 | - | 0.43 | - | M156 | 1300 |
| 1MBI3600VD-170E | 1700 | ±20 | 3600 | 22380 | 2.00 | 3600 | 2.27 | - | 2.67 | - | 0.31 | - | M152 | 2300 |
| 1MBI3600VS-170E | 1700 | ±20 | 3600 | 21120 | 2.00 | 3600 | 2.70 | - | 2.66 | - | 0.32 | - | M156 | 1300 |

V_{CE(sat)}: at T_J=25°C, Chip



IGBTモジュール Vシリーズ IGBT Modules V series

Vシリーズ チョッパ PrimePACK™ 1200V,1700Vクラス
V series Chopper PrimePACK™ 1200V,1700 volts class

| 型式 Device type | V _{CES} Volts | V _{GES} Volts | I _C Cont. Amps. | P _C Watts | V _{CE(sat)} (V _{GE} =15V) | | スイッチングタイム Switching time | | | | | | パッケージ Package | 質量 Net mass Grams |
|----------------------|---------------------------|---------------------------|----------------------------------|-------------------------|---|-------------------------|--------------------------|---------------|---------------|---------------|---------------|---------------|------------------|-------------------------|
| | | | | | Typ. Volts | I _C Amps. | ton | | toff | | tf | | | |
| | | | | | | | Typ. μsec. | Max. μsec. | Typ. μsec. | Max. μsec. | Typ. μsec. | Max. μsec. | | |
| 1MBI1400VXB-120PL-54 | 1200 | ±20 | 1400 | 7650 | 1.65 | 1400 | 1.00 | - | 1.20 | - | 0.15 | - | M272 | 1250 |
| 1MBI1400VXB-120PH-54 | 1200 | ±20 | 1400 | 7650 | 1.65 | 1400 | 1.00 | - | 1.20 | - | 0.15 | - | M272 | 1250 |
| 1MBI650VXA-170EL-50 | 1700 | ±20 | 650 | 1700 | 2.00 | 650 | 1.25 | - | 1.55 | - | 0.15 | - | M271 | 850 |
| 1MBI650VXA-170EL-54 | 1700 | ±20 | 650 | 1700 | 2.00 | 650 | 1.25 | - | 1.55 | - | 0.15 | - | M271 | 850 |
| 1MBI650VXA-170EH-50 | 1700 | ±20 | 650 | 1700 | 2.00 | 650 | 1.25 | - | 1.55 | - | 0.15 | - | M271 | 850 |
| 1MBI650VXA-170EH-54 | 1700 | ±20 | 650 | 1700 | 2.00 | 650 | 1.25 | - | 1.55 | - | 0.15 | - | M271 | 850 |
| 1MBI1000VXB-170EL-50 | 1700 | ±20 | 1000 | 1700 | 2.00 | 1000 | 1.25 | - | 1.55 | - | 0.15 | - | M272 | 1250 |
| 1MBI1000VXB-170EL-54 | 1700 | ±20 | 1000 | 1700 | 2.00 | 1000 | 1.25 | - | 1.55 | - | 0.15 | - | M272 | 1250 |
| 1MBI1000VXB-170EH-50 | 1700 | ±20 | 1000 | 1700 | 2.00 | 1000 | 1.25 | - | 1.55 | - | 0.15 | - | M272 | 1250 |
| 1MBI1000VXB-170EH-54 | 1700 | ±20 | 1000 | 1700 | 2.00 | 1000 | 1.25 | - | 1.55 | - | 0.15 | - | M272 | 1250 |

注: PrimePACK™ は Infineon Technology 社の登録商標です。

V_{CE} (sat): at T_j=25°C, Chip

-54...V_{sat} 及び VF のランクをラベルに表示

Note: PrimePACK™ is registered trademark of Infineon Technology AG, Germany.

-54...Attached to the level that discribed V_{sat} & VF classification

Vシリーズ アドバンスドNPC 3レベル回路用 600V,1200Vクラス

V series for Advanced NPC 3-level Circuits 600,1200 volts class (Advanced Neutral-Point-Clamped)

| 型式 Device type | T1, T2 | | | | | T3, T4 | | | | | パッケージ Package | 質量 Net mass |
|----------------------|---------------------------|----------------------------------|-------------------------|---|-------------------------|---------------------------|----------------------------------|-------------------------|---|-------------------------|------------------|----------------|
| | V _{CES} Volts | I _C Cont. Amps. | P _C Watts | V _{CE(sat)} (V _{GE} =15V) | | V _{CES} Volts | I _C Cont. Amps. | P _C Watts | V _{CE(sat)} (V _{GE} =15V) | | | |
| | | | | Typ. Volts | I _C Amps. | | | | Typ. Volts | I _C Amps. | | |
| 4MBI400VG-060R-50 | 600 | 400 | 1135 | 1.60 | 400 | 600 | 400 | 1560 | 2.45 | 400 | M403 | 460 |
| 4MBI300VG-120R-50 | 1200 | 300 | 1250 | 1.85 | 300 | 600 | 300 | 1250 | 2.45 | 300 | M403 | 460 |
| ▲ 4MBI450VB-120R1-50 | 1200 | 450 | TBD | TBD | 450 | 900 | 450 | TBD | TBD | 450 | TBD | TBD |
| ▲ 4MBI650VB-120R1-50 | 1200 | 650 | TBD | TBD | 650 | 900 | 650 | TBD | TBD | 650 | TBD | TBD |
| ▲ 4MBI900VB-120R1-50 | 1200 | 900 | TBD | TBD | 900 | 900 | 900 | TBD | TBD | 900 | TBD | TBD |
| ▲ 12MBI50VN-120-50 | 1200 | 50 | 235 | 1.85 | 50 | 600 | 50 | 230 | TBD | 50 | M1203 | 302 |
| ▲ 12MBI50VX-120-50 | 1200 | 50 | 235 | 1.85 | 50 | 600 | 50 | 230 | TBD | 50 | M1202 | 304 |
| ▲ 12MBI75VN-120-50 | 1200 | 75 | 320 | 1.85 | 75 | 600 | 75 | 305 | TBD | 75 | M1203 | 302 |
| ▲ 12MBI75VX-120-50 | 1200 | 75 | 320 | 1.85 | 75 | 600 | 75 | 305 | TBD | 75 | M1202 | 304 |
| ▲ 12MBI100VN-120-50 | 1200 | 100 | 430 | 1.75 | 100 | 600 | 100 | 400 | 2.45 | 100 | M1203 | 302 |
| 12MBI100VX-120-50 | 1200 | 100 | 430 | 1.75 | 100 | 600 | 100 | 400 | 2.45 | 100 | M1202 | 304 |

▲ 開発中 Under development

V_{CE} (sat): at T_j=25°C, Chip

高速IGBTモジュール High Speed IGBT Modules

高速 2個組 1200Vクラス

High Speed 2 in 1 package 1200 volts class

| 型式 Device type | V _{CES} Volts | V _{GES} Volts | I _C Cont. Amps. | P _C Watts | V _{CE(sat)} (V _{GE} =15V) | | スイッチングタイム Switching time | | | | | | パッケージ Package | 質量 Net mass Grams |
|-------------------|---------------------------|---------------------------|----------------------------------|-------------------------|---|-------------------------|--------------------------|---------------|---------------|---------------|---------------|---------------|------------------|-------------------------|
| | | | | | Typ. Volts | I _C Amps. | ton | | toff | | tf | | | |
| | | | | | | | Typ. μsec. | Max. μsec. | Typ. μsec. | Max. μsec. | Typ. μsec. | Max. μsec. | | |
| 2MBI100HB-120-50 | 1200 | ±20 | 100 | 1040 | 3.10 | 100 | - | - | 0.30 | 0.60 | 0.05 | 0.20 | M233 | 240 |
| 2MBI150HH-120-50 | 1200 | ±20 | 150 | 1390 | 3.20 | 150 | - | - | 0.30 | 0.60 | 0.05 | 0.20 | M249 | 370 |
| 2MBI200HH-120-50 | 1200 | ±20 | 200 | 1790 | 3.10 | 200 | - | - | 0.30 | 0.60 | 0.05 | 0.20 | M249 | 370 |

高速 チョッパ 1200Vクラス

High Speed Chopper 1200 volts class

V_{CE} (sat): at T_j=25°C, Chip

| 型式 Device type | V _{CES} Volts | V _{GES} Volts | I _C Cont. Amps. | P _C Watts | V _{CE(sat)} (V _{GE} =15V) | | スイッチングタイム Switching time | | | | | | パッケージ Package | 質量 Net mass Grams |
|---------------------|---------------------------|---------------------------|----------------------------------|-------------------------|---|-------------------------|--------------------------|---------------|---------------|---------------|---------------|---------------|------------------|-------------------------|
| | | | | | Typ. Volts | I _C Amps. | ton | | toff | | tf | | | |
| | | | | | | | Typ. μsec. | Max. μsec. | Typ. μsec. | Max. μsec. | Typ. μsec. | Max. μsec. | | |
| ▲ 1MBI200HH-120L-50 | 1200 | 20 | 200 | 1390 | 3.10 | 200 | 0.2 | 0.5 | 0.3 | 0.7 | 0.05 | 0.2 | M249 | 370 |
| ▲ 1MBI300HH-120L-50 | 1200 | 20 | 300 | 2090 | 3.20 | 300 | 0.2 | 0.5 | 0.3 | 0.7 | 0.05 | 0.2 | M249 | 370 |
| ▲ 1MBI400HH-120L-50 | 1200 | 20 | 400 | 2500 | 3.10 | 400 | 0.2 | 0.6 | 0.4 | 0.7 | 0.05 | 0.2 | M249 | 370 |

▲ 開発中 Under development

V_{CE} (sat): at T_j=25°C, Chip



■ IGBTモジュール Uシリーズ IGBT Modules U series

Uシリーズ PIM (コンバータ部・ブレーキ部内蔵) EconoPIM™ 600V,1200Vクラス
 U series PIM/Built-in converter and brake EconoPIM™ 600,1200 volts class

| 型 式 Device type | インバータ部 Inverter [IGBT] | | | | ブレーキ部 Brake [IGBT+FWD] | | | コンバータ部 Converter [Diode] | | | | パッケージ Package | 質量 Net mass Grams |
|--------------------|------------------------|----------------|----------------|----------------------|------------------------|----------------|------------------|--------------------------|----------------|-----------------|------------------|------------------|-------------------------|
| | V _{CES} | I _C | P _C | V _{CE(sat)} | V _{CES} | I _C | V _{RRM} | V _{RRM} | I _O | V _{FM} | I _{FSM} | | |
| | Volts | Cont. Amps. | Watts | Typ. Volts | Volts | Cont. Amps. | Volts | Volts | Cont. Amps. | Typ. Volts | Amps. | | |
| 7MBR30U2A060-50 | 600 | 30 | 133 | 1.85 | 600 | 20 | 600 | 800 | 30 | 1.1 | 210 | M711 | 180 |
| 7MBR50U2A060-50 | 600 | 50 | 187 | 1.85 | 600 | 20 | 600 | 800 | 50 | 1.1 | 350 | M711 | 180 |
| 7MBR75U2B060-50 | 600 | 75 | 255 | 1.85 | 600 | 30 | 600 | 800 | 75 | 1.1 | 525 | M712 | 300 |
| 7MBR100U2B060-50 | 600 | 100 | 378 | 1.85 | 600 | 50 | 600 | 800 | 100 | 1.1 | 700 | M712 | 300 |
| 7MBR25UA120-50 | 1200 | 25 | 115 | 2.1 | 1200 | 25 | 1200 | 1600 | 25 | 1.1 | 260 | M711 | 180 |
| 7MBR35UA120-50 | 1200 | 35 | 160 | 1.95 | 1200 | 25 | 1200 | 1600 | 35 | 1.25 | 260 | M711 | 180 |
| 7MBR50UA120-50 | 1200 | 50 | 205 | 2.0 | 1200 | 25 | 1200 | 1600 | 50 | 1.4 | 260 | M711 | 180 |
| 7MBR75UA4B120-50 | 1200 | 75 | 275 | 2.2 | 1200 | 35 | 1200 | 1600 | 75 | 1.3 | 520 | M712 | 300 |
| 7MBR100UA4B120-50 | 1200 | 100 | 390 | 2.1 | 1200 | 50 | 1200 | 1600 | 100 | 1.4 | 520 | M712 | 300 |

V_{CE(sat)}, V_{FM}: at T_j=25°C, Chip

Uシリーズ 6個組 EconoPACK™, EconoPACK™+ 600V,1200V,1700Vクラス
 U series 6 in 1 package EconoPACK™ and EconoPACK™+ 600,1200,1700 volts class

| 型 式 Device type | V _{CES} | V _{GES} | I _C | P _C | V _{CE(sat)} (V _{GE} =15V) | | スイッチングタイム Switching time (Max.) | | | パッケージ Package | 質量 Net mass Grams |
|--------------------|------------------|------------------|----------------|----------------|---|-------------------------|---------------------------------|-------|-------|------------------|-------------------------|
| | Volts | Volts | Cont. Amps. | Watts | Typ. Volts | I _C Amps. | ton | toff | tf | | |
| | Volts | Volts | Amps. | Watts | Volts | Amps. | μsec. | μsec. | μsec. | | |
| 6MBI75U2A-060-50 | 600 | ±20 | 75 | 255 | 1.85 | 75 | 1.2 | 1.2 | 0.45 | M636 | 180 |
| 6MBI100U2B-060-50 | 600 | ±20 | 100 | 380 | 1.85 | 100 | 1.2 | 1.2 | 0.45 | M633 | 300 |
| 6MBI150U2B-060-50 | 600 | ±20 | 150 | 500 | 1.80 | 150 | 1.2 | 1.2 | 0.45 | M633 | 300 |
| 6MBI35UA-120-50 | 1200 | ±20 | 35 | 205 | 1.9 | 35 | 1.2 | 1.0 | 0.3 | M636 | 180 |
| 6MBI50UA-120-50 | 1200 | ±20 | 50 | 275 | 1.9 | 50 | 1.2 | 1.0 | 0.3 | M636 | 180 |
| 6MBI75UA-120-50 | 1200 | ±20 | 75 | 390 | 1.9 | 75 | 1.2 | 1.0 | 0.3 | M636 | 180 |
| 6MBI100UA4B-120-50 | 1200 | ±20 | 100 | 520 | 1.9 | 100 | 1.2 | 1.0 | 0.3 | M633 | 300 |
| 6MBI150UA4B-120-50 | 1200 | ±20 | 150 | 735 | 1.9 | 150 | 1.2 | 1.0 | 0.3 | M633 | 300 |
| 6MBI225U4-120-50 | 1200 | ±20 | 225 | 1040 | 1.9 | 225 | 1.2 | 1.0 | 0.3 | M629 | 950 |
| 6MBI300U4-120-50 | 1200 | ±20 | 300 | 1385 | 1.9 | 300 | 1.2 | 1.0 | 0.3 | M629 | 950 |
| 6MBI450U4-120-50 | 1200 | ±20 | 450 | 2080 | 1.9 | 450 | 1.2 | 1.0 | 0.3 | M629 | 950 |
| 6MBI100UA4B-170 *1 | 1700 | ±20 | 100 | 520 | 2.25 | 100 | 1.2 | 1.5 | 0.3 | M633 | 300 |
| 6MBI150UA4B-170 *1 | 1700 | ±20 | 150 | 735 | 2.25 | 150 | 1.2 | 1.5 | 0.3 | M633 | 300 |
| 6MBI225U4-170 | 1700 | ±20 | 225 | 1040 | 2.25 | 225 | 1.2 | 1.5 | 0.3 | M629 | 950 |
| 6MBI300U4-170 | 1700 | ±20 | 300 | 1385 | 2.25 | 300 | 1.2 | 1.5 | 0.3 | M629 | 950 |
| 6MBI450U4-170 | 1700 | ±20 | 450 | 2080 | 2.25 | 450 | 1.2 | 1.5 | 0.3 | M629 | 950 |

注: EconoPIM™, EconoPACK™, EconoPACK™+ は Infineon Technology 社の登録商標です。

V_{CE(sat)}: at T_j=25°C, Chip

Note: EconoPIM™, EconoPACK™ and EconoPACK™+ are registered trademarks of Infineon Technology AG, Germany.

*1 RoHS 対応品 (-50) は開発中 RoHS compliant version (-50) is under development.



IGBTモジュール Uシリーズ IGBT Modules U series

Uシリーズ 2個組 600V,1200V,1700Vクラス
 U series 2 in 1 package 600,1200,1700 volts class

| 型式 Device type | V _{CES} Volts | V _{GES} Volts | I _C Cont. Amps. | P _C Watts | V _{CE(sat)} (V _{GE} =15V) | | スイッチングタイム Switching time (Max.) | | | パッケージ Package | 質量 Net mass Grams |
|-------------------|---------------------------|---------------------------|----------------------------------|-------------------------|---|-------------------------|---------------------------------|---------------|-------------|------------------|-------------------------|
| | | | | | Max. Volts | I _C Amps. | ton μsec. | toff μsec. | tf μsec. | | |
| 2MBI150U2A-060-50 | 600 | ±20 | 150 | 500 | 2.1 | 150 | 1.2 | 1.2 | 0.45 | M232 | 180 |
| 2MBI200U2A-060-50 | 600 | ±20 | 200 | 660 | 2.1 | 200 | 1.2 | 1.2 | 0.45 | M232 | 180 |
| 2MBI300U2B-060-50 | 600 | ±20 | 300 | 1000 | 2.1 | 300 | 1.2 | 1.2 | 0.45 | M233 | 240 |
| 2MBI400U2B-060-50 | 650 | ±20 | 400 | 1250 | 2.1 | 400 | 1.2 | 1.2 | 0.45 | M233 | 240 |
| 2MBI600U2E-060 | 650 | ±20 | 600 | 2400 | 2.1 | 600 | 1.2 | 1.2 | 0.45 | M247 | 470 |
| 2MBI75U4A-120 | 1200 | ±20 | 75 | 400 | 2.05 | 75 | 1.2 | 1.0 | 0.3 | M232 | 180 |
| 2MBI100U4A-120-50 | 1200 | ±20 | 100 | 540 | 2.05 | 100 | 1.2 | 1.0 | 0.3 | M232 | 180 |
| 2MBI150U4A-120-50 | 1200 | ±20 | 150 | 735 | 2.05 | 150 | 1.2 | 1.0 | 0.3 | M232 | 180 |
| 2MBI200U4B-120-50 | 1200 | ±20 | 200 | 1040 | 2.05 | 200 | 1.2 | 1.0 | 0.3 | M233 | 240 |
| 2MBI200U4H-120-50 | 1200 | ±20 | 200 | 1040 | 2.05 | 200 | 1.2 | 1.0 | 0.3 | M249 | 370 |
| 2MBI225U4N-120-50 | 1200 | ±20 | 225 | 1040 | 2.05 | 225 | 1.2 | 1.0 | 0.3 | M254 | 350 |
| 2MBI225U4J-120-50 | 1200 | ±20 | 225 | 1040 | 2.05 | 225 | 1.2 | 1.0 | 0.3 | M250 | 360 |
| 2MBI300U4D-120-50 | 1200 | ±20 | 300 | 1470 | 2.05 | 300 | 1.2 | 1.0 | 0.3 | M235 | 370 |
| 2MBI300U4E-120 | 1200 | ±20 | 300 | 1810 | 2.05 | 300 | 1.2 | 1.0 | 0.3 | M247 | 470 |
| 2MBI300U4H-120-50 | 1200 | ±20 | 300 | 1470 | 2.05 | 300 | 1.2 | 1.0 | 0.3 | M249 | 370 |
| 2MBI300U4N-120-50 | 1200 | ±20 | 300 | 1385 | 2.05 | 300 | 1.2 | 1.0 | 0.3 | M254 | 350 |
| 2MBI300U4J-120-50 | 1200 | ±20 | 300 | 1385 | 2.05 | 300 | 1.2 | 1.0 | 0.3 | M250 | 360 |
| 2MBI400U4H-120-50 | 1200 | ±20 | 400 | 2045 | 2.05 | 400 | 1.2 | 1.0 | 0.3 | M249 | 370 |
| 2MBI450U4E-120 | 1200 | ±20 | 450 | 2715 | 2.05 | 450 | 1.2 | 1.0 | 0.3 | M247 | 470 |
| 2MBI450U4N-120-50 | 1200 | ±20 | 450 | 2080 | 2.05 | 450 | 1.2 | 1.0 | 0.3 | M254 | 350 |
| 2MBI450U4J-120-50 | 1200 | ±20 | 450 | 2080 | 2.05 | 450 | 1.2 | 1.0 | 0.3 | M250 | 360 |
| 2MBI600U4G-120 | 1200 | ±20 | 600 | 2840 | 2.05 | 600 | 1.35 | 0.8 | 0.2 | M256 | 1500 |
| 2MBI800U4G-120 | 1200 | ±20 | 800 | 3900 | 2.05 | 800 | 1.35 | 0.8 | 0.2 | M256 | 1500 |
| 2MBI1200U4G-120 | 1200 | ±20 | 1200 | 4960 | 2.05 | 1200 | 1.35 | 0.8 | 0.2 | M256 | 1500 |
| 2MBI100U4H-170-50 | 1700 | ±20 | 100 | 540 | 2.4 | 100 | 1.2 | 1.5 | 0.3 | M249 | 370 |
| 2MBI150U4H-170-50 | 1700 | ±20 | 150 | 780 | 2.4 | 150 | 1.2 | 1.5 | 0.3 | M249 | 370 |
| 2MBI200U4H-170-50 | 1700 | ±20 | 200 | 1040 | 2.4 | 200 | 1.2 | 1.5 | 0.3 | M249 | 370 |
| 2MBI225U4N-170-50 | 1700 | ±20 | 225 | 1040 | 2.45 | 225 | 1.2 | 1.5 | 0.3 | M254 | 350 |
| 2MBI300U4H-170-50 | 1700 | ±20 | 300 | 1470 | 2.4 | 300 | 1.2 | 1.5 | 0.3 | M249 | 370 |
| 2MBI300U4N-170-50 | 1700 | ±20 | 300 | 1385 | 2.45 | 300 | 1.2 | 1.5 | 0.3 | M254 | 350 |
| 2MBI400U4H-170-50 | 1700 | ±20 | 400 | 2045 | 2.4 | 400 | 1.2 | 1.5 | 0.3 | M249 | 370 |
| 2MBI450U4N-170-50 | 1700 | ±20 | 450 | 2080 | 2.45 | 450 | 1.2 | 1.5 | 0.3 | M254 | 350 |
| 2MBI600U4G-170 | 1700 | ±20 | 600 | 2840 | 2.4 | 600 | 4.0 | 2.0 | 0.7 | M256 | 1500 |
| 2MBI800U4G-170 | 1700 | ±20 | 800 | 3900 | 2.4 | 800 | 4.0 | 2.0 | 0.7 | M256 | 1500 |
| 2MBI1200U4G-170 | 1700 | ±20 | 1200 | 4960 | 2.4 | 1200 | 4.0 | 2.0 | 0.7 | M256 | 1500 |



■ IGBTモジュール Uシリーズ IGBT Modules U series

Uシリーズ 1個組 1200V,1700V,3300Vクラス

U series 1 in 1 package 1200,1700,3300 volts class

| 型 式 Device type | V _{CES} Volts | V _{GES} Volts | I _C Cont. Amps. | P _C Watts | V _{CE(sat)} (V _{GE} =15V) | | スイッチングタイム Switching time (Max.) | | | パッケージ Package | 質量 Net mass Grams |
|--------------------|---------------------------|---------------------------|----------------------------------|-------------------------|---|-------------------------|---------------------------------|---------------|-------------|------------------|-------------------------|
| | | | | | Max. Volts | I _C Amps. | ton μsec. | toff μsec. | tf μsec. | | |
| 1MBI300U4-120 | 1200 | ±20 | 300 | 1540 | 2.05 | 300 | 1.20 | 1.00 | 0.30 | M127 | 380 |
| 1MBI400U4-120 | 1200 | ±20 | 400 | 2155 | 2.05 | 400 | 1.20 | 1.00 | 0.30 | M127 | 380 |
| 1MBI600U4-120 | 1200 | ±20 | 600 | 2905 | 2.05 | 600 | 1.20 | 1.00 | 0.30 | M127 | 380 |
| 1MBI800U4B-120 | 1200 | ±20 | 800 | 4805 | 2.05 | 800 | 1.20 | 1.00 | 0.30 | M138 | 530 |
| 1MBI1200U4C-120 | 1200 | ±20 | 1200 | 5680 | 2.05 | 1200 | 2.00 | 1.60 | 0.40 | M151 | 1500 |
| 1MBI1600U4C-120 | 1200 | ±20 | 1600 | 7810 | 2.05 | 1600 | 2.00 | 1.60 | 0.40 | M151 | 1500 |
| 1MBI2400U4D-120 | 1200 | ±20 | 2400 | 10000 | 2.05 | 2400 | 2.00 | 1.60 | 0.40 | M152 | 2300 |
| 1MBI3600U4D-120 | 1200 | ±20 | 3600 | 15620 | 2.05 | 3600 | 2.00 | 1.60 | 0.40 | M152 | 2300 |
| 1MBI1200U4C-170 | 1700 | ±20 | 1200 | 5680 | 2.40 | 1200 | 4.00 | 2.00 | 0.70 | M151 | 1500 |
| 1MBI1600U4C-170 | 1700 | ±20 | 1600 | 7810 | 2.40 | 1600 | 4.00 | 2.00 | 0.70 | M151 | 1500 |
| 1MBI2400U4D-170 | 1700 | ±20 | 2400 | 10000 | 2.40 | 2400 | 4.00 | 2.00 | 0.70 | M152 | 2300 |
| 1MBI3600U4D-170 | 1700 | ±20 | 3600 | 15620 | 2.40 | 3600 | 4.00 | 2.00 | 0.70 | M152 | 2300 |
| 1MBI800UG-330 | 3300 | ±20 | 800 | 9600 | 2.28 | 800 | 3.40 | 2.40 | 0.40 | M155 | 900 |
| 1MBI1000UG-330 | 3300 | ±20 | 1000 | 10400 | 2.46 | 1000 | 2.50 | 2.00 | 0.50 | M155 | 900 |
| 1MBI1200UE-330 | 3300 | ±20 | 1200 | 14700 | 2.28 | 1200 | 3.40 | 2.40 | 0.40 | M156 | 1300 |
| 1MBI1500UE-330 | 3300 | ±20 | 1500 | 15600 | 2.46 | 1500 | 3.10 | 2.60 | 0.50 | M156 | 1300 |

Uシリーズ チョッパー 600V,1200Vクラス

U series Chopper 600,1200 volts class

| 型 式 Device type | V _{CES} Volts | V _{GES} Volts | I _C Cont. Amps. | P _C Watts | V _{CE(sat)} (V _{GE} =15V) | | スイッチングタイム Switching time (Max.) | | | パッケージ Package | 質量 Net mass Grams |
|--------------------|---------------------------|---------------------------|----------------------------------|-------------------------|---|-------------------------|---------------------------------|---------------|-------------|------------------|-------------------------|
| | | | | | Max. Volts | I _C Amps. | ton μsec. | toff μsec. | tf μsec. | | |
| 1MBI300U2H-060L-50 | 600 | ±20 | 300 | 1000 | 2.45 | 300 | 1.20 | 1.20 | 0.45 | M259 | 360 |
| 1MBI50U4F-120L-50 | 1200 | ±20 | 50 | 400 | 2.15 | 50 | 1.20 | 1.00 | 0.30 | M262 | 180 |
| 1MBI75U4F-120L-50 | 1200 | ±20 | 75 | 400 | 2.20 | 75 | 1.20 | 1.00 | 0.30 | M262 | 180 |
| 1MBI100U4F-120L-50 | 1200 | ±20 | 100 | 540 | 2.20 | 100 | 1.20 | 1.00 | 0.30 | M262 | 180 |
| 1MBI200U4H-120L-50 | 1200 | ±20 | 200 | 1040 | 2.25 | 200 | 1.20 | 1.00 | 0.30 | M259 | 360 |



■ V-IPMシリーズ V-IPM series (Intelligent Power Modules)

下アームアラーム出力機能付 600V,1200Vクラス
With N-side alarm output function 600,1200 volts class

| 型 式 Device type | インバータ部 Inverter | | | ブレーキ部 Brake | | 制御部 Control | | | | | | パッケージ 質量 | | |
|--------------------|------------------|----------------|----------------------|------------------|----------------|-----------------|-----------------------|-----------------|------------------|-------------|-------------------------|----------|----------|-------------|
| | V _{CES} | I _c | V _{CE(sat)} | V _{CES} | I _c | V _{CC} | I _{oc} [INV] | V _{UV} | T _{JOH} | Alarm | T _{JOH} (typ.) | Package | Net mass | |
| | Volts | Amps. | Typ. Volts | Volts | Amps. | Typ. Volts | Min. Amps. | Volts | Min. °C | OC(typ.) ms | | | | UV(typ.) ms |
| 6MBP20VAA060-50 | 600 | 20 | 1.4 | - | - | 15 | 30 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P629 | 80 |
| 6MBP30VAA060-50 | 600 | 30 | 1.4 | - | - | 15 | 45 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P629 | 80 |
| 6MBP50VAA060-50 | 600 | 50 | 1.4 | - | - | 15 | 75 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P629 | 80 |
| 6MBP10VAA120-50 | 1200 | 10 | 1.7 | - | - | 15 | 15 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P629 | 80 |
| 6MBP15VAA120-50 | 1200 | 15 | 1.7 | - | - | 15 | 23 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P629 | 80 |
| 6MBP25VAA120-50 | 1200 | 25 | 1.7 | - | - | 15 | 38 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P629 | 80 |

上下アームアラーム機能付 600V,1200Vクラス
With P and N-side alarm function 600,1200 volts class

| 型 式 Device type | インバータ部 Inverter | | | ブレーキ部 Brake | | 制御部 Control | | | | | | パッケージ 質量 | | |
|--------------------|------------------|----------------|----------------------|------------------|----------------|-----------------|-----------------------|-----------------|------------------|-------------|-------------------------|----------|----------|-------------|
| | V _{CES} | I _c | V _{CE(sat)} | V _{CES} | I _c | V _{CC} | I _{oc} [INV] | V _{UV} | T _{JOH} | Alarm | T _{JOH} (typ.) | Package | Net mass | |
| | Volts | Amps. | Typ. Volts | Volts | Amps. | Typ. Volts | Min. Amps. | Volts | Min. °C | OC(typ.) ms | | | | UV(typ.) ms |
| 6MBP50VBA060-50 | 600 | 50 | 1.4 | - | - | 15 | 75 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P626 | 100 |
| 6MBP50VDA060-50 | 600 | 50 | 1.4 | - | - | 15 | 75 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P630 | 290 |
| 6MBP75VBA060-50 | 600 | 75 | 1.4 | - | - | 15 | 113 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P626 | 100 |
| 6MBP75VDA060-50 | 600 | 75 | 1.4 | - | - | 15 | 113 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P630 | 290 |
| 6MBP100VDA060-50 | 600 | 100 | 1.4 | - | - | 15 | 150 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P630 | 290 |
| 6MBP150VDA060-50 | 600 | 150 | 1.4 | - | - | 15 | 225 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P630 | 290 |
| 6MBP200VDA060-50 | 600 | 200 | 1.4 | - | - | 15 | 300 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P630 | 290 |
| 6MBP200VEA060-50 | 600 | 200 | 1.25 | - | - | 15 | 300 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P631 | 950 |
| 6MBP300VEA060-50 | 600 | 300 | 1.25 | - | - | 15 | 450 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P631 | 950 |
| 6MBP400VEA060-50 | 600 | 400 | 1.25 | - | - | 15 | 600 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P631 | 950 |
| 7MBP50VDA060-50 | 600 | 50 | 1.4 | 600 | 30 | 15 | 75 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P630 | 290 |
| 7MBP75VDA060-50 | 600 | 75 | 1.4 | 600 | 50 | 15 | 113 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P630 | 290 |
| 7MBP100VDA060-50 | 600 | 100 | 1.4 | 600 | 50 | 15 | 150 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P630 | 290 |
| 7MBP150VDA060-50 | 600 | 150 | 1.4 | 600 | 75 | 15 | 225 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P630 | 290 |
| 7MBP200VDA060-50 | 600 | 200 | 1.4 | 600 | 100 | 15 | 300 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P630 | 290 |
| 7MBP200VEA060-50 | 600 | 200 | 1.25 | 600 | 100 | 15 | 300 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P631 | 950 |
| 7MBP300VEA060-50 | 600 | 300 | 1.25 | 600 | 150 | 15 | 450 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P631 | 950 |
| 7MBP400VEA060-50 | 600 | 400 | 1.25 | 600 | 200 | 15 | 600 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P631 | 950 |
| 6MBP25VBA120-50 | 1200 | 25 | 1.7 | - | - | 15 | 38 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P626 | 100 |
| 6MBP25VDA120-50 | 1200 | 25 | 1.7 | - | - | 15 | 38 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P630 | 290 |
| 6MBP35VBA120-50 | 1200 | 35 | 1.7 | - | - | 15 | 53 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P626 | 100 |
| 6MBP35VDA120-50 | 1200 | 35 | 1.7 | - | - | 15 | 53 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P630 | 290 |
| 6MBP50VBA120-50 | 1200 | 50 | 1.7 | - | - | 15 | 75 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P626 | 100 |
| 6MBP50VDA120-50 | 1200 | 50 | 1.7 | - | - | 15 | 75 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P630 | 290 |
| 6MBP75VDA120-50 | 1200 | 75 | 1.7 | - | - | 15 | 113 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P630 | 290 |
| 6MBP100VDA120-50 | 1200 | 100 | 1.7 | - | - | 15 | 150 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P630 | 290 |
| 6MBP100VEA120-50 | 1200 | 100 | 1.7 | - | - | 15 | 150 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P631 | 950 |
| 6MBP150VEA120-50 | 1200 | 150 | 1.7 | - | - | 15 | 225 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P631 | 950 |
| 6MBP200VEA120-50 | 1200 | 200 | 1.7 | - | - | 15 | 300 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P631 | 950 |
| 7MBP25VDA120-50 | 1200 | 25 | 1.7 | 1200 | 15 | 15 | 38 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P630 | 290 |
| 7MBP35VDA120-50 | 1200 | 35 | 1.7 | 1200 | 15 | 15 | 53 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P630 | 290 |
| 7MBP50VDA120-50 | 1200 | 50 | 1.7 | 1200 | 25 | 15 | 75 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P630 | 290 |
| 7MBP75VDA120-50 | 1200 | 75 | 1.7 | 1200 | 35 | 15 | 113 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P630 | 290 |
| 7MBP100VDA120-50 | 1200 | 100 | 1.7 | 1200 | 50 | 15 | 150 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P630 | 290 |
| 7MBP100VEA120-50 | 1200 | 100 | 1.7 | 1200 | 50 | 15 | 150 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P631 | 950 |
| 7MBP150VEA120-50 | 1200 | 150 | 1.7 | 1200 | 75 | 15 | 225 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P631 | 950 |
| 7MBP200VEA120-50 | 1200 | 200 | 1.7 | 1200 | 100 | 15 | 300 | 11.0 to 12.5 | 150 | 2 | 4 | 8 | P631 | 950 |



■ 小容量IPMシリーズ Fuji IPM "Compact" series (Intelligent Power Modules)

下アームアラーム出力機能付 600Vクラス
 With N-side alarm output function 600 volts class

| 型 式 Device type | インバータ部 Inverter | | | 制御部 Control | | | 保護機能 Protection function | | | | パッケージ Package | 質量 Net mass | |
|--------------------|------------------|-------------------------|------------------------------|------------------|---------------------|---|---|--------|--------|------------------|-------------------|----------------|-----------------------------|
| | V _{CES} | I _C Cont. | V _{CE(sat)} Typ. | V _{CCL} | Boot-strap Diode | Input signal Active logic and Voltage level | UV | OC | Vtemp | TOH | | | Alarm出力 VFO fault output |
| | Volts | Amps. | Volts | Volts | Typ. | Volts | V _{CCL} V _{CCH} VB(*) | ※1 | ※2 | ※2 | | Grams | |
| 6MBP15VRA060-50 | 600 | 15 | 1.80 | 15 | Built-in | High(3.3/5V) | P&N-side | N-side | N-side | - | N-side(UV,OC) | P633 | 9.3 |
| 6MBP15VRB060-50 | 600 | 15 | 1.80 | 15 | Built-in | High(3.3/5V) | P&N-side | N-side | - | N-side(125±10°C) | N-side(UV,OC,TOH) | P633 | 9.3 |
| 6MBP15VRC060-50 | 600 | 15 | 1.80 | 15 | Built-in | High(3.3/5V) | P&N-side | N-side | N-side | N-side(125±10°C) | N-side(UV,OC) | P633 | 9.3 |
| ▲ 6MBP20VSA060-50 | 600 | 20 | 1.44 | 15 | Built-in | High(3.3/5V) | P&N-side | N-side | N-side | - | N-side(UV,OC) | P633A | 9.3 |
| ▲ 6MBP20VSC060-50 | 600 | 20 | 1.44 | 15 | Built-in | High(3.3/5V) | P&N-side | N-side | N-side | N-side(125±10°C) | N-side(UV,OC) | P633A | 9.3 |
| ▲ 6MBP30VSA060-50 | 600 | 30 | 1.42 | 15 | Built-in | High(3.3/5V) | P&N-side | N-side | N-side | - | N-side(UV,OC) | P633A | 9.3 |
| ▲ 6MBP30VSC060-50 | 600 | 30 | 1.42 | 15 | Built-in | High(3.3/5V) | P&N-side | N-side | N-side | N-side(125±10°C) | N-side(UV,OC) | P633A | 9.3 |

▲ 開発中 Under development

※1 外部電流検出方式

※1 External current detection

※2 LVIC内での温度検出

※2 Temperature detection in LVIC



パワーデバイス/Power Devices (IGBT)

■ ディスクリートIGBT Vシリーズ Discrete IGBTs V series

6th gen. IGBT in field-stop technology and trench-gate structure with Ultra fast FWD
600Vクラス 600 volts class

| 型式 Device type | スイッチング 周波数 Switching frequency | 逆並列 ダイオード Anti-Parallel Diode | 絶対最大定格 Maximum Ratings | | | | | $V_{CE(sat)}$ ($V_{GE}=15V$) Typ. Volts | E_{on} ($R_g=10\Omega$) typ. mJ | E_{off} mJ | Q_g typ. nC | V_F | | パッケージ Package | 質量 Net mass Grams |
|---------------------|---|--|------------------------|----------------|-------------------|-------------------|----------------|---|---|-----------------|------------------|------------|----------------|------------------|----------------------------|
| | | | V_{CES} Volts | I_C Amps. | I_{CP} Amps. | tsc μ sec. | P_D Watts | | | | | typ. Volts | I_F Amps. | | |
| FGW30N60VD | Low | 内蔵 Yes | 600 | 30 | 60 | 10 | 230 | 1.6 | 1.2 | 0.7 | 225 | 1.5 | 25 | TO-247-P2 | 6.0 |
| FGW35N60H | High | - | 600 | 35 | 105 | 5 | 230 | 1.5 | 0.9 | 0.85 | 210 | - | - | TO-247-P2 | 6.0 |
| FGW35N60HD | High | 内蔵 Yes | 600 | 35 | 105 | 5 | 230 | 1.5 | 0.9 | 0.85 | 210 | 2.0 | 15 | TO-247-P2 | 6.0 |
| FGW50N60H | High | - | 600 | 50 | 150 | 5 | 360 | 1.5 | 1.4 | 1.7 | 305 | - | - | TO-247-P2 | 6.0 |
| FGW50N60HD | High | 内蔵 Yes | 600 | 50 | 150 | 5 | 360 | 1.5 | 1.4 | 1.7 | 305 | 2.0 | 25 | TO-247-P2 | 6.0 |
| ▲ FGW50N60HC | High | 内蔵 Yes | 600 | 50 | 150 | 5 | 360 | 1.5 | 1.5 | 1.7 | 305 | 2.3 | 50 | TO-247-P2 | 6.0 |
| FGW50N60VD | Low | 内蔵 Yes | 600 | 50 | 100 | 10 | 360 | 1.6 | 2.4 | 1.4 | 360 | 1.5 | 35 | TO-247-P2 | 6.0 |
| FGW75N60H | High | - | 600 | 75 | 225 | 5 | 500 | 1.5 | 3.0 | 4.2 | 460 | - | - | TO-247-P2 | 6.0 |
| FGW75N60HD | High | 内蔵 Yes | 600 | 75 | 225 | 5 | 500 | 1.5 | 3.0 | 4.2 | 460 | 2.0 | 35 | TO-247-P2 | 6.0 |
| ▲ FGW75N60VD | Low | 内蔵 Yes | 600 | 75 | 150 | 10 | 500 | 1.6 | 3.5 | 2.1 | 520 | 1.5 | 50 | TO-247-P2 | 6.0 |

▲ 開発中 Under development

1200Vクラス 1200 volts class

| 型式 Device type | スイッチング 周波数 Switching frequency | 逆並列 ダイオード Anti-Parallel Diode | 絶対最大定格 Maximum Ratings | | | | | $V_{CE(sat)}$ ($V_{GE}=15V$) Typ. Volts | E_{on} ($R_g=10\Omega$) Typ. mJ | E_{off} mJ | Q_g typ. nC | V_F | | パッケージ Package | 質量 Net mass Grams |
|--------------------|---|--|------------------------|----------------|-------------------|-------------------|----------------|---|---|-----------------|------------------|------------|----------------|------------------|----------------------------|
| | | | V_{CES} Volts | I_C Amps. | I_{CP} Amps. | tsc μ sec. | P_D Watts | | | | | typ. Volts | I_F Amps. | | |
| FGW15N120H | High | - | 1200 | 15 | 45 | 5 | 155 | 1.8 | 0.6 | 0.8 | 140 | - | - | TO-247-P2 | 6.0 |
| FGW15N120HD | High | 内蔵 Yes | 1200 | 15 | 45 | 5 | 155 | 1.8 | 0.6 | 0.8 | 140 | 2.2 | 12 | TO-247-P2 | 6.0 |
| FGW15N120VD | Low | 内蔵 Yes | 1200 | 15 | 30 | 10 | 155 | 1.85 | 1.1 | 0.8 | 150 | 1.7 | 15 | TO-247-P2 | 6.0 |
| FGW25N120VD | Low | 内蔵 Yes | 1200 | 25 | 50 | 10 | 260 | 1.85 | 2.2 | 1.4 | 235 | 1.7 | 25 | TO-247-P2 | 6.0 |
| FGW30N120H | High | - | 1200 | 30 | 90 | 5 | 260 | 1.8 | 1.6 | 1.5 | 230 | - | - | TO-247-P2 | 6.0 |
| FGW30N120HD | High | 内蔵 Yes | 1200 | 30 | 90 | 5 | 260 | 1.8 | 1.6 | 1.5 | 230 | 2.2 | 20 | TO-247-P2 | 6.0 |
| FGW40N120H | High | - | 1200 | 40 | 120 | 5 | 340 | 1.8 | 2.8 | 1.8 | 300 | - | - | TO-247-P2 | 6.0 |
| FGW40N120HD | High | 内蔵 Yes | 1200 | 40 | 120 | 5 | 340 | 1.8 | 2.8 | 1.8 | 300 | 2.2 | 30 | TO-247-P2 | 6.0 |
| FGW40N120VD | Low | 内蔵 Yes | 1200 | 40 | 80 | 10 | 340 | 1.85 | 4.3 | 2.2 | 320 | 1.7 | 30 | TO-247-P2 | 6.0 |

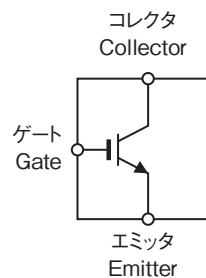
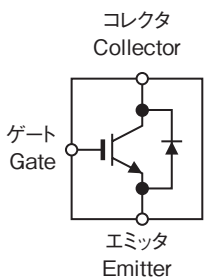
■ 型式の見方 Naming system for Fuji discrete IGBTs

| F | G | W | | 35 | N | 60 | | HD | | |
|---------------|----------------------|--------------------------|--------|-----------------|----------------|-----------------|-----|----------------|----|-----------------------|
| 社名 Company | 機種コード Device code | パッケージコード Package type | | 定格電流 Current | 極性 Polarity | 定格電圧 Voltage | | シリーズ Series | | |
| Fuji | G IGBT | W | TO-247 | ×1 | N | N-ch | 60 | 600V | H | High Speed V w/o FWD |
| | | | | | | | 120 | 1200V | HC | High Speed V with FWD |
| | | | | | | | | | HD | |
| | | | | | | | | | VD | V series with FWD |

■ 等価回路 Equivalent circuit

(a) ダイオード内蔵
with Diode

(b) ダイオードなし
without Diode



■ HEV用IGBT IPMの特長 Features of IGBT IPM for Hybrid Electric Vehicle

■ 特長 Features

ドライブ回路、保護機能内蔵

- ・ 光絶縁
(信号入力、IGBT チップ温度モニター、異常検出時アラーム出力)
- ・ 短絡保護、過熱保護、制御電圧低下保護

鉛フリー

Easy to use

- ・ Optical isolated
(signal input, IGBT's temperature monitor, alarm output)
- ・ Detection and protection
(short-circuit, over-temperature, under-voltage)

Lead Free Package



■ 特性 Characteristics

(T_j=25°C)

| 型 式 Device type | V _{CE(sat)} Volts | I _{C(Cont)} Amps. | V _{CE(sat)} Typ. Volts | V _F Typ. Volts | パッケージ Package |
|--------------------|-------------------------------|-------------------------------|------------------------------------|------------------------------|------------------|
| ▲ 2MBP600UN-120V | 1200 | 600 | 2.00 | 2.20 | P401 |

▲ 開発中 Under development