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# FPF2C110BI07AS2

## F2, Boost and Inverter module with Press-fit

### General Description

Fairchild's Boost and H-Bridge module is designed for a power stage that needs more compact design. And the Press-fit technology provides simple and reliable mounting. This module is optimized for the application such as solar inverter where a high efficiency and robust design are needed.

### Electrical Features

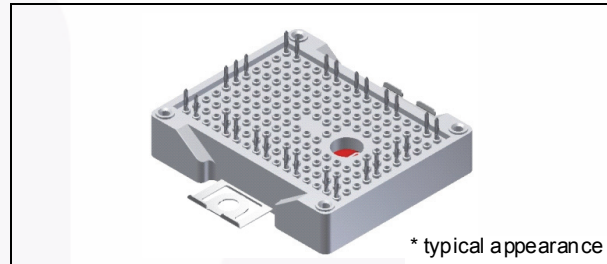
- Boost Stage
  - Dual Boost Topology
  - SiC Boost Diode
  - Low  $R_{DS(ON)}$  Boost Switch
  - Low  $V_F$  and High Voltage Bypass Diode
- Inverter Stage
  - H-bridge Topology
  - High Speed IGBT and Fast Recovery FWD
- Integrated DC-capacitor for Boost and Inverter
- Temperature Sensor

### Mechanical Features

- Compact size : F2 Package
- Press-fit Contact Technology
- $Al_2O_3$  Substrate with Low Thermal Resistance

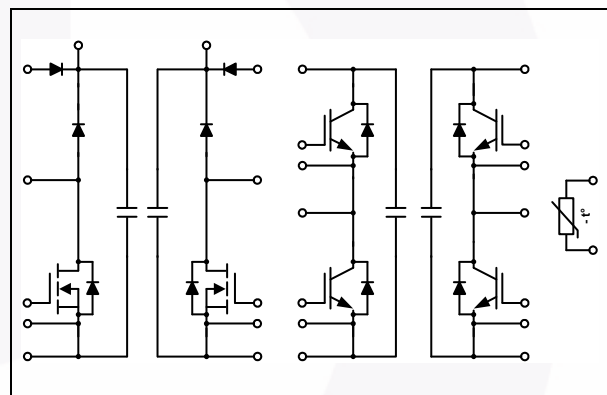
### Applications

- Solar Inverter



\* typical appearance

Package Code: F2



Internal Circuit Diagram

### Package Marking and Ordering Information

| Device          | Device Marking  | Package | Packing Type | Quantity / Tray |
|-----------------|-----------------|---------|--------------|-----------------|
| FPF2C110BI07AS2 | FPF2C110BI07AS2 | F2      | Tray         | 14              |

FPF2C110BI07AS2 F2, Boost and Inverter module with Press-fit

**Absolute Maximum Ratings**  $T_C = 25^\circ\text{C}$  unless otherwise noted.

| Symbol                                   | Description                       | Condition  | Rating        | Units                |
|--|-----------------------------------|--|---------------|----------------------|
| <b>Bypass Diode (DA1, DA2)</b>           |                                   |  |               |                      |
| $V_{RRM}$                                | Peak Repetitive Reverse Voltage   |  | 1000          | V                    |
| $I_F$                                    | Continuous Forward Current        | $T_C = 80^\circ\text{C}, T_{Jmax} = 175^\circ\text{C}$ | 50            | A                    |
| $I_{FSM}$                                | Non-repetitive Peak Surge Current | 60 Hz Single Half-Sine Wave                            | 350           | A                    |
| $I^2t$                                   | Surge Current Integral Value      |  | 510           | $\text{A}^2\text{s}$ |
| $P_D$                                    | Maximum Power Dissipation         | $T_{Jmax} = 175^\circ\text{C}$                         | 300           | W                    |
| $T_J$                                    | Operating Junction Temperature    |  | - 40 to + 150 | $^\circ\text{C}$     |
| <b>Boost Diode (DB1, DB2)</b>            |                                   |  |               |                      |
| $V_{RRM}$                                | Peak Repetitive Reverse Voltage   |  | 650           | V                    |
| $I_F$                                    | Continuous Forward Current        | $T_C = 80^\circ\text{C}, T_{Jmax} = 175^\circ\text{C}$ | 10            | A                    |
| $I_{FSM}$                                | Non-repetitive Peak Surge Current | 60 Hz Single Half-Sine Wave                            | 40            | A                    |
| $I^2t$                                   | Surge Current Integral Value      |  | 6.6           | $\text{A}^2\text{s}$ |
| $P_D$                                    | Maximum Power Dissipation         | $T_{Jmax} = 175^\circ\text{C}$                         | 90            | W                    |
| $T_J$                                    | Operating Junction Temperature    |  | - 40 to + 150 | $^\circ\text{C}$     |
| <b>Boost MOSFET (M1, M2)</b>             |                                   |  |               |                      |
| $V_{DSS}$                                | Drain-Source Voltage              |  | 650           | V                    |
| $V_{GSS}$                                | Gate-Source Voltage               |  | $\pm 20$      | V                    |
| $I_D$                                    | Drain Current                     | $T_C = 25^\circ\text{C}, T_{Jmax} = 150^\circ\text{C}$ | 25            | A                    |
|  |                                   | $T_C = 80^\circ\text{C}, T_{Jmax} = 150^\circ\text{C}$ | 19            | A                    |
| $I_{DM}$                                 | Pulsed Drain Current              | limited by $T_{Jmax}$                                  | 50            | A                    |
| $P_D$                                    | Maximum Power Dissipation         | $T_{Jmax} = 150^\circ\text{C}$                         | 199           | W                    |
| $T_J$                                    | Operating Junction Temperature    |  | - 40 to + 150 | $^\circ\text{C}$     |
| <b>H-bridge IGBT (QA, QB, QC, QD)</b>    |                                   |  |               |                      |
| $V_{CES}$                                | Collector-Emitter Voltage         |  | 650           | V                    |
| $V_{GES}$                                | Gate-Emitter Voltage              |  | $\pm 20$      | V                    |
| $I_C$                                    | Collector Current                 | $T_C = 80^\circ\text{C}, T_{Jmax} = 175^\circ\text{C}$ | 40            | A                    |
| $I_{CM}$                                 | Pulsed Collector Current          | limited by $T_{Jmax}$                                  | 80            | A                    |
| $P_D$                                    | Maximum Power Dissipation         | $T_{Jmax} = 175^\circ\text{C}$                         | 158           | W                    |
| $T_J$                                    | Operating Junction Temperature    |  | - 40 to + 150 | $^\circ\text{C}$     |
| <b>H-bridge FWD (QAD, QBD, QCD, QDD)</b> |                                   |  |               |                      |
| $V_{RRM}$                                | Peak Repetitive Reverse Voltage   |  | 650           | V                    |
| $I_F$                                    | Diode Forward Current             | $T_C = 80^\circ\text{C}, T_{Jmax} = 175^\circ\text{C}$ | 30            | A                    |
| $I_{FM}$                                 | Pulsed Maximum Forward Currents   | limited by $T_{Jmax}$                                  | 60            | A                    |
| $P_D$                                    | Maximum Power Dissipation         | $T_{Jmax} = 175^\circ\text{C}$                         | 109           | W                    |
| $T_J$                                    | Operating Junction Temperature    |  | - 40 to + 150 | $^\circ\text{C}$     |
| <b>DC Link Capacitor</b>                 |                                   |  |               |                      |
| $V_{MAX}$                                | Maximum DC Voltage                |  | 1000          | V                    |
| $T_{OP}$                                 | Operating Temperature             |  | - 55 to + 125 | $^\circ\text{C}$     |

**Absolute Maximum Ratings**  $T_C = 25^\circ\text{C}$  unless otherwise noted.

| Symbol        | Description                    | Condition | Rating                  | Units            |
|---------------|--------------------------------|-----------|-------------------------|------------------|
| <b>Module</b> |                                |           |                         |                  |
| $T_{STG}$     | Storage Temperature            |           | - 40 to + 125           | $^\circ\text{C}$ |
| $V_{ISO}$     | Isolation Voltage              | AC 1 min. | 2500                    | V                |
| Iso_Material  | Internal Isolation Material    |           | $\text{Al}_2\text{O}_3$ | -                |
| $T_{MOUNT}$   | Mounting Torque <sub>(1)</sub> |           | 2.4                     | N•m              |
| Creepage      | Terminal to Heat Sink          |           | 11.5                    | mm               |
|               | Terminal to Terminal           |           | 6.3                     | mm               |
| Clearance     | Terminal to Heat Sink          |           | 10.0                    | mm               |
|               | Terminal to Terminal           |           | 5.0                     | mm               |

Notes:

1. Recommendable value : 2.0 ~ 2.4 Nm (M4)

**Electrical Characteristics**  $T_C = 25\text{ }^\circ\text{C}$  unless otherwise noted. **Parantheses value is based on the discrete.**

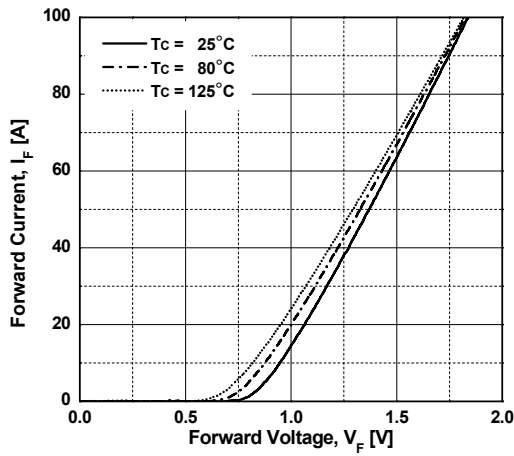
| Symbol                           | Parameter                               | Conditions  | Min.   | Typ. | Max.          | Units              |    |
|----------------------------------|---|---|--|------|---------------|--------------------|----|
| <b>Bypass Diode (DA1, DA2)</b>   |   |   |  |      |               |                    |    |
| $V_F$                            | Diode Forward Voltage                   | $I_F = 50\text{ A}$   | -  | 1.37 | 1.7           | V                  |    |
|                                  |   | $I_F = 50\text{ A}, T_C = 125\text{ }^\circ\text{C}$  | -  | 1.3  | -             | V                  |    |
| $I_R$                            | Reverse Leakage Current                 | $V_R = 1000\text{ V}$   | -  | -    | 250           | $\mu\text{A}$      |    |
| $R_{\theta JC}$                  | Thermal Resistance of Junction to Case  | per Diode   | -  | -    | 0.49          | $^\circ\text{C/W}$ |    |
| $R_{\theta CH}$                  | Thermal Resistance of Case to Heat sink | per Chip, $\lambda_{PCM} = 3.4\text{ W/mK}$   | -  | 0.56 | -             | $^\circ\text{C/W}$ |    |
| <b>Boost Diode (DB1, DB2)</b>    |   |   |  |      |               |                    |    |
| $V_F$                            | Diode Forward Voltage                   | $I_F = 10\text{ A}$   | -  | 1.42 | 1.58          | V                  |    |
|                                  |   | $I_F = 10\text{ A}, T_C = 125\text{ }^\circ\text{C}$  | -  | 1.61 | -             | V                  |    |
| $I_R$                            | Reverse Leakage Current                 | $V_R = 650\text{ V}$  | -  | -    | 250           | $\mu\text{A}$      |    |
| $I_{rr}$                         | Reverse Recovery Current                | $V_R = 300\text{ V}, I_F = 10\text{ A},$<br>$di/dt = 1560\text{ A/us},$<br>$T_C = 25\text{ }^\circ\text{C}$   | -  | 6    | -             | A                  |    |
| $Q_C$                            | Total Capacitive Charge                 |   | -  | 60   | -             | nC                 |    |
| $E_{rec}$                        | Reverse Recovery Energy                 |   | -  | 7.5  | -             | $\mu\text{J}$      |    |
| $I_{rr}$                         | Reverse Recovery Current                | $V_R = 300\text{ V}, I_F = 10\text{ A},$<br>$di/dt = 1560\text{ A/us},$<br>$T_C = 125\text{ }^\circ\text{C}$  | -  | 6    | -             | A                  |    |
| $Q_C$                            | Total Capacitive Charge                 |   | -  | 61   | -             | nC                 |    |
| $E_{rec}$                        | Reverse Recovery Energy                 |   | -  | 7.5  | -             | $\mu\text{J}$      |    |
| $R_{\theta JC}$                  | Thermal Resistance of Junction to Case  | per Chip  | -  | -    | 1.63          | $^\circ\text{C/W}$ |    |
| $R_{\theta CH}$                  | Thermal Resistance of Case to Heat sink | per Chip, $\lambda_{PCM} = 3.4\text{ W/mK}$   | -  | 0.42 | -             | $^\circ\text{C/W}$ |    |
| <b>Boost MOSFET (M1, M2)</b>     |   |   |  |      |               |                    |    |
| <b>Off Characteristics</b>       |   |   |  |      |               |                    |    |
| $V_{DSS}$                        | Drain-Source Breakdown Voltage          | $V_{GS} = 0\text{ V}, I_D = 1\text{ mA}$  | 650  | -    | -             | V                  |    |
| $I_{DSS}$                        | Drain Cut-off Current                   | $V_{DS} = V_{DSS}, V_{GS} = 0\text{ V}$   | -  | -    | 250           | $\mu\text{A}$      |    |
| $I_{GSS}$                        | Gate-Source Leakage Current             | $V_{GS} = V_{GSS}, V_{DS} = 0\text{ V}$   | -  | -    | $\pm 1$       | $\mu\text{A}$      |    |
| <b>On Characteristics</b>        |   |   |  |      |               |                    |    |
| $V_{GS(th)}$                     | Gate-Source Threshold Voltage           | $V_{GS} = V_{DS}, I_D = 250\mu\text{A}$   | 3.0  | 3.9  | 5.0           | V                  |    |
| $R_{DS(ON)}$                     | Static Drain-Source On Resistance       | $I_D = 17.5\text{ A}, V_{GS} = 10\text{ V}$   | -  | 110  | 137           | $\text{m}\Omega$   |    |
| $V_{SD}$                         | Drain-Source Diode Forward Voltage      | $I_{SD} = 17.5\text{ A}, V_{GS} = 0\text{ V}$   | -  | 1.07 | 1.37          | V                  |    |
|                                  |   | $I_{SD} = 17.5\text{ A}, V_{GS} = 0\text{ V}, T_C = 125\text{ }^\circ\text{C}$  | -  | 0.93 | -             | V                  |    |
| $R_{LEAD}$                       | Lead Resistance of Pin to Chip          | per Chip  | -  | 3.2  | -             | $\text{m}\Omega$   |    |
| <b>Switching Characteristics</b> |   |   |  |      |               |                    |    |
| $t_{d(on)}$                      | Turn-On Delay Time                      | $V_{CC} = 300\text{ V}$<br>$I_D = 17.5\text{ A}$<br>$V_{GS} = 10\text{ V}$<br>$R_G = 4.7\text{ }\Omega$<br>Inductive Load<br>$T_C = 25\text{ }^\circ\text{C}$ | -  | 27   | -             | ns                 |    |
| $t_r$                            | Rise Time                               |   | -  | 5.0  | -             | ns                 |    |
| $t_{d(off)}$                     | Turn-Off Delay Time                     |   | -  | 3.0  | -             | ns                 |    |
| $t_f$                            | Fall Time                               |   | -  | 5.5  | -             | ns                 |    |
| $E_{ON}$                         | Turn-On Switching Loss per Pulse        |   | -  | 33   | -             | $\mu\text{J}$      |    |
| $E_{OFF}$                        | Turn-Off Switching Loss per Pulse       |   | -  | 20   | -             | $\mu\text{J}$      |    |
| $t_{d(on)}$                      | Turn-On Delay Time                      |   | $V_{CC} = 300\text{ V}$<br>$I_D = 17.5\text{ A}$<br>$V_{GS} = 10\text{ V}$<br>$R_G = 4.7\text{ }\Omega$<br>Inductive Load<br>$T_C = 125\text{ }^\circ\text{C}$ | -    | 26            | -                  | ns |
| $t_r$                            | Rise Time                               |   | -  | 5.3  | -             | ns                 |    |
| $t_{d(off)}$                     | Turn-Off Delay Time                     |   | -  | 87   | -             | ns                 |    |
| $t_f$                            | Fall Time                               |   | -  | 6.0  | -             | ns                 |    |
| $E_{ON}$                         | Turn-On Switching Loss per Pulse        | -   | 39   | -    | $\mu\text{J}$ |                    |    |
| $E_{OFF}$                        | Turn-Off Switching Loss per Pulse       | -   | 21   | -    | $\mu\text{J}$ |                    |    |
| $Q_g$                            | Total Gate Charge                       | $V_{CC} = 300\text{ V}, I_{SD} = 17.5\text{ A}, V_{GS} = 10\text{ V}$   | -  | 84   | -             | nC                 |    |
| $R_{\theta JC}$                  | Thermal Resistance of Junction to Case  | per Chip  | -  | -    | 0.63          | $^\circ\text{C/W}$ |    |
| $R_{\theta CH}$                  | Thermal Resistance of Case to Heat sink | per Chip, $\lambda_{PCM} = 3.4\text{ W/mK}$   | -  | 0.49 | -             | $^\circ\text{C/W}$ |    |

**Electrical Characteristics**  $T_C = 25\text{ }^\circ\text{C}$  unless otherwise noted. **Parantheses value is based on the discrete.**

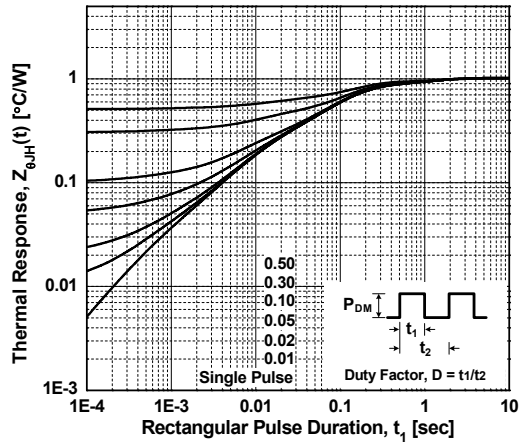
| Symbol   | Parameter                               | Conditions   | Min.  | Typ.  | Max.    | Units              |    |
|--|---|--|---|-------|---------|--------------------|----|
| <b>H-Bridge IGBT (QA, QB, QC, QD)</b>              |   |  |   |       |         |                    |    |
| <b>Off Characteristics</b>                         |   |  |   |       |         |                    |    |
| $BV_{CES}$   | Collector-Emitter Breakdown Voltage     | $V_{GE} = 0\text{ V}, I_C = 1\text{ mA}$   | 650   | -     | -       | V                  |    |
| $I_{CES}$  | Collector Cut-off Current               | $V_{CE} = V_{CES}, V_{GE} = 0\text{ V}$  | -   | -     | 250     | $\mu\text{A}$      |    |
| $I_{GES}$  | Gate-Emitter Leakage Current            | $V_{GE} = V_{GES}, V_{CE} = 0\text{ V}$  | -   | -     | $\pm 2$ | $\mu\text{A}$      |    |
| <b>On Characteristics</b>                          |   |  |   |       |         |                    |    |
| $V_{GE(th)}$                                       | Gate-Emitter Threshold Voltage          | $V_{GE} = V_{CE}, I_C = 40\text{ mA}$  | 3.0   | 5.2   | 6.1     | V                  |    |
| $V_{CE(sat)}$                                      | Collector-Emitter Saturation Voltage    | $I_C = 40\text{ A}, V_{GE} = 15\text{ V}$  | -   | 1.6   | 2.3     | V                  |    |
|  |   | $I_C = 40\text{ A}, V_{GE} = 15\text{ V}, T_C = 125\text{ }^\circ\text{C}$   | -   | 1.8   | -       | V                  |    |
| $R_{LEAD}$   | Lead Resistance of Pin to Chip          | per Chip   | -   | 3.5   | -       | $\text{m}\Omega$   |    |
| <b>Switching Characteristics (QB-QAD / QD-QCD)</b> |   |  |   |       |         |                    |    |
| $t_{d(on)}$  | Turn-On Delay Time                      | $V_{CC} = 300\text{ V}$<br>$I_C = 40\text{ A}$<br>$V_{GE} = 15\text{ V}$<br>$R_G = 15\text{ }\Omega$<br>Inductive Load<br>$T_C = 25\text{ }^\circ\text{C}$ | -   | 26    | -       | ns                 |    |
| $t_r$  | Rise Time                               |  | -   | 22    | -       | ns                 |    |
| $t_{d(off)}$                                       | Turn-Off Delay Time                     |  | -   | 125   | -       | ns                 |    |
| $t_f$  | Fall Time                               |  | -   | 14    | -       | ns                 |    |
| $E_{ON}$   | Turn-On Switching Loss per Pulse        |  | -   | 0.45  | -       | mJ                 |    |
| $E_{OFF}$  | Turn-Off Switching Loss per Pulse       |  | -   | 0.27  | -       | mJ                 |    |
| $t_{d(on)}$  | Turn-On Delay Time                      |  | $V_{CC} = 300\text{ V}$<br>$I_C = 40\text{ A}$<br>$V_{GE} = 15\text{ V}$<br>$R_G = 15\text{ }\Omega$<br>Inductive Load<br>$T_C = 125\text{ }^\circ\text{C}$ | -     | 24      | -                  | ns |
| $t_r$  | Rise Time                               |  |   | -     | 25      | -                  | ns |
| $t_{d(off)}$                                       | Turn-Off Delay Time                     |  |   | -     | 139     | -                  | ns |
| $t_f$  | Fall Time                               |  |   | -     | 13      | -                  | ns |
| $E_{ON}$   | Turn-On Switching Loss per Pulse        | -  |   | 0.74  | -       | mJ                 |    |
| $E_{OFF}$  | Turn-Off Switching Loss per Pulse       | -  |   | 0.35  | -       | mJ                 |    |
| $Q_g$  | Total Gate Charge                       | $V_{CC} = 300\text{ V}, I_C = 40\text{ A}, V_{GE} = 15\text{ V}$   | -   | 60    | -       | nC                 |    |
| $R_{\theta JC}$                                    | Thermal Resistance of Junction to Case  | per Chip   | -   | -     | 0.95    | $^\circ\text{C/W}$ |    |
| $R_{\theta CH}$                                    | Thermal Resistance of Case to Heat sink | per Chip, $\lambda_{PCM} = 3.4\text{ W/mK}$  | -   | 0.64  | -       | $^\circ\text{C/W}$ |    |
| <b>H-bridge FWD (QAD, QBD, QCD, QDD)</b>           |   |  |   |       |         |                    |    |
| $V_F$  | Diode Forward Voltage                   | $I_F = 30\text{ A}$  | -   | 2.45  | 3.2     | V                  |    |
|  |   | $I_F = 30\text{ A}, T_C = 125\text{ }^\circ\text{C}$   | -   | 2.15  | -       | V                  |    |
| $I_R$  | Reverse Leakage Current                 | $V_R = 650\text{ V}$   | -   | -     | 250     | $\mu\text{A}$      |    |
| $I_{rr}$   | Reverse Recovery Current                | $V_R = 300\text{ V}, I_F = 30\text{ A},$<br>$di/dt = 1570\text{ A/us},$<br>$T_C = 25\text{ }^\circ\text{C}$  | -   | 20.1  | -       | A                  |    |
| $t_{rr}$   | Reverse Recovery Time                   |  | -   | 30    | -       | ns                 |    |
| $E_{rec}$  | Reverse Recovery Energy                 |  | -   | 27    | -       | $\mu\text{J}$      |    |
| $I_{rr}$   | Reverse Recovery Current                | $V_R = 300\text{ V}, I_F = 30\text{ A},$<br>$di/dt = 1135\text{ A/us},$<br>$T_C = 125\text{ }^\circ\text{C}$   | -   | 23.1  | -       | A                  |    |
| $t_{rr}$   | Reverse Recovery Time                   |  | -   | 52    | -       | ns                 |    |
| $E_{rec}$  | Reverse Recovery Energy                 |  | -   | 73    | -       | $\mu\text{J}$      |    |
| $R_{\theta JC}$                                    | Thermal Resistance of Junction to Case  | per Chip   | -   | -     | 1.38    | $^\circ\text{C/W}$ |    |
| $R_{\theta CH}$                                    | Thermal Resistance of Case to Heat sink | per Chip, $\lambda_{PCM} = 3.4\text{ W/mK}$  | -   | 0.45  | -       | $^\circ\text{C/W}$ |    |
| <b>DC link Capacitor</b>                           |   |  |   |       |         |                    |    |
| C value  | Capacitance Value                       |  | -   | 47    | -       | nF                 |    |
| <b>NTC (Thermistor)</b>                            |   |  |   |       |         |                    |    |
| $R_{NTC}$  | Rated Resistance                        | $T_C = 25\text{ }^\circ\text{C}$   | -   | 22    | -       | $\text{k}\Omega$   |    |
|  |   | $T_C = 100\text{ }^\circ\text{C}$  | -   | 1.486 | -       | $\text{k}\Omega$   |    |
|  | Tolerance                               | $T_C = 25\text{ }^\circ\text{C}$   | -5  | -     | +5      | %                  |    |
| $P_D$  | Power Dissipation                       | $T_C = 25\text{ }^\circ\text{C}$   | -   | -     | 20      | mW                 |    |
| $B_{Value}$  | B-Constance                             | $B_{25/50}, \text{tol.}$   | -   | 3950  | -       | K                  |    |
|  |   | $B_{25/100}$   | -   | 3998  | -       | K                  |    |

## Typical Performance Characteristics

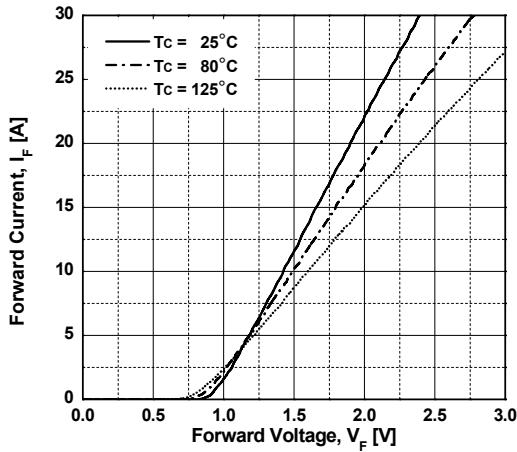
**Fig 1. Forward Voltage Drop**  
- Bypass Diode



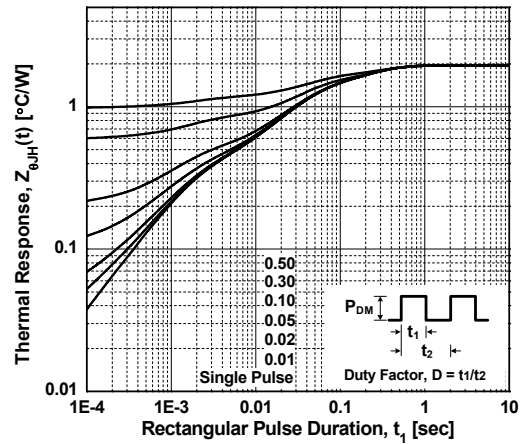
**Fig 2. Transient Thermal Impedance**  
- Bypass Diode



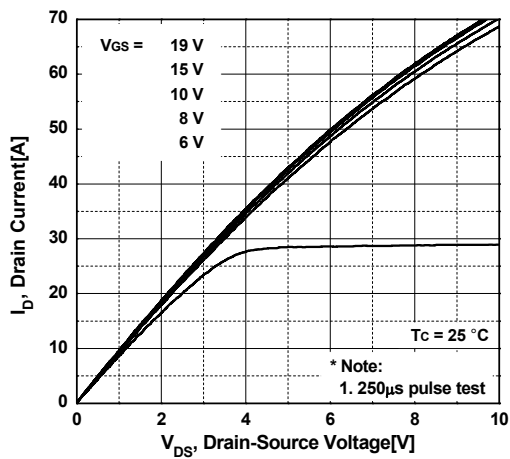
**Fig 3. Forward Voltage Drop**  
- Boost Diode



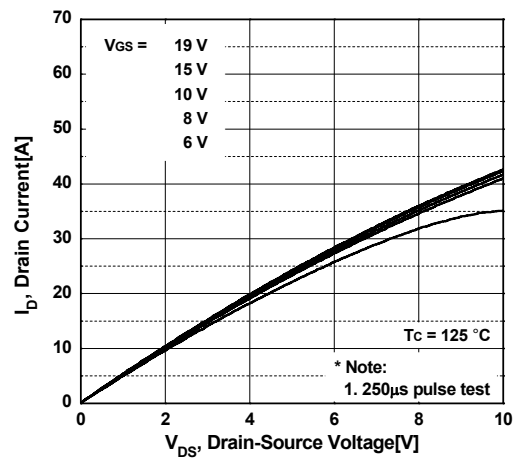
**Fig 4. Transient Thermal Impedance**  
- Boost Diode



**Fig 5. On-Region Characteristics**  
- Boost MOSFET

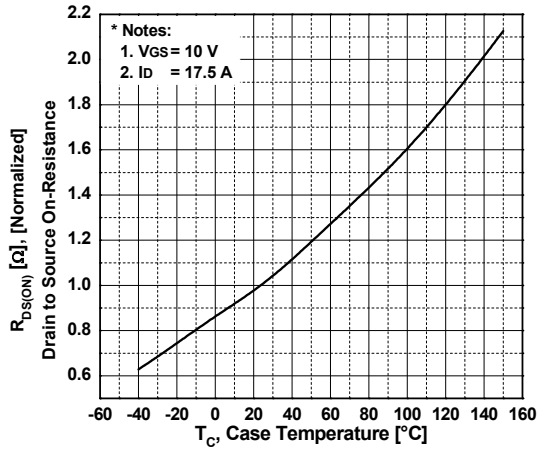


**Fig 6. On-Region Characteristics**  
- Boost MOSFET

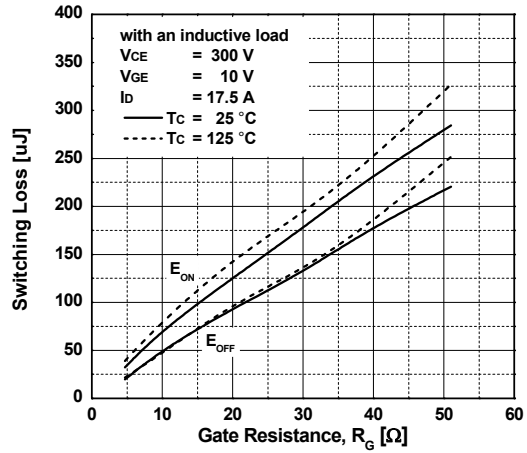


## Typical Performance Characteristics

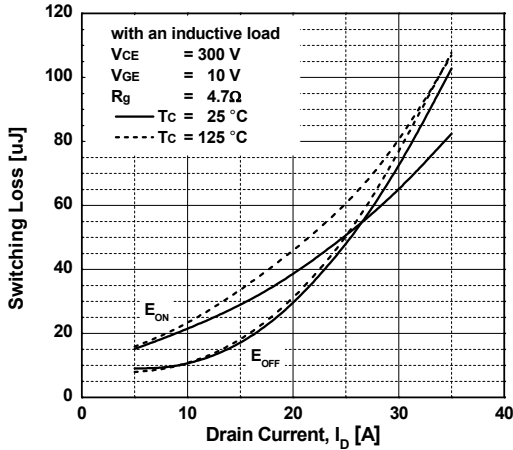
**Fig 7. On-Resistance Variation vs. Temperature - Boost MOSFET**



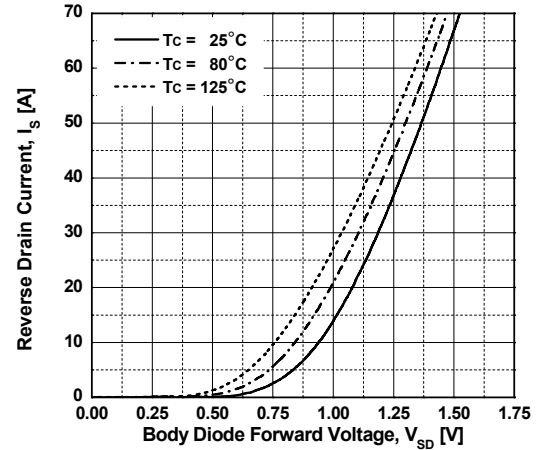
**Fig 8. Switching Loss vs. Gate Resistor Values - Boost MOSFET**



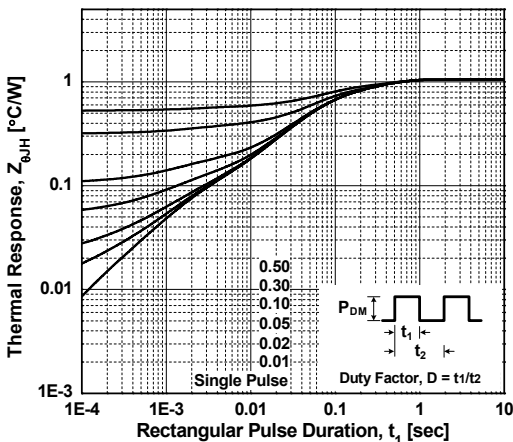
**Fig 9. Switching Loss vs. Drain Current - Boost MOSFET**



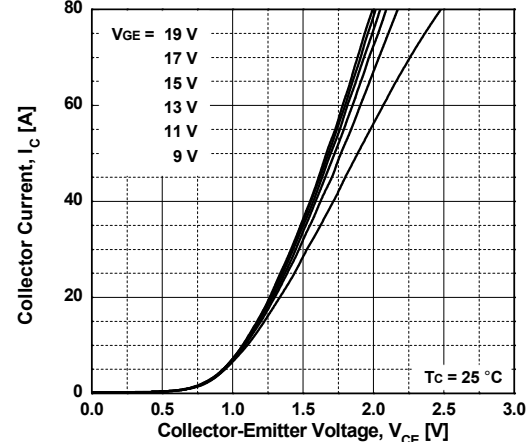
**Fig 10. Body Diode Forward Voltage Variation vs. Source Current and Temperature - Boost MOSFET**



**Fig 11. Transient Thermal Impedance - Boost MOSFET**

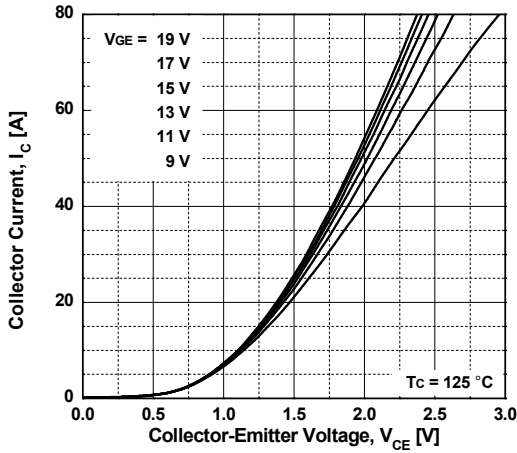


**Fig 12. Output Characteristics - H-bridge IGBT**

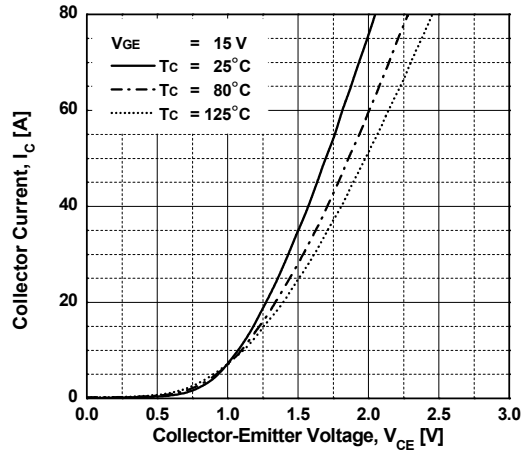


## Typical Performance Characteristics

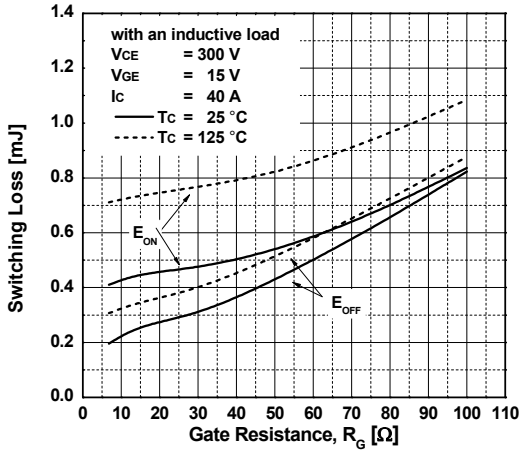
**Fig 13. Output Characteristics**  
- H-bridge IGBT



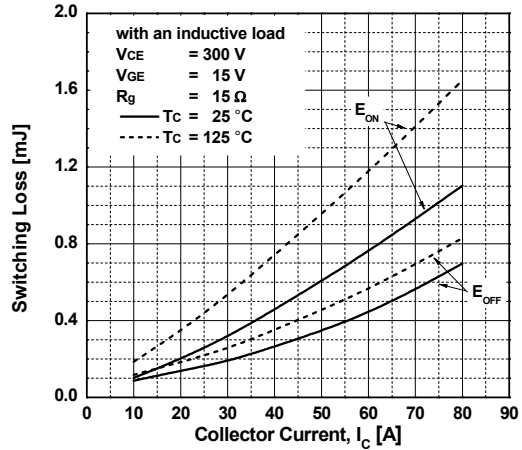
**Fig 14. Saturation Voltage Characteristics**  
- H-bridge IGBT



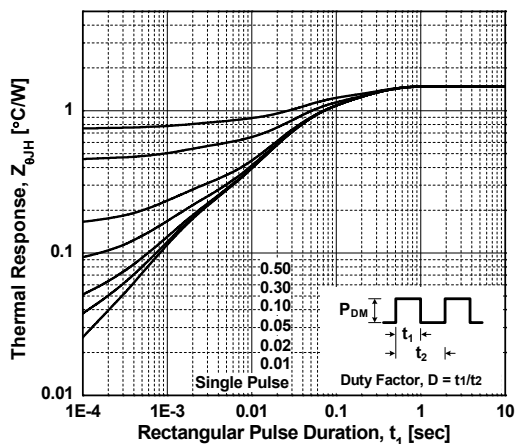
**Fig 15. Switching Loss vs. Gate Resistor Values**  
- H-bridge IGBT



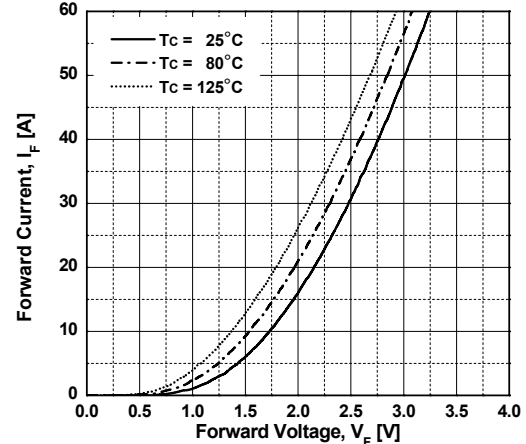
**Fig 16. Switching Loss vs. Collector Current**  
- H-bridge IGBT



**Fig 17. Transient Thermal Impedance**  
- H-bridge IGBT



**Fig 18. Forward Voltage Drop vs. Forward Current**  
- H-bridge FWD



### Typical Performance Characteristics

Fig 19. Reverse Recovery Energy vs. Gate Resistor Values - H-bridge FWD

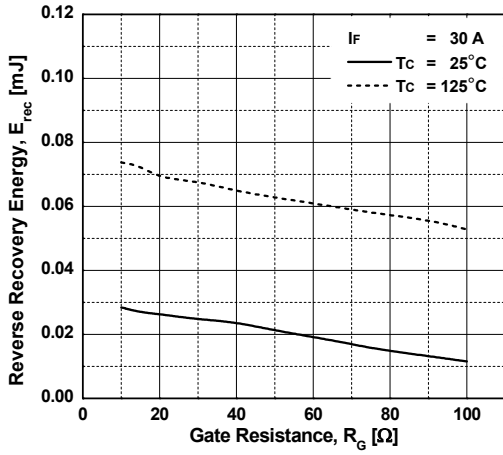


Fig 20. Reverse Recovery Energy vs. Forward Current - H-bridge FWD

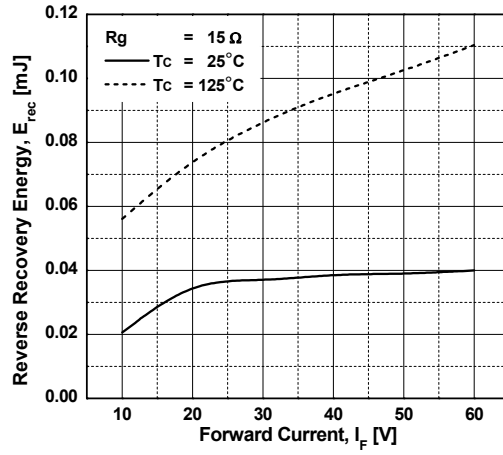
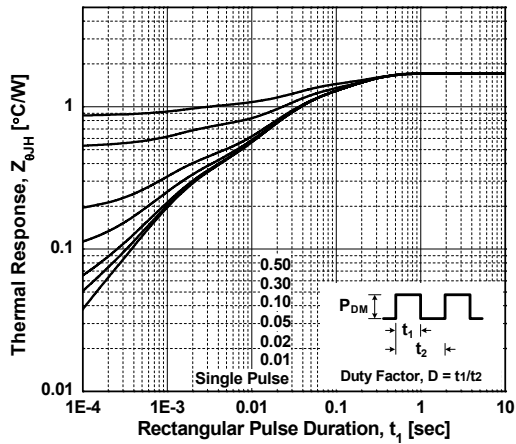
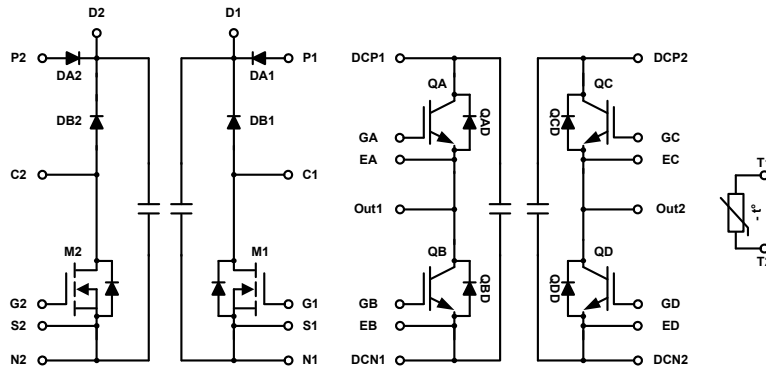


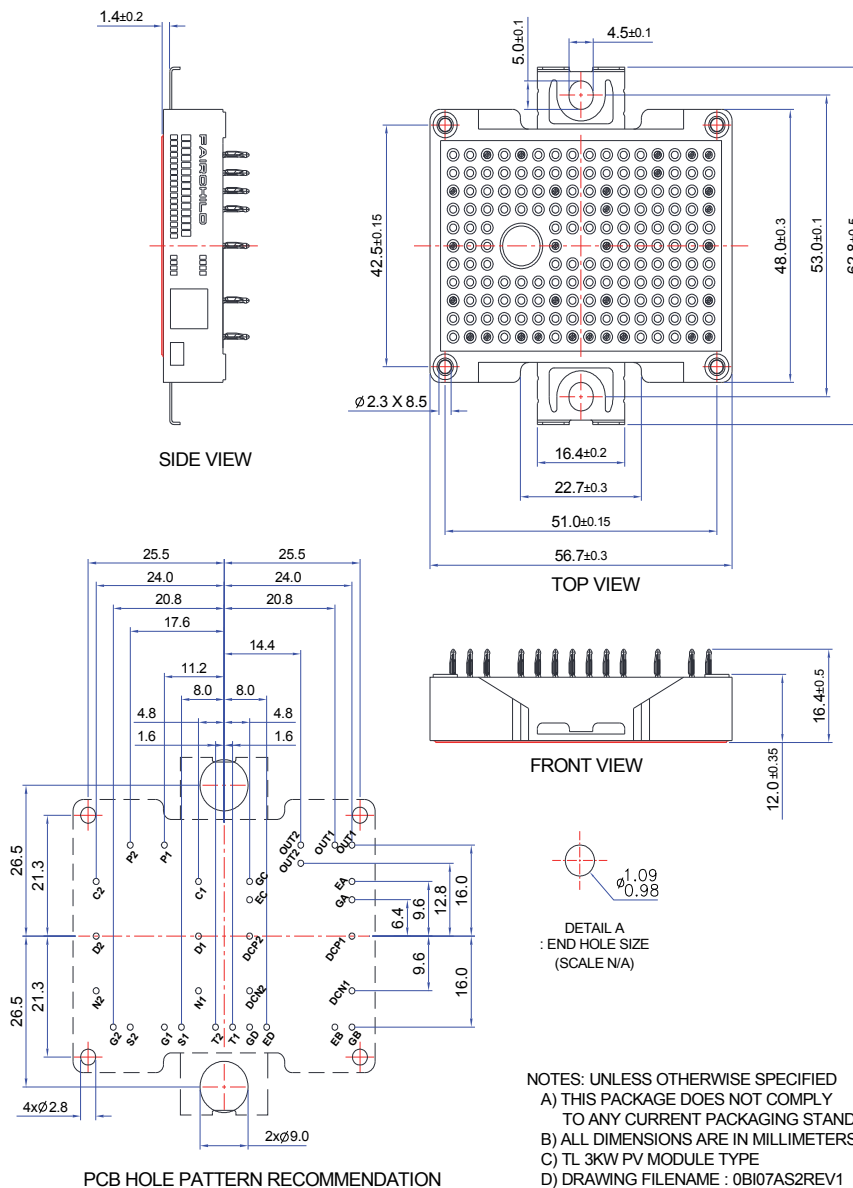
Fig 21. Transient Thermal Impedance - H-bridge FWD



### Internal Circuit Diagram



### Package Outlines [mm]








- PIN-GRID 3.2mm  
 - TOLERANCE OF PCB HOLE PATTERN  $\pm \varnothing 0.1$





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