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SUBJECT

Demo board for Mini DIP-IPM Ver.4 series

(1) **Demo Board Outline**

This PCB includes the minimum necessary components such as a snubber capacitor for surge absorption and bootstrap circuits for the version 4 Mini DIP-IPM as shown in figure 1.

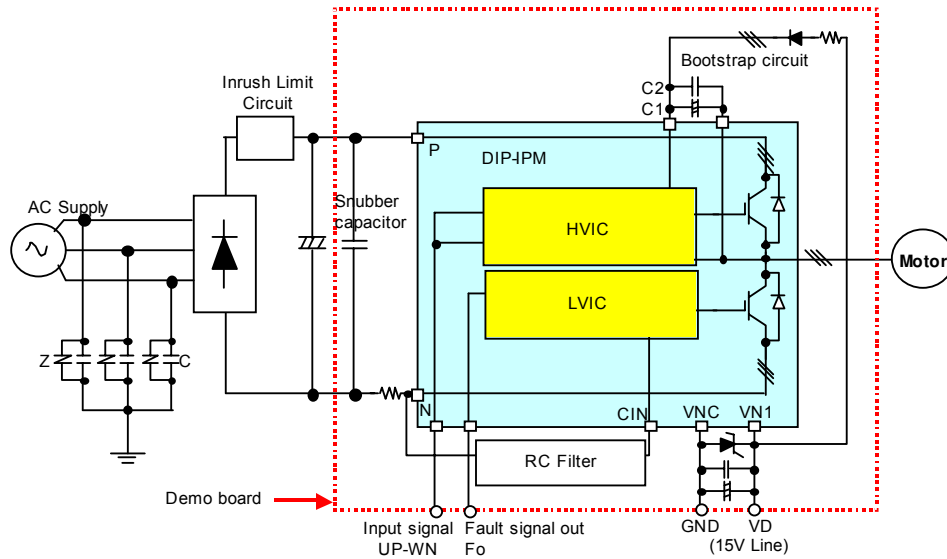


Fig. 1 Circuitry of demo board

(2) **Demo Board Photos**

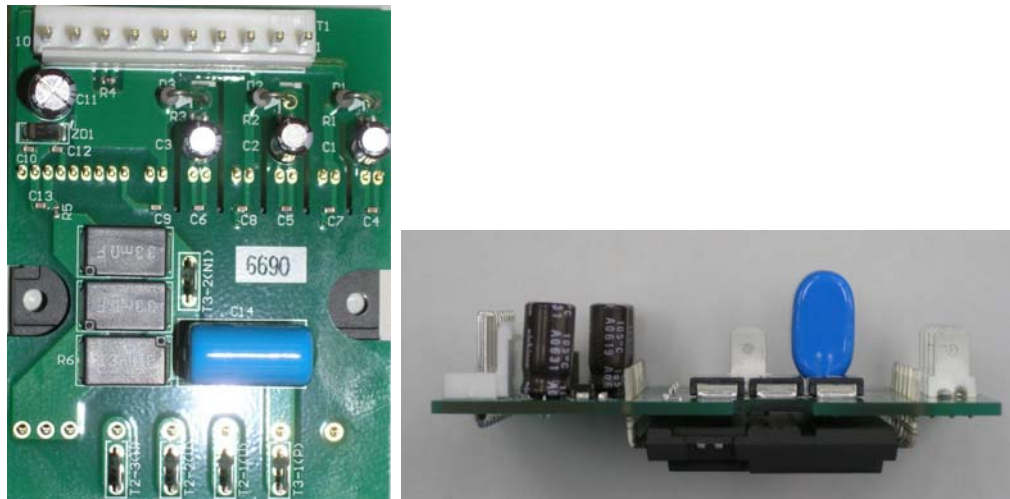


Fig.2 Top view and side view

Note:

Board dimensions: 70.0 x 54.0 x 24.2mm (Including the height of DIP-IPM and parts)

Total periphery elements count: 35 (including a DIP-IPM and wiring cable)

(3) Demo Board Outlines

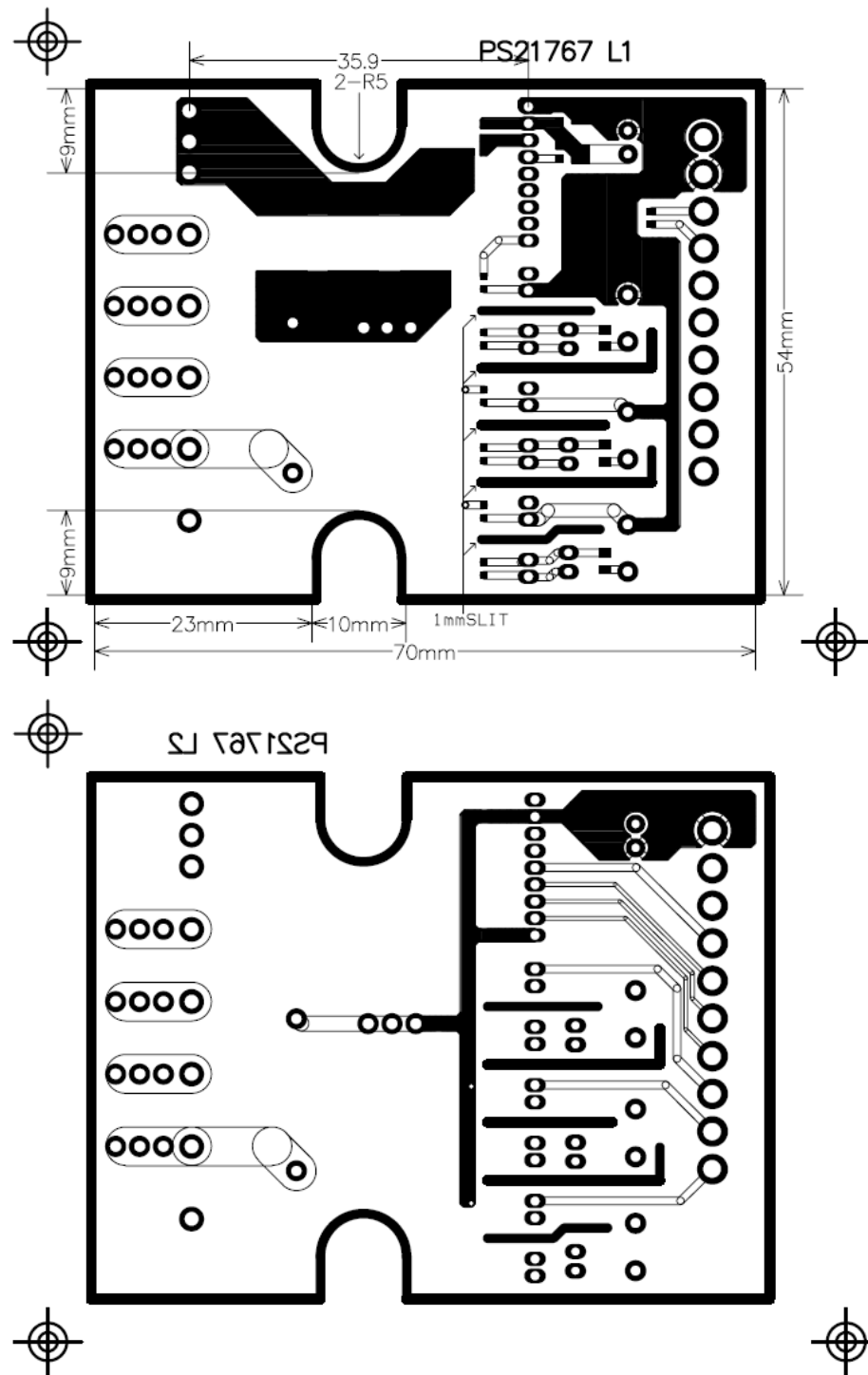


Fig.3 Patterns of front face and back face

(5) **Parts list**

Table 1 Parts list

| Symbol | Type Name | Description | Note |
|--------|-----------------------|--|---------------------------------|
| D1 | 10DRA60 | 1A 600V Diode | Japan International |
| D2 | 10DRA60 | 1A 600V Diode | Japan International |
| D3 | 10DRA60 | 1A 600V Diode | Japan International |
| ZD1 | U1ZB24 | 24V 1W Zener Diode | Toshiba |
| C1 | UPW1H220MDD | 22 μ F50V Al electrolytic capacitor | Nichicon |
| C2 | UPW1H220MDD | 22 μ F50V Al electrolytic capacitor | Nichicon |
| C3 | UPW1H220MDD | 22 μ F50V Al electrolytic capacitor | Nichicon |
| C4 | C1608X7R1H102K | 1000pF50V ceramic capacitor | TDK |
| C5 | C1608X7R1H102K | 1000pF50V ceramic capacitor | TDK |
| C6 | C1608X7R1H102K | 1000pF50V ceramic capacitor | TDK |
| C7 | C1608X7R1H102K | 1000pF50V ceramic capacitor | TDK |
| C8 | C1608X7R1H102K | 1000pF50V ceramic capacitor | TDK |
| C9 | C1608X7R1H102K | 1000pF50V ceramic capacitor | TDK |
| C10 | C1608X7R1H102K | 1000pF50V ceramic capacitor | TDK |
| C11 | UPW1H470MED | 47 μ F50V Al electrolytic capacitor | Nichicon |
| C12 | GRM39R223K50 | 0.022 μ F50V ceramic capacitor | Murata |
| C13 | C1608X7R1H102K | 1000pF50V ceramic capacitor | TDK |
| C14 | MDDSA0.22 μ F630V | 0.22 μ F630V snubber capacitor | Hitachi AIC |
| R1 | RK73H1JTD10F | 1/16W 10 Ω F | Hokuriku Denko |
| R2 | RK73H1JTD10F | 1/16W 10 Ω F | Hokuriku Denko |
| R3 | RK73H1JTD10F | 1/16W 10 Ω F | Hokuriku Denko |
| R4 | RK73H1JTD10kF | 1/16W 10K Ω F | Hokuriku Denko |
| R5 | RK73H1JTD2kF | 1/16W 2K Ω F | Hokuriku Denko |
| R6-1 | SL2TBK33/47LOF | PS21765: 47m Ω , \pm 1%, 2WX3 PS21767: 33m Ω , \pm 1%, 2WX3 | KOA, Current detecting resistor |
| R6-2 | SL2TBK33/47LOF | | |
| R6-3 | SL2TBK33/47LOF | | |
| T1 | B10P-VH | 10pin Socket | JST |
| T2-1 | TP42097-21 | Fasten tab | Kyoushin |
| T2-2 | TP42097-21 | Fasten tab | Kyoushin |
| T2-3 | TP42097-21 | Fasten tab | Kyoushin |
| T3-1 | TP42097-21 | Fasten tab | Kyoushin |
| T3-2 | TP42097-21 | Fasten tab | Kyoushin |
| IPM | PS21765/PS21767 | 20A/30A mini DIP-IPM | Mitsubishi |
| | Wiring cable | | JST |

The demo board kit includes an input signal connection cable and a power supply cable with a connector. The input signal cable should be cut to make the connection between MCU/DSP and the demo board as short as possible.