

**PRELIMINARY**  
 Notice: This is not a final specification.  
 Some parametric limits are subject to change.

MITSUBISHI FAST RECOVERY DIODE MODULE

# RM600DY-66S

HIGH POWER, HIGH SPEED SWITCHING USE  
 INSULATED TYPE

HVDi (High Voltage Diode) Module

## RM600DY-66S



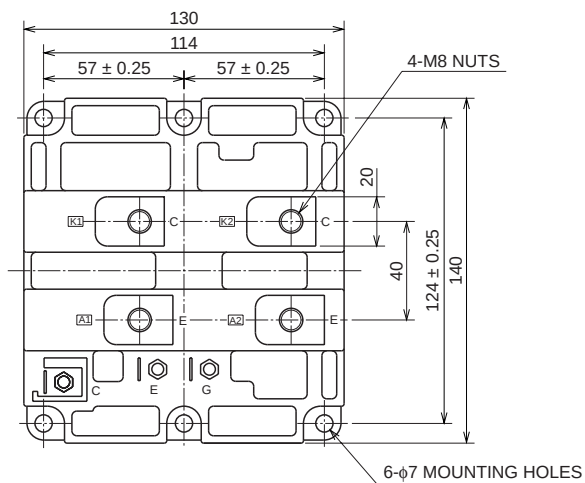
- IDC ..... 600A
- VRRM ..... 3300V
- Insulated type
- 2-element in a pack

## APPLICATION

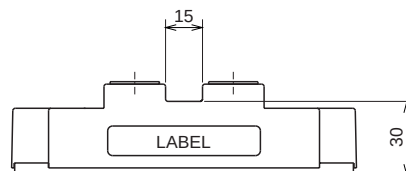
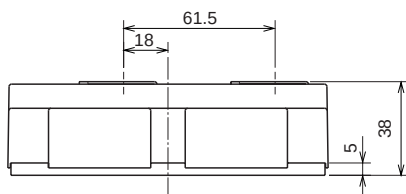
3-level inverters, 3-level converters, DC choppers.

## OUTLINE DRAWING & CIRCUIT DIAGRAM

Dimensions in mm



CIRCUIT DIAGRAM



**ABSOLUTE MAXIMUM RATINGS ( $T_j = 25^\circ\text{C}$ )**

| Symbol | Parameter                           | Voltage class | Unit |
|--------|-------------------------------------|---------------|------|
|        |                                     | 66            |      |
| VRRM   | Repetitive peak reverse voltage     | 3300          | V    |
| VDRM   | Non-repetitive peak reverse voltage | 3300          | V    |
| VR(DC) | Reverse DC voltage                  | 2200          | V    |

| Symbol    | Parameter                              | Conditions                                                                              | Ratings            | Unit                      |
|-----------|----------------------------------------|-----------------------------------------------------------------------------------------|--------------------|---------------------------|
| Idc       | DC current                             | $T_c = 25^\circ\text{C}$                                                                | 600                | A                         |
| Ifms      | Surge (non-repetitive) forward current | 1 cycle of half wave 60Hz, peak value, $T_j = 25^\circ\text{C}$ start, $V_{RM} = 0V$    | 4800               | A                         |
| $I^2t$    | $I^2t$ for fusing                      | Value of one cycle surge current, $t_w = 8.3\text{ms}$ , $T_j = 25^\circ\text{C}$ start | $9.60 \times 10^4$ | $\text{A}^2\text{s}$      |
| $T_j$     | Junction temperature                   | —                                                                                       | $-40 \sim +150$    | $^\circ\text{C}$          |
| $T_{stg}$ | Storage temperature                    | —                                                                                       | $-40 \sim +125$    | $^\circ\text{C}$          |
| Viso      | Isolation Voltage                      | Main terminal to case, 60Hz, sinusoidal, AC, 1min, rms                                  | 6000               | V                         |
| —         | Mounting torque                        | Main terminals screw : M6                                                               | 6.67 ~ 8.24        | $\text{N} \cdot \text{m}$ |
| —         |                                        | Mounting screw : M6                                                                     | 2.84 ~ 3.43        | $\text{N} \cdot \text{m}$ |
| —         | Weight                                 | Typical value                                                                           | 1.5                | kg                        |

**ELECTRICAL CHARACTERISTICS ( $T_j = 25^\circ\text{C}$ )**

| Symbol        | Parameter                  | Test conditions                                                  | Limits |       |       | Unit                      |
|---------------|----------------------------|------------------------------------------------------------------|--------|-------|-------|---------------------------|
|               |                            |                                                                  | Min    | Typ   | Max   |                           |
| IRRM          | Repetitive reverse current | VRRM applied, $V_{RM} = V_{RRM}$                                 | —      | —     | 4     | mA                        |
| VFM           | Forward voltage            | $I_{FM} = 600\text{A}$ , $t_w \leq 1\text{ms}$                   | —      | 3.30  | 4.29  | V                         |
| $t_{rr}$      | Reverse recovery time      | $I_{FM} = 600\text{A}$ , $di_F/dt = -1200\text{A}/\mu\text{s}$ , | —      | —     | 1.20  | $\mu\text{s}$             |
| Qrr           | Reverse recovery charge    | $V_R = 1650\text{V}$                                             | —      | 150   | —     | $\mu\text{C}$             |
| $R_{th(j-c)}$ | Thermal resistance         | Junction to case (Per 1/2 module)                                | —      | —     | 0.048 | $^\circ\text{C}/\text{W}$ |
| $R_{th(c-f)}$ | Contact thermal resistance | Case to fin, thermal grease applied (Per 1/2 module)             | —      | 0.024 | —     | $^\circ\text{C}/\text{W}$ |