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

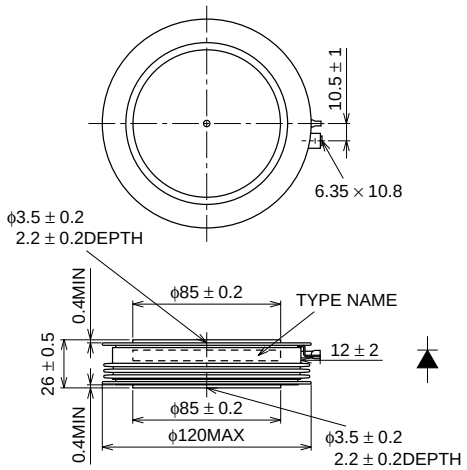
# FD5000AV-100DA

**HIGH-POWER, GENERAL USE**
**PRESS PACK TYPE**

**FD5000AV-100DA**

- $V_{RRM}$ Repetitive peak reverse voltage ..... 5000V
- $I_{F(AV)}$ Average forward current ..... 5000A

**OUTLINE DRAWING** Dimensions in mm




## APPLICATION

High-power inverters

Fly-hweel diode for GCT Thyristor

Power supplies as high frequency rectifiers

### MAXIMUM RATINGS

| Symbol | Parameter | Conditions | Voltage class | Unit |
|---|---|---|---|---|
| $V_{RRM}$ | Repetitive peak reverse voltage | — | 5000 | V |
| $V_{RSM}$ | Non-repetitive peak reverse voltage | — | 5000 | V |
| $V_{R(DC)}$ | DC reverse voltage | — | 2000 | V |

| Symbol | Parameter | Conditions | Ratings | Unit |
|---|---|---|---|---|
| $I_{F(RMS)}$ | RMS forward current | Applied for all condition angles | 7850 | A |
| $I_{F(AV)}$ | Average forward current | f = 60Hz, sinewave θ = 180°, $T_f$ =70°C | 5000 | A |
| $I_{FSM}$ | Surge forward current | One half cycle at 60Hz, $T_j$ =150°C start | 70 | kA |
| $I^2t$ | Current-squared, time integration | | $2.0\times 10^7$ | $A^2s$ |
| $T_j$ | Operation junction temperature | | –40 ~ 150 | °C |
| $T_{stg}$ | Storage temperature | | –40 ~ 150 | °C |
| — | Mounting force required | (Recommended value 47kN) | 39 ~ 55 | kN |
| — | Weight | Typical value 1450g | — | g |

### ELECTRICAL CHARACTERISTICS

| Symbol | Parameter | Test conditions | Limits | | | Unit |
|---|---|---|---|---|---|---|
| | | | Min. | Typ. | Max. | |
| $V_{FM}$ | Forward voltage | $I_{FM}$ = 7000A, $T_j$ = 150°C | — | — | 1.6 | V |
| $I_{RRM}$ | Repetitive peak reverse current | $V_{RM}$ = 5000V, $T_j$ = 150°C | — | — | 200 | mA |
| $R_{th(j-f)}$ | Thermal resistance | Junction to Fin | — | — | 0.0071 | K/W |



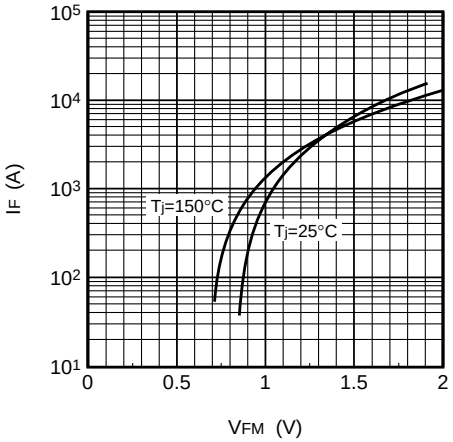
MITSUBISHI ELECTRIC

# FD5000AV-100DA

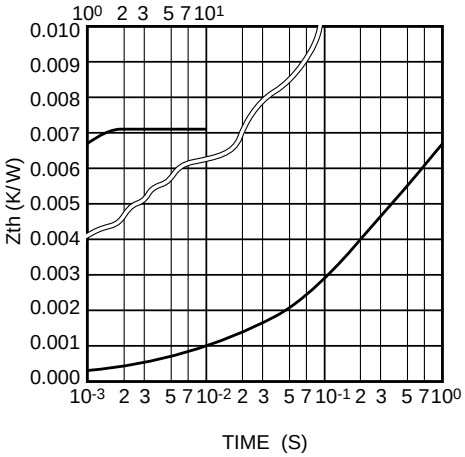
**HIGH-POWER, GENERAL USE**
**PRESS PACK TYPE**

## PERFORMANCE CURVES

**MAXIMUM ON STATE CHARACTERISTIC**




**MAXIMUM THERMAL IMPEDANCE CHARACTERISTIC (JUNCTION TO FIN)**



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