

RM400DY-66S

HIGH POWER SWITCHING USE
INSULATED TYPE

High Voltage Diode Module

RM400DY-66S



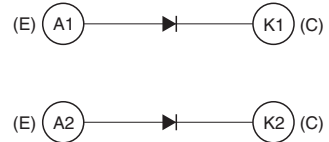
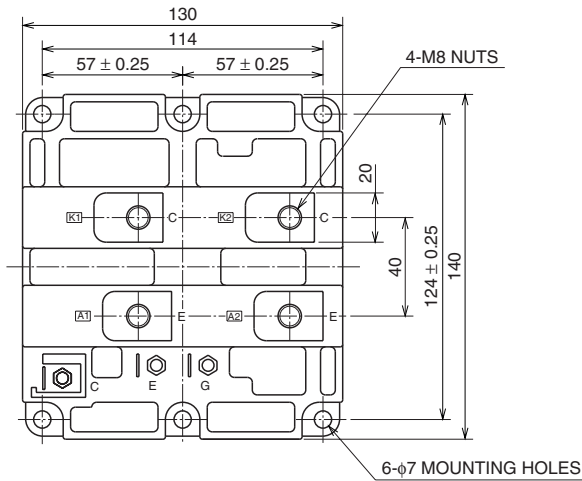
- IF 400A
- VRRM 3300V
- Insulated Type
- 2-element in a Pack
- Copper Baseplate

APPLICATION

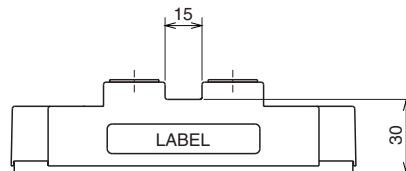
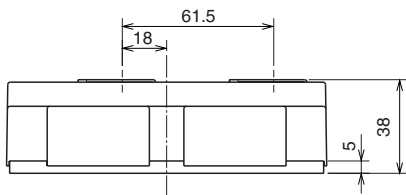
Traction drives, High Reliability Converters / Inverters, DC choppers

OUTLINE DRAWING & CIRCUIT DIAGRAM

Dimensions in mm



CIRCUIT DIAGRAM



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MAXIMUM RATINGS

| Symbol | Item | Conditions | Ratings | Unit |
|------------------|-------------------------------------|---|------------|-------------------|
| VRRM | Repetitive peak reverse voltage | T _j = 25 °C | 3300 | V |
| VRSM | Non-repetitive peak reverse voltage | T _j = 25 °C | 3300 | V |
| VR(DC) | Reverse DC voltage | T _j = 25 °C | 2200 | V |
| IF | DC forward current | T _c = 25 °C | 400 | A |
| IFSM | Surge forward current | T _j = 25 °C start, t _w = 8.3 ms Half sign wave | 3200 | A |
| i ² t | Current-squared, time integration | T _j = 25 °C start, t _w = 8.3 ms Half sign wave | 42.7 | kA ² s |
| V _{iso} | Isolation voltage | Charged part to the baseplate RMS sinusoidal, 60Hz 1min. | 6000 | V |
| T _j | Junction temperature | — | -40 ~ +150 | °C |
| T _{op} | Operating temperature | — | -40 ~ +125 | °C |
| T _{stg} | Storage temperature | — | -40 ~ +125 | °C |

ELECTRICAL CHARACTERISTICS

| Symbol | Item | Conditions | Limits | | | Unit |
|------------------|----------------------------------|--|-------------------------|------|------|------|
| | | | Min | Typ | Max | |
| IRRM | Repetitive reverse current | V _{RM} = VRRM | T _j = 25 °C | — | 3.0 | mA |
| | | | T _j = 125 °C | — | 10 | |
| VFM | Forward voltage (Note 1) | I _F = 400 A | T _j = 25 °C | — | 4.55 | V |
| | | | T _j = 125 °C | — | 3.75 | |
| t _{rr} | Reverse recovery time | V _R = 1650 V, I _F = 400 A di/dt = -800 A/μs L _s =200nH, T _j = 125 °C | — | 0.75 | — | μs |
| I _{rr} | Reverse recovery current | | — | 300 | — | A |
| Q _{rr} | Reverse recovery charge | | — | 200 | — | μC |
| E _{rec} | Reverse recovery energy (Note 2) | | — | 0.15 | — | J/P |

Note 1. It doesn't include the voltage drop by internal lead resistance.
 2. E_{rec} is the integral of 0.1V_Rx 0.1I_{rr}x dt.

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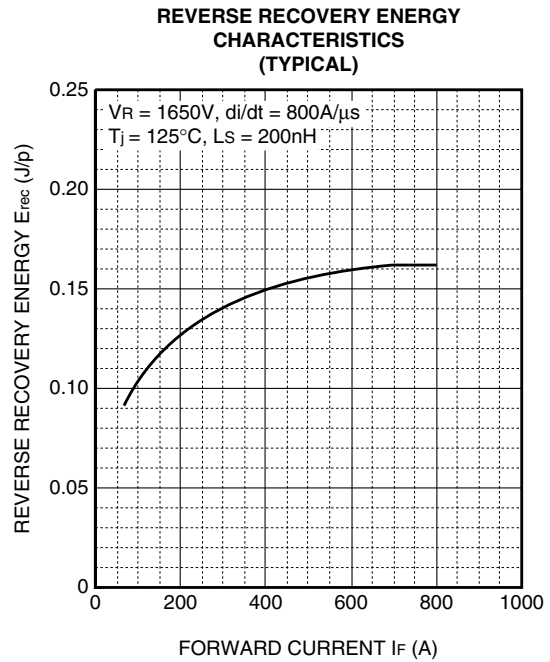
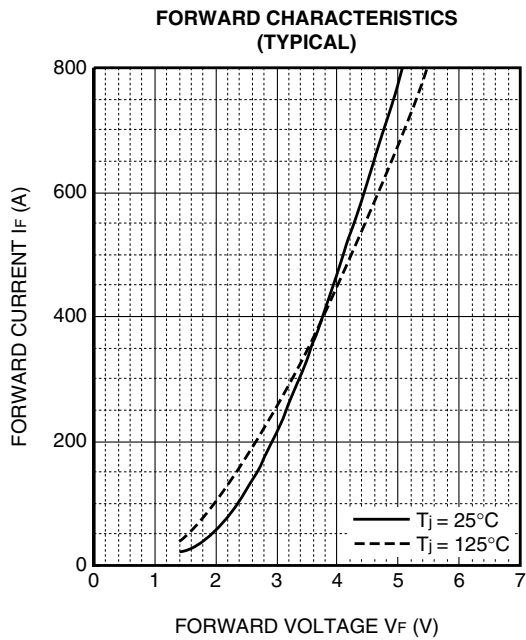
THERMAL CHARACTERISTICS

| Symbol | Item | Conditions | Limits | | | Unit |
|----------------------|----------------------------|--|--------|------|------|------|
| | | | Min | Typ | Max | |
| R _{th(j-c)} | Thermal resistance | Junction to case (per 1/2 module) | — | — | 72.0 | K/kW |
| R _{th(c-f)} | Contact thermal resistance | Case to Fin, λ _{grease} = 1W/m-K D _(c-f) =100μm, (per 1/2 module) | — | 36.0 | — | K/kW |

MECHANICAL CHARACTERISTICS

| Symbol | Item | Conditions | Limits | | | Unit |
|----------------|-----------------|--------------------------|--------|-----|------|------|
| | | | Min | Typ | Max | |
| M _t | Mounting torque | M8: Main terminals screw | 6.67 | — | 8.24 | N·m |
| M _s | | M6: Mounting screw | 2.84 | — | 3.43 | N·m |
| m | Mass | — | — | 1.5 | — | kg |

PERFORMANCE CURVES



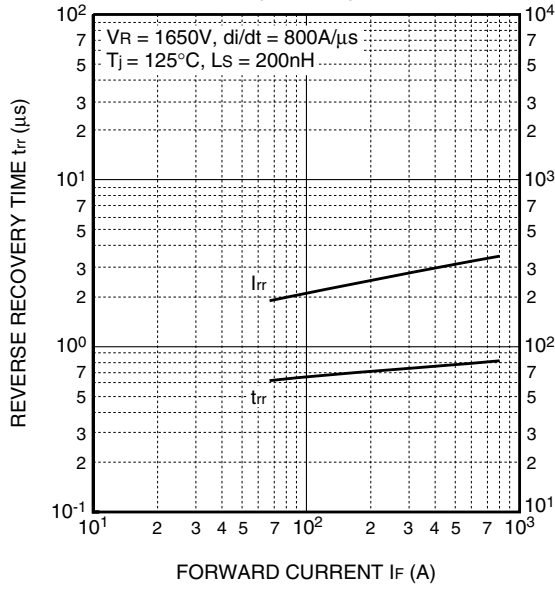
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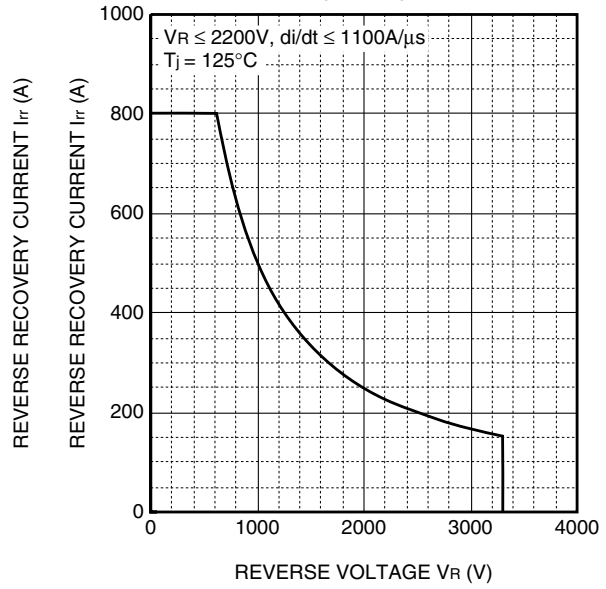
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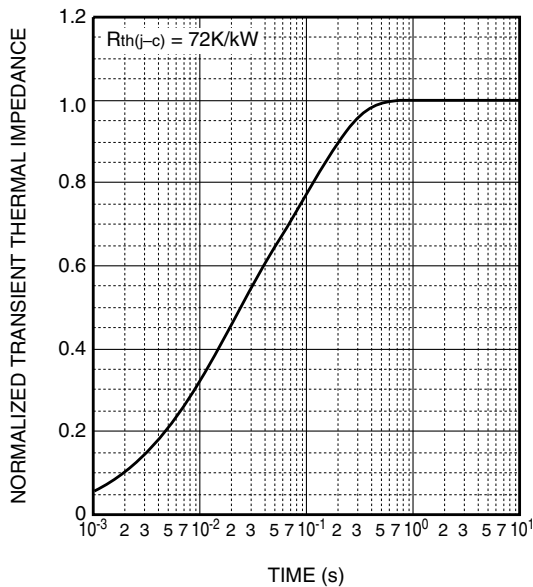
REVERSE RECOVERY CHARACTERISTICS (TYPICAL)



REVERSE RECOVERY SAFE OPERATING AREA (RRSOA)



TRANSIENT THERMAL IMPEDANCE CHARACTERISTICS



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