

# SLA5040

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N-channel

捷多邦，专业PCB打样工厂，24小时加急出货

With built-in flywheel diode

External dimensions A...SLA

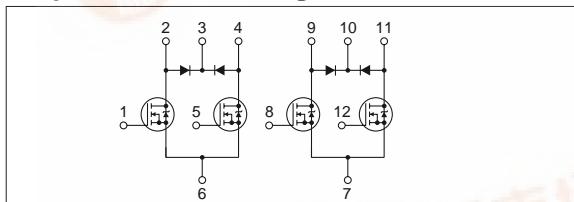
## Absolute maximum ratings

(Ta=25°C)

| Symbol                | Ratings   | Unit |
|-----------------------|---|------|
| V <sub>DSS</sub>      | 100   | V    |
| V <sub>GSS</sub>      | ±20   | V    |
| I <sub>D</sub>        | ±4  | A    |
| I <sub>D(pulse)</sub> | ±8 (PW≤1ms)   | A    |
| E <sub>AS*</sub>      | 16  | mJ   |
| I <sub>F</sub>        | 4 (PW≤0.5ms, Du≤25%)  | A    |
| I <sub>FSM</sub>      | 8 (PW≤10ms, Single pulse)   | A    |
| V <sub>R</sub>        | 120   | V    |
| P <sub>T</sub>        | 5 (Ta=25°C, with all circuits operating, without heatsink)<br>35 (Tc=25°C, with all circuits operating, with infinite heatsink) | W    |
| θ <sub>j-a</sub>      | 25 (Junction-Air, Ta=25°C, with all circuits operating)   | °C/W |
| θ <sub>j-c</sub>      | 3.57 (Junction-Case, Tc=25°C, with all circuits operating)  | °C/W |
| V <sub>iso</sub>      | 1000 (Between fin and lead pin, AC)   | Vrms |
| T <sub>ch</sub>       | 150   | °C   |
| T <sub>tsg</sub>      | -40 to +150   | °C   |

\* : V<sub>DD</sub>=20V, L=1mH, I<sub>D</sub>=5A, unclamped, see Fig. E on page 15.

## Equivalent circuit diagram



## Electrical characteristics

(Ta=25°C)

| Symbol               | Specification |      |      | Unit | Conditions  |
|----------------------|---------------|------|------|------|---|
|                      | min           | typ  | max  |      |   |
| V <sub>(BR)DSS</sub> | 100           |      |      | V    | I <sub>D</sub> =250μA, V <sub>GS</sub> =0V                      |
| I <sub>GSS</sub>     |               |      | ±500 | nA   | V <sub>GS</sub> =±20V   |
| I <sub>DSS</sub>     |               |      | 250  | μA   | V <sub>DS</sub> =100V, V <sub>GS</sub> =0V                      |
| V <sub>TH</sub>      | 2.0           |      | 4.0  | V    | V <sub>DS</sub> =10V, I <sub>D</sub> =250μA                     |
| R <sub>e(yfs)</sub>  | 1.1           | 1.7  |      | S    | V <sub>DS</sub> =10V, I <sub>D</sub> =4A                        |
| R <sub>D(on)</sub>   |               | 0.50 | 0.60 | Ω    | V <sub>GS</sub> =10V, I <sub>D</sub> =4A                        |
| C <sub>iss</sub>     |               | 180  |      | pF   | V <sub>DS</sub> =25V, f=1.0MHz,                                 |
| C <sub>oss</sub>     |               | 82   |      | pF   | V <sub>GS</sub> =0V   |
| t <sub>on</sub>      |               | 40   |      | ns   | I <sub>D</sub> =4A, V <sub>DD</sub> =50V, V <sub>GS</sub> =10V, |
| t <sub>off</sub>     |               | 40   |      | ns   | see Fig. 3 on page 16.  |
| V <sub>SD</sub>      |               | 1.2  | 2.0  | V    | I <sub>SD</sub> =4A, V <sub>GS</sub> =0V                        |
| trr                  |               | 250  |      | ns   | I <sub>SD</sub> =±100mA   |

## Diode for flyback voltage absorption

| Symbol         | Specification |     |     | Unit | Conditions             |
|----------------|---------------|-----|-----|------|------------------------|
|                | min           | typ | max |      |                        |
| V <sub>R</sub> | 120           |     |     | V    | I <sub>R</sub> =10μA   |
| V <sub>F</sub> |               | 1.0 | 1.2 | V    | I <sub>F</sub> =1A     |
| I <sub>R</sub> |               |     | 10  | μA   | V <sub>R</sub> =120V   |
| trr            |               | 100 |     | ns   | I <sub>F</sub> =±100mA |

## Characteristic curves