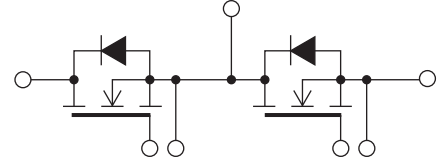


## SiC MOSFET Module (2in1)

「Techno Block」 series


FCA100AC120 (100A/1200V)

FCA150AC120 (150A/1200V)



### Applications

- ▶ Industrial Inverters
- ▶ Switching Regulator
- ▶ Various High-Frequency Power Supplies

UL Compliant   
UL File No. E76102

### Features

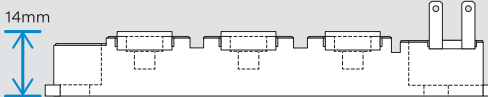
- Compact and highly reliable
- No additional FWD required
- High short-circuit resistance
- Low on-resistance at high temperatures
- High noise immunity

**Module integrating our proprietary “Techno Block”<sup>\*1</sup> package and DioMOS technology**

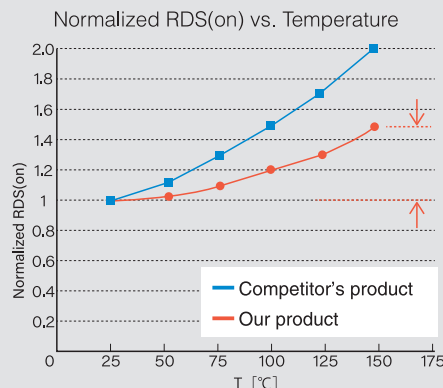
\*1 Our original semiconductor package uses transfer molding and both side solder process, achieving small footprint and excellent heat dissipation

### Space saving

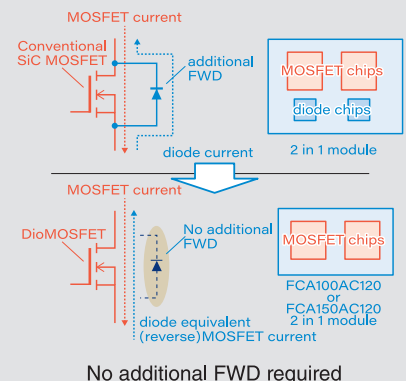
14.0×99.0×32.0mm, 130g



### Low on-state resistivity even at high temp.



### Embedded FWD



### Maximum Ratings

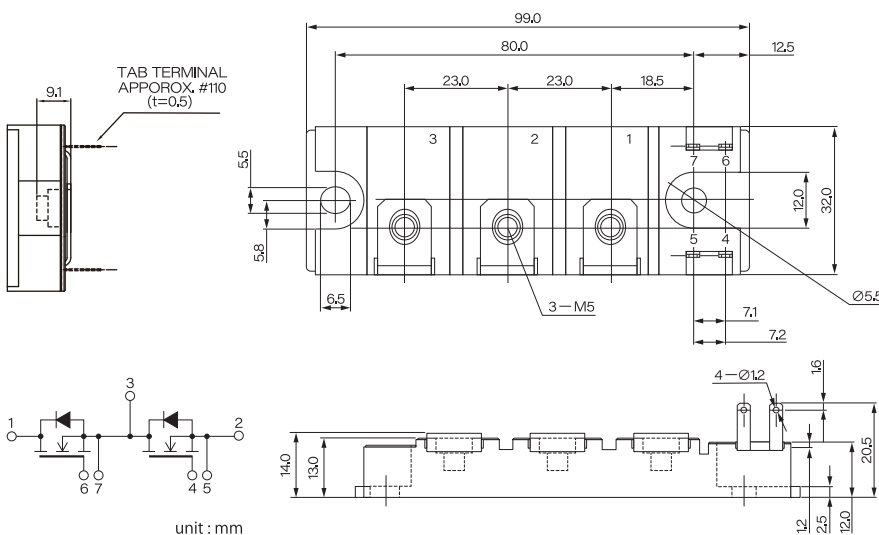
Tj=25°C unless otherwise specified

| Item                     | Symbol           | Unit | Ratings     |             | Conditions                                      |  |
|--------------------------|------------------|------|-------------|-------------|---|--|
|                          |                  |      | FCA100AC120 | FCA150AC120 | FCA100AC120                                     | FCA150AC120                                    |
| Drain-Source Voltage     | V <sub>DS</sub>  | V    | 1200        |             |   |  |
| Drain Current            | I <sub>D</sub>   | A    | 100         | 150         | V <sub>GS</sub> =20V, T <sub>c</sub> =100°C, DC | V <sub>GS</sub> =20V, T <sub>c</sub> =90°C, DC |
| Total Allowable Loss     | P <sub>tot</sub> | W    | 780         | 1135        | T <sub>c</sub> =25°C                            | T <sub>c</sub> =25°C                           |
| Motion Joint Temperature | T <sub>j</sub>   | °C   | -40 ~ +150  |             |   |  |
| Dielectric Strength      | V <sub>iso</sub> | V    | 2500        |             | AC 60Hz 1min, Main Terminal to Case             |  |

### Electrical Characteristics

Tj=25°C unless otherwise specified

| Item                          | Symbol               | Unit | Ratings  |          |          |          |          |          | Conditions  |   |
|-------------------------------|----------------------|------|----------|----------|----------|----------|----------|----------|---|---|
|                               |                      |      | Min.     |          | Typ.     |          | Max.     |          | FCA100AC  | FCA150AC  |
|                               |                      |      | FCA100AC | FCA150AC | FCA100AC | FCA150AC | FCA100AC | FCA150AC |   |   |
| Drain-Source On-Resistance    | R <sub>DS(on)</sub>  | mΩ   |          |          | 6.8      | 4.1      | 14       | 9.3      | V <sub>GS</sub> =20V, I <sub>D</sub> =100A                        | V <sub>GS</sub> =20V, I <sub>D</sub> =150A                        |
|                               |                      |      |          |          | 7.4      | 4.5      | 15       | 10       | V <sub>GS</sub> =20V, I <sub>D</sub> =100A, T <sub>j</sub> =150°C | V <sub>GS</sub> =20V, I <sub>D</sub> =150A, T <sub>j</sub> =150°C |
| Drain Cutoff Current          | I <sub>DSS</sub>     | μA   |          |          |          |          | 200      | 300      | V <sub>DS</sub> =1200V, V <sub>GS</sub> =0V                       |   |
| Gate-Source Threshold Voltage | V <sub>GS(th)</sub>  | V    | 3        | 3        | 4        | 4        | 5.2      | 5.2      | V <sub>DS</sub> =10V, I <sub>D</sub> =3mA                         | V <sub>DS</sub> =10V, I <sub>D</sub> =4.5mA                       |
| Gate Leakage Current          | I <sub>GSS</sub>     | nA   |          |          |          |          | 200      | 300      | V <sub>GS</sub> =20V, V <sub>DS</sub> =0V                         |   |
| Thermal Resistance            | R <sub>th(j-c)</sub> | °C/W |          |          |          |          | 0.16     | 0.11     | Junction to Case(per Leg)   |   |

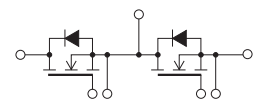


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- Appearance and specifications of products are subject to change without notice for improvement reasons.

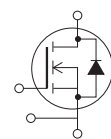
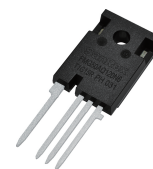
### Other Products

#### SiC MOSFET

Highly reliable 「Techno Block」 package  
**FCA300AD170 (300A, 1700V)**



#### FMG50AQ120N6 (50A, 1200V)



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