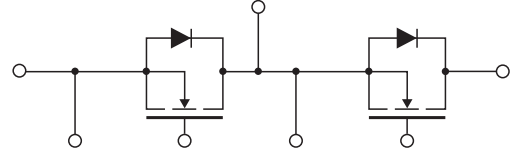


SiC MOSFET Module (2 in 1)

“Techno Block” series

FCA100AC120 (100A/1200V)

FCA150AC120 (150A/1200V)



Applications

- ▶ Industrial Inverters
- ▶ DC-DC Converters
- ▶ EV Battery Chargers
- ▶ Resonant Power Supply



Features

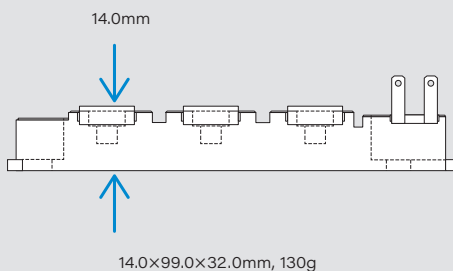
- Small
- No additional FWD required
- Low power loss thanks to low RDS(on) and low switching loss
- Long-term reliability under power cycle stress
- Safe gate driving at high frequency operation through optimized VGS(th) (4.0V)
- Top level short circuit tolerance enabling safety design of equipment
- Low temperature dependency of RDS(on) reducing thermal runaway risks at high temperature operation

Superior performance with “Techno Block”¹ and DioMOS² technologies

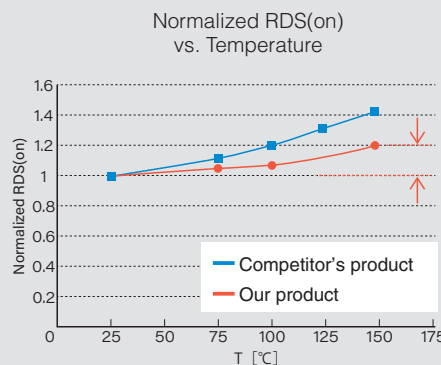
*1 Our original semiconductor package uses transfer molding and both side solder process, achieving small footprint and excellent heat dissipation

*2 SiC MOSFET features FWD (flywheel diode) equivalent function developed by Panasonic

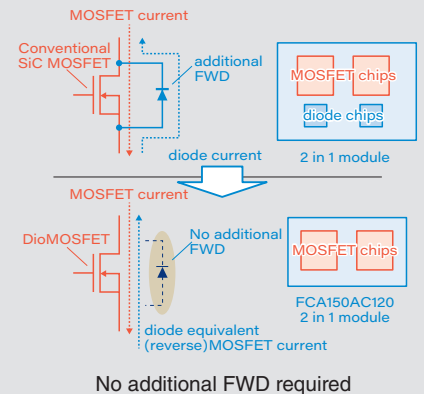
Space saving



Low on-state resistivity even at high temp.



Embedded FWD



Maximum Ratings

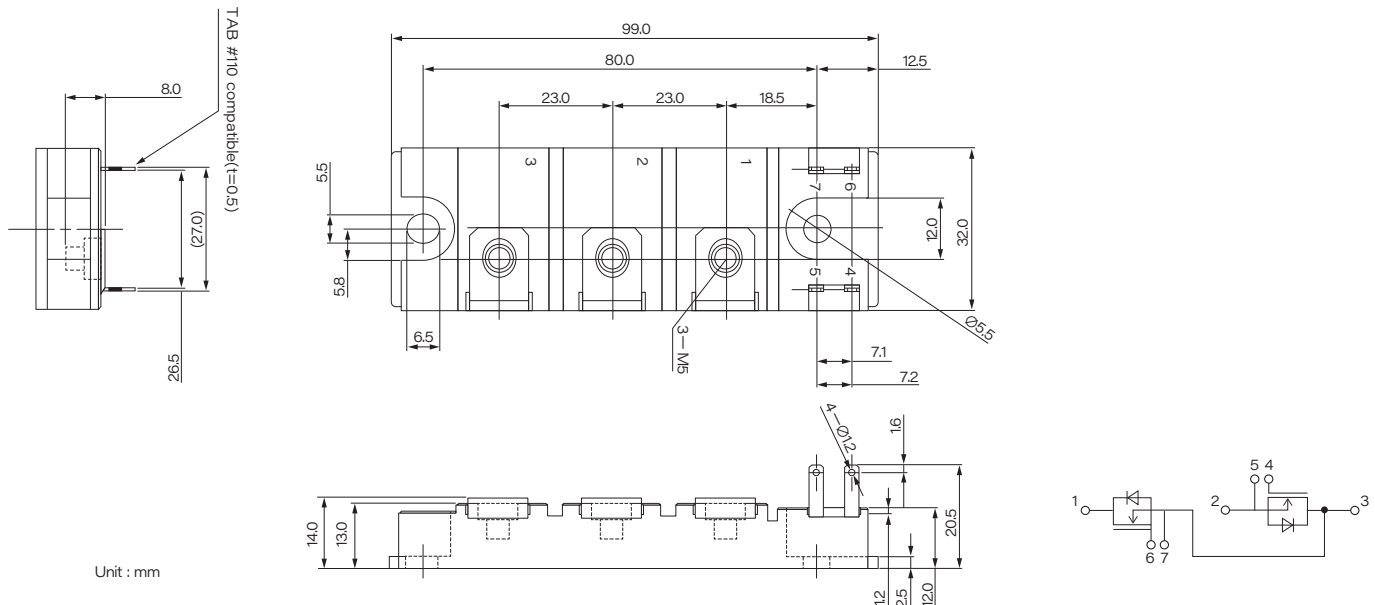
Tj=25°C unless otherwise specified

Item	Symbol	Unit	Ratings		Conditions
			FCA100AC120	FCA150AC120	
Drain-Source Voltage	V _{DS}	V	1200		
Continuous Drain Current	I _D	A	100	150	V _{GS} =20V, T _c =90°C
Total Power Dissipation	P _{tot}	W	625	1135	T _c =25°C
Operating Junction Temperature	T _j	°C	-40 ~ +150		
Isolation Voltage	V _{iso}	V	2500		AC 60Hz 1min

Electrical Characteristics

Tj=25°C unless otherwise specified

Item	Symbol	Unit	Ratings						Conditions		
			Min.		Typ.		Max.		FCA100AC	FCA150AC	FCA100/150AC120
			FCA100AC	FCA150AC	FCA100AC	FCA150AC	FCA100AC	FCA150AC			
On-State Resistance	R _{DS(on)}	mΩ			6.8	4.1	14	9.3	I _D =100A	I _D =150A	V _{GS} =20V
					7.4	4.5	15	10			V _{GS} =20V, T _j =150°C
Drain Cutoff Current	I _{DSS}	μA					200	300			V _{DS} =1200V, V _{GS} =0V
Gate-Source Threshold Voltage	V _{GS(th)}	V	3	3	4	4	5	5	I _D =3mA	I _D =4.5mA	V _{DS} =10V
Gate-Source Leakage Current	I _{GSS}	nA					200	300			V _{GS} =20V, V _{DS} =0V
Thermal Resistance	R _{th(j-c)}	°C/W					0.2	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.

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