

Discrete IGBT

Series

EV Charger

Power Conditioning Sub-System

UPS

New Eco-Friendly IGBT Achieving High Efficiency, Low Loss and Energy Savings



By applying the technology we cultivated in our latest 7th generation IGBT module, we have been able to significantly improve the trade-off between on-voltage and switching loss compared with previous High-Speed W Series products. This enhancement contributes to energy saving and miniaturization of industrial equipment with switching frequency of approximately 20 kHz, which is common among uninterruptible power supplies and solar inverters.

- V_{CE(sat)} switching loss trade-off improvement
- IGBT, FWD optimized for approximately $f_c = 20$ kHz operation
- · Ideal for 3-level inverters, bridge inverters, and PFC circuits



Package : TO-247, TO-247-4

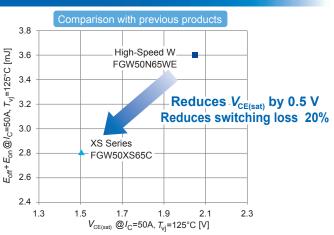
Application example : UPS, power conditioning sub-systems, communication equipment, servers, EV chargers, etc.

Fuji Electric Co., Ltd.

1. V_{CE(sat)} – switching loss trade-off improvement

Improves the $V_{CE(sat)}$ – switching loss trade-off by applying our latest 7th generation IGBT technology

Compared with the High-Speed W Series, it achieves $V_{CE(sat)}$: 0.5 V reduction Switching loss : 20% reduction



2. Ideal for 3-level inverters, bridge inverters, and PFC circuits

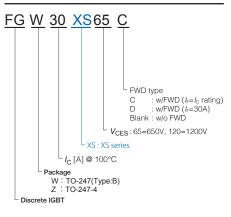
Reduces inverter loss 12% compared with previous products E.g.: Inverter circuit (3-level inverter) Other circuit applications 1.2 Inverter circuit Conduction loss (T2) Ι-Τνρ PFC (boost) circuit 12% reduction (3-level inverter T-type) Turn-off loss (T1) 1 Turn-on loss (T1) ²ower Loss [A.U.] 0.8 Conduction loss (T1) 0.6 0.4 0.2 0 High-speed XS Series 650V 650V 1200V W Series XS Series XS Series XS Series FGW50N65WE FGW50XS65C

[Loss calculation conditions] f_c =20kHz, V_{dc} =400V, I_c =30Arms, V_{GE} =+15/-8V, T_i =125°C, *PF*=1.0

Product Line-up

V _{CES}	PKG	Rated current <i>I</i> _c				FWD
		30A	40A	50A	75A	FWD
650V	ТО-247 (Туре:В)	FGW30XS65C	FGW40XS65C	FGW50XS65C	FGW75XS65C	$I_{\rm F}=I_{\rm C}$ rating
				FGW50XS65D	FGW75XS65D	<i>I</i> ⊧=30A
		FGW30XS65	FGW40XS65	FGW50XS65	FGW75XS65	_
	TO-247-4L				FGZ75XS65C	$I_{\rm F}=I_{\rm C}$ rating
1200V	TO-247 (Type:B)		FGW40XS120C		FGW75XS120C	$I_{\rm F}=I_{\rm C}$ rating
			FGW40XS120		FGW75XS120	-

Type designation



▲ Safety Precautions

* Before using this product, read the "Instruction Manual" and "Specifications" carefully, and consult with the retailer from which you purchased this product as necessary to use this product correctly. * The product must be handled by a technician with the appropriate skills.

URL www.fujielectric.com/products/semiconductor/

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For Fuji Electric

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