

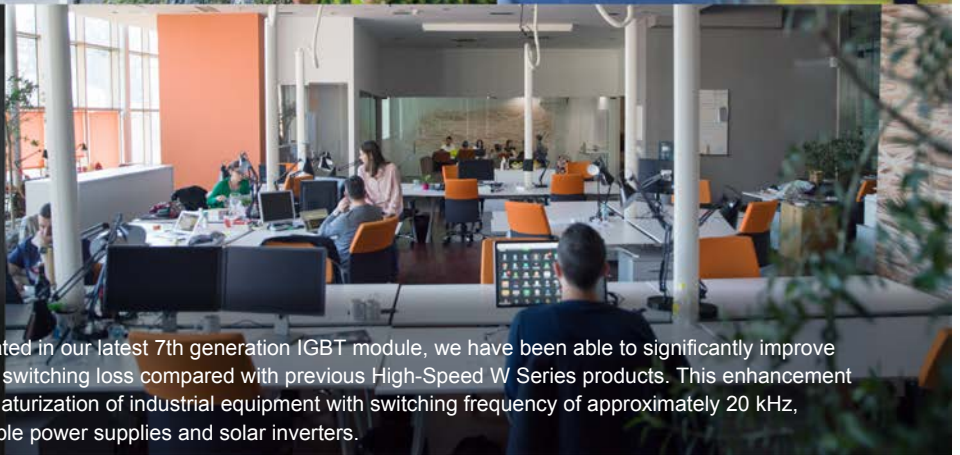
Power Conditioning Sub-System



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

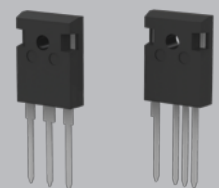
EV Charger

UPS



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

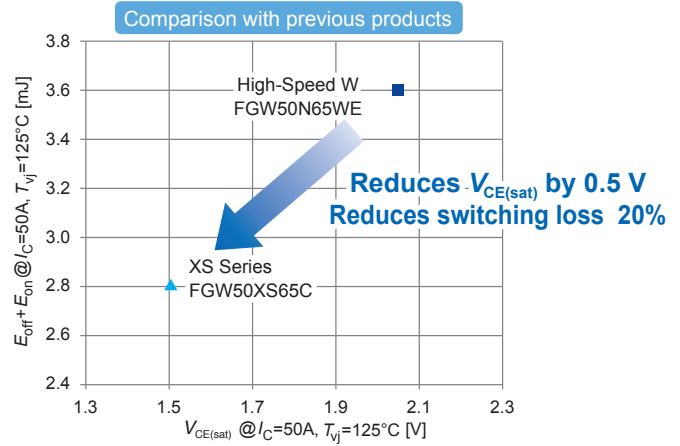
Application example : UPS, power conditioning sub-systems,
communication equipment, servers, EV chargers, etc.

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



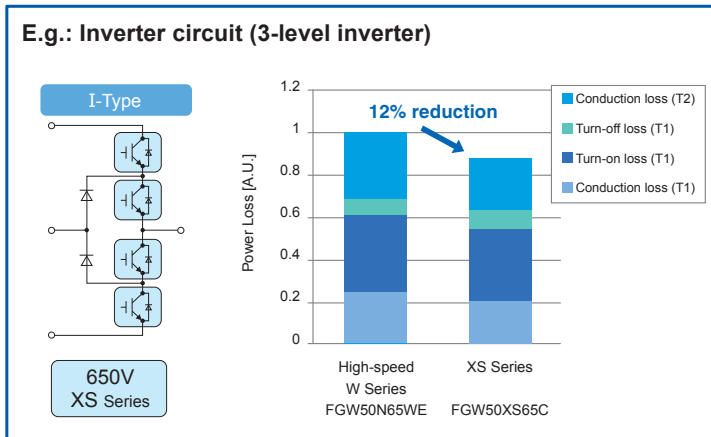
Compared with the High-Speed W Series, it achieves $V_{CE(sat)}$: 0.5 V reduction
Switching loss : 20% reduction



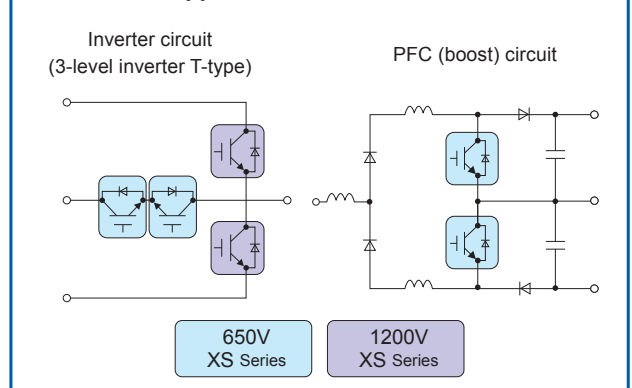
2. Ideal for 3-level inverters, bridge inverters, and PFC circuits

Reduces inverter loss 12% compared with previous products

E.g.: Inverter circuit (3-level inverter)



Other circuit applications

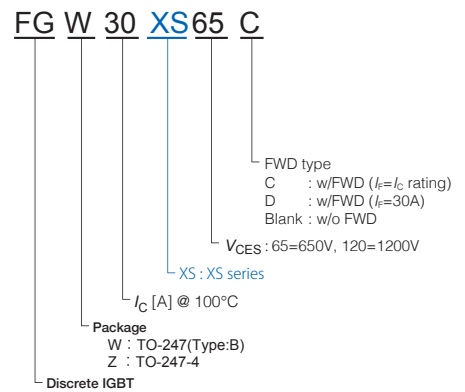


[Loss calculation conditions] $f_c=20kHz$, $V_{dc}=400V$, $I_c=30Arms$, $V_{GE}=+15/-8V$, $T_j=125^\circ C$, $PF=1.0$

Product Line-up

| V_{CES} | Package | Rated current I_c | | | | FWD |
|-----------|-----------------|---------------------|-------------|------------|-------------|------------------|
| | | 30A | 40A | 50A | 75A | |
| 650V | TO-247 (Type:B) | FGW30XS65C | FGW40XS65C | FGW50XS65C | FGW75XS65C | $f_r=I_c$ rating |
| | | | | FGW50XS65D | FGW75XS65D | $f_r=30A$ |
| | TO-247-4 | FGW30XS65 | FGW40XS65 | FGW50XS65 | FGW75XS65 | — |
| | | | | | FGZ75XS65C | $f_r=I_c$ rating |
| 1200V | TO-247 (Type:B) | | FGW40XS120C | | FGW75XS120C | $f_r=I_c$ rating |
| | | | FGW40XS120 | | FGW75XS120 | — |
| | TO-247-4 | | | | FGZ75XS120C | $f_r=I_c$ rating |

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.

Fuji Electric Co., Ltd.

URL www.fujielectric.com/products/semiconductor/
Gate City Ohsaki, East Tower, 1-11-2, Osaki, Shinagawa-ku, Tokyo 141-0032, Japan Tel:+81-3-5435-7156

- Fuji Electric Hong Kong Co., Ltd. Unit 1601-03 & 05, 16/F., Tower II, Grand Century Place, No. 193 Prince Edward Road West, Mongkok, Kowloon, Hong Kong Tel: +852-2664-8699
- Fuji Electric Taiwan Co., Ltd. 5F. No.168, Song Jiang Road, Taipei, Taiwan Tel: +886-2-2511-1820
- Fuji Electric Asia Pacific Pte. Ltd. 151 Lorong Chuan, #03-01/01A, New Tech Park, SINGAPORE 556741 Tel: +65-6533-0014
- Fuji Electric India Private Ltd. 119(Part), 120, 120A, Electrical and Electronics Industrial Estate, Perungudi, Chennai - 600096, Tamil Nadu, India Tel: +91-44-40004200
- Fuji Electric Corp. of America 50 Northfield Avenue Edison, NJ 08837, USA Tel: +1-732-560-9410
- Fuji Electric Europe GmbH Goethering 58, 63067 Offenbach am Main, F.R. GERMANY Tel: +49-69-6690290

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