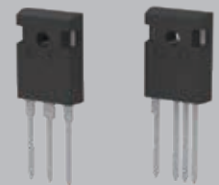


Contributes to Energy Conservation
by High Speed Switching

Saving energy is a priority in new industrial and communication devices, as energy needs grow worldwide. Moreover, power supplies for these devices are becoming smaller in answer to space-saving efforts and device downsizing. To meet these needs, Fuji Electric developed a high speed discrete IGBT "High speed W series."

- High speed switching characteristics
(40% reduction in turn-off loss)*¹
- 4-pin package with an additional sub-emitter terminal
(TO-247-4) is added to lineup
- T_{jmax} = 175°C guaranteed



Package: TO-247, TO-247-4

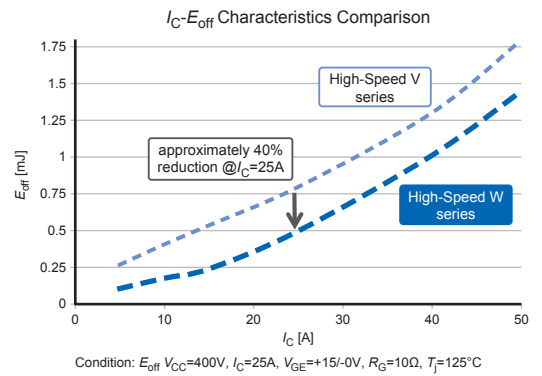
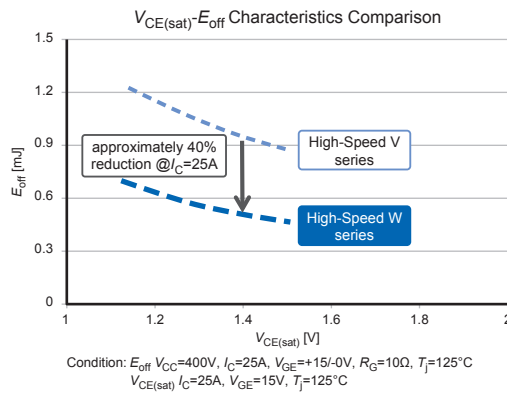
Usage examples: Welding machine, UPS, power conditioner, air conditioner,
PFC circuit for various switching power supplies, inverter circuit, etc.

1. High Speed Switching Characteristics (40% Reduction in Turn-off Loss)*1

Improving $V_{CE(sat)}-E_{off}$ trade-off



40-50% reduction in switching loss compared to High-Speed V series

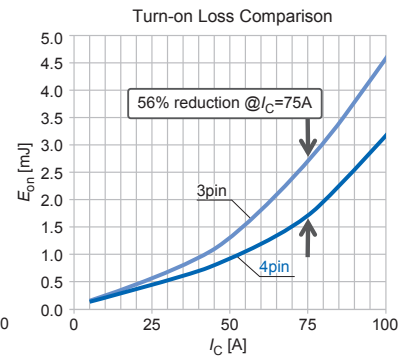
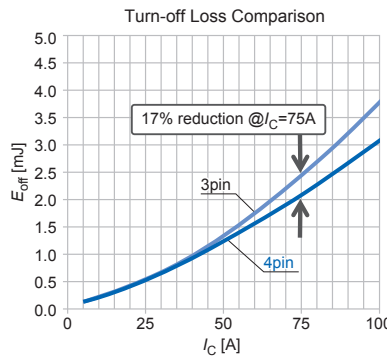
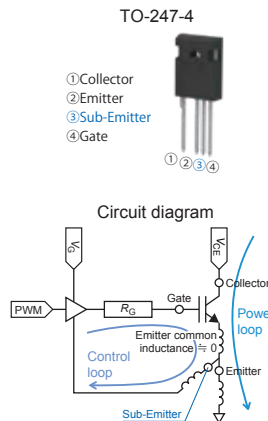


2. 4-pin package with an additional sub-emitter terminal (TO-247-4) is added to lineup

Reduction in the inductance of gate-emitter loop by adding a sub-emitter terminal



17% Reduction in turn-off loss and 56% reduction in turn-on loss compared to TO-247 package (3-pin)

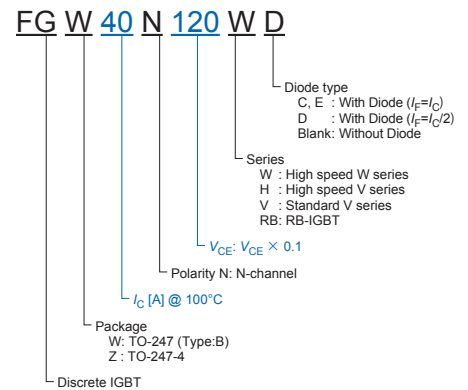


Product Line-up

V_{CE} (V)	I_C (A)	$V_{CE(sat)}$ (V)	E_{on} (mJ)	E_{off} (mJ)	Q_G (nC)	Device Type			Package
						Without Diode	With Diode ($I_F=I_C/2$)	With Diode ($I_F=I_C$)	
650	30	1.8	0.12	0.15	128	FGW30N65W			TO-247(Type:B)
	40	1.8	0.29	0.29	180	FGW40N65W	FGW40N65WD	FGW40N65WE	TO-247(Type:B)
	50	1.8	0.42	0.46	215	FGW50N65W	FGW50N65WD	FGW50N65WE	TO-247(Type:B)
	50	1.8	0.12	0.40	215		FGZ50N65WD	FGZ50N65WE	TO-247-4
	60	1.8	0.60	0.67	250	FGW60N65W	FGW60N65WD	FGW60N65WE	TO-247(Type:B)
	75	1.8	0.95	1.20	300	FGW75N65W		FGW75N65WE	TO-247(Type:B)
	75	1.8	0.37	0.68	300			FGZ75N65WE	TO-247-4
1200	25	2.0	0.90	1.30	80	FGW25N120W	FGW25N120WD	FGW25N120WE	TO-247(Type:B)
	40	2.0	2.80	1.60	120	FGW40N120W	FGW40N120WD	FGW40N120WE	TO-247(Type:B)
	40	2.0	1.10	1.40	120			FGZ40N120WE	TO-247-4

*1 Comparison to the conventional products (High-Speed V series)

Meaning of Device Type



⚠ 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. 10F, No.168, Song Jiang Road, Taipei, Taiwan Tel: +886-2-2515-1820
- 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

2021-8 FOLS PDF

The contents of this document are subject to change without notice.