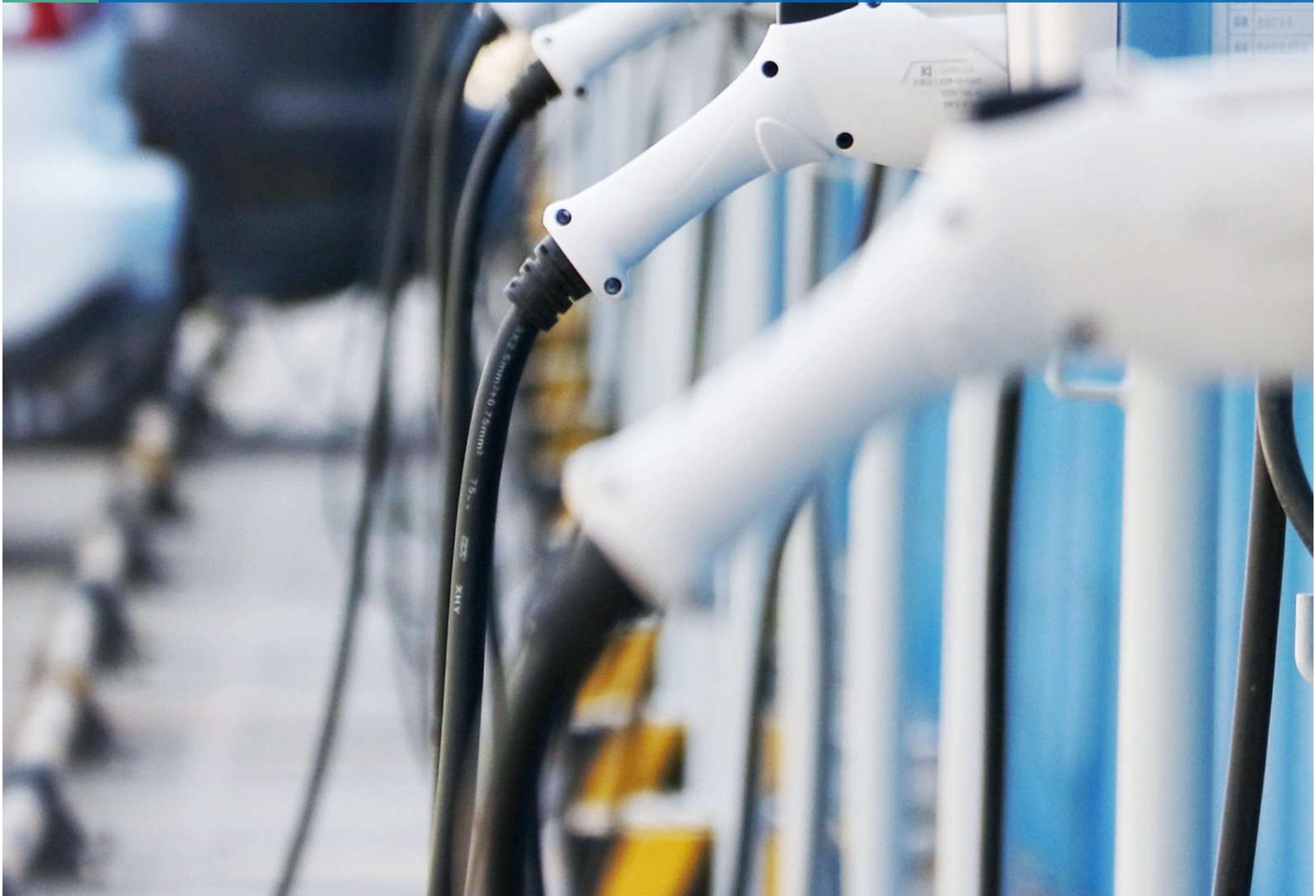


上海陆芯电子科技有限公司
SHANGHAI LU-SEMI TECHNOLOGY CO., LTD.



专注于 最新一代功率半导体器件

FOCUS ON THE LATEST GENERATION OF POWER SEMICONDUCTOR DEVICES



公司简介

COMPANY PROFILE

Shanghai Lu-Semi Technology Co.,LTD. (hereinafter referred to as Lu-Semi), located in Shanghai Zhangjiang High-Tech Park, is a technology-oriented product company focusing on the latest generation of power semiconductor devices. With comprehensive technical know-how and proprietary IP of over 15 patents, Lu-Semi is committed to continued development of new technologies, products and innovative solutions of power semiconductor devices (IGBT, SuperJunction MOSFET, SiC).

As the technology-leading domestic power semiconductor company, Lu-Semi's product portfolio includes: Trench Field-Stop IGBTs (400V/600V/650V/1200V/1350V 10A-300A), SuperJunction MOSFET(500V-900V), SiC SBD (650V&1200V). With excellent device performance, long-term reliability and consistent quality, Lu-Semi's IGBT products are suitable for various applications such as induction heating (rice cooker), industrial (welder inverter, UPS, Solar inverter, PFC), motion control (frequency converter, inverter air conditioning, heat pump), new energy vehicle (OBC, charging pile, main inverter, auxiliary drive), etc.

Lu-Semi differentiates itself by bringing many years' expertise of device design and process integration into product development. Lu-Semi's competitive advantage of IGBT products are demonstrated in many aspects: i. Optimized termination structure for high breakdown voltage and better reliability; ii. Better trade-off between switching loss and conduction loss by minority carrier life time control; iii. Large Safe Operating Area(SOA) and Short Circuit SOA capabilities; iv. Robust active cell design for latch-up suppression; v. Thin wafer (60um-180um) back end process.

With the increasing requirements of better energy efficiency and high power density in areas of consumer electronics, industrial applications, home appliances and new energy vehicles, Lu-Semi is dedicated to becoming a premier supplier of power semiconductor solutions, providing high quality products and bringing added value to our customers.



Lu-Semi

产品应用领域 PRODUCT APPLICATION



Inductive Cooking



Welding



UPS



Solar Inverter



Frequency Converter



Inverter Air Conditioner



EV Charger



Motor Drive

Lu-Semi's Quality Management

Quality Assurance
Top Tier Quality and Service
Customer Satisfaction
Continuous Improvement

QMS

Passed GB/T19001-2016
ISO9001:2015 quality
management system
certification

ROHS

Lead-free, halogen-free,
260 °C reflow soldering

REACH

SVHC Restrict material
investigations and
safeguards

Customer Service

Customer satisfaction,
Factory audit

- Standardized process control
- Document control center
- Design verification/System application verification/Reliability test/Failure analysis
- PDCA improvement
- Training system
- Product change control
- Quality tools

1. Inductive Cooking

Product	Voltage class	Ic @100°C	V _{CE(SAT)}	E _{off}	Package
YGW15N120F1	1200V	15A	2.0V	0.3mJ	To247
YGW20N120F1A	1200V	20A	1.9V	0.43mJ	To247
YGW25N135F1A	1350V	25A	2.0V	0.32mJ	To247
YGW40N120F1A	1200V	40A	2.0V	0.8mJ	To247

Features:

- New platform: high efficiency Trench FS technology
- Low loss: lower switching loss, lower temperature
- Efficiency: some products can pass class 2 of China Energy Efficiency Index
- BV: 1450V Typ., 1550V Max
- Robustness: ≥10mA repeated impact test
- Quality assessment: 1000 hours @ 150°C Tj
- IGBT V_{CE(SAT)} and E_{off} are optimized for resonance circuit topologies



2. Inverter/Welding/UPS/PFC

Product	Voltage class	Ic @100°C	V _{CE(SAT)}	E _{off}	Package
YGW24N65F1A	650V	24A	1.8V	0.15mJ	To247
YGW50N65F1A1	650V	50A	1.65V	0.6mJ	To247
YGW50N65F1A	650V	50A	1.8V	1.1mJ	To247
YGW25N120F1A1	1200V	25A	2.0V	0.65mJ	To247
YGW40N120F1A	1200V	40A	2.0V	0.8mJ	To247

Features:

- New platform: high efficiency Trench FS technology
- Low loss: lower E_{off} and lower V_{CE(SAT)}
- Short circuit withstand time: some products T_{sc} > 10us
- Quality assessment: 1000 hours @ 150°C Tj
- IGBT V_{CE(SAT)} and E_{off} are optimized for PFC, full bridge/half-bridge inverter and other circuit topologies



3. Frequency Converter/ Inverter Air Conditioner/ Motor Drive

Product	Voltage class	Ic @ 100°C	V _{CE(SAT)}	E _{off}	Package
YGW12N65T1A	650V	12A	1.6V	0.1mJ	To247
YGW15N120T1	1200V	15A	1.7V	0.31mJ	To247
YGW40N120T1B	1200V	40A	1.7V	1.5mJ	To247
AU40N120T1	1200V	40A	1.7V	1.5mJ	To247

Features:

- New platform: high efficiency Trench FS technology
- Low loss: lower E_{off} and lower V_{CE(SAT)}
- Short circuit withstand time: some products T_{sc}>10us
- Quality assessment:1000 hours @ 150°C T_j
- IGBT V_{CE(SAT)} and E_{off} are optimized for Frequency Converter, Air Conditioner and Motor Drive application

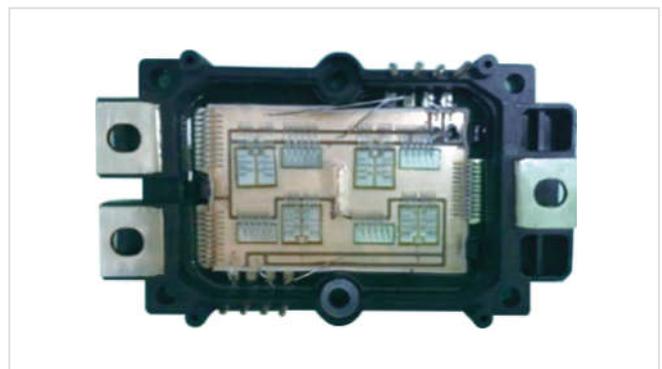


4. EV application

Product	Voltage class	Ic @ 100°C	V _{CE(SAT)}	E _{off}	Package
YGC300N40T1	400V	300A	--	--	Die
YGC200N65T1	650V	200A	--	--	Die

Features:

- New platform: high efficiency Trench FS technology
- Low loss: lower E_{off} and lower V_{CE(SAT)}
- Short circuit withstand time: T_{sc}>15us
- Quality assessment:1000 hours @ 175°C T_j



Discrete IGBT

(with anti-parallel diode)

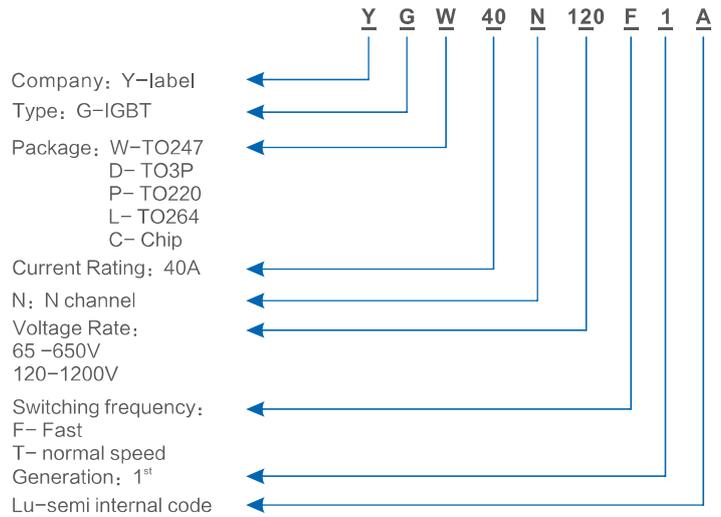
Introduction

- High switching frequency and high current capacity
- Low conduction loss and switching loss
- Long short circuit withstand time
- High robustness and quality

Applications

- Inverter Air Conditioner
- Inductive Cooking
- Frequency Converter
- Solar Inverter
- OBC
- Welding
- EV Charger
- UPS
- Motor Drive

Product nomenclature



Products list

	I _c (A) @ 100°C	Product	V _{ces} (V)	V _{ce(sat)} (V)	E _{on} (mJ) @25°C	E _{off} (mJ) @25°C	Package	Bare Die
400V Product	300	YGC300N40T1	400	1.3	--	--	Die	✓
650V Product Family	12	YGW12N65T1A	650	1.6	0.9	0.1	TO247	✓
	24	YGW24N65F1A	650	1.8	1.1	0.15	TO247	✓
	50	YGW50N65F1A1	650	1.65	2.0	0.6	TO247	✓
	50	YGW50N65F1A	650	1.8	1.9	1.1	TO247	✓
	100	YGC100N65T1	650	1.7	--	--	Die	✓
	200	YGC200N65T1	650	1.7	--	--	Die	✓
1200V Product Family	15	YGW15N120F1	1200	1.9	--	0.28	TO247	✓
	25	YGW25N120F1	1200	2.0	2.0	0.32	TO247	✓
	40	YGW40N120F1A	1200	2.9	2.0	0.8	TO247	✓
	40	YGW40N120T1B	1200	1.7	2.4	1.5	TO247	✓
	100	YGC100N120F1	1200	2.0	--	--	Die	✓
1350V Product	25	YGW25N135F1	1350	2.0	--	0.32	TO247	✓

IGBT modules

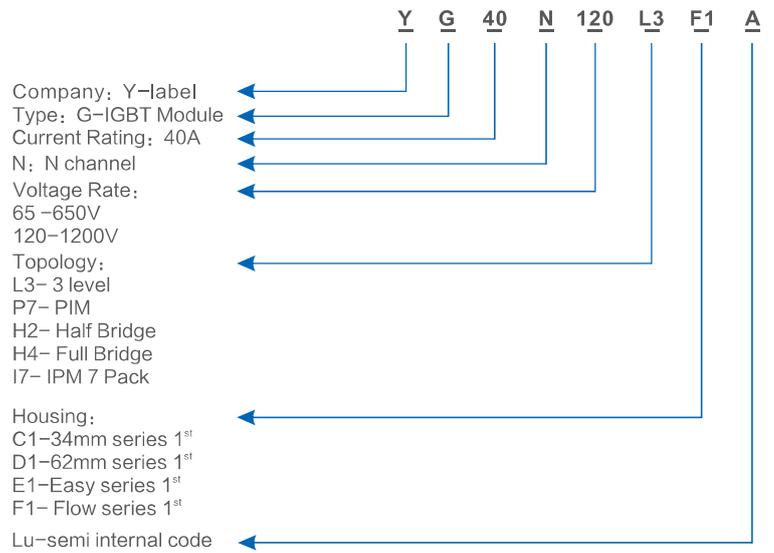
Introduction

- Lower stray inductance
- High reliability and high power density
- Low conduction loss and switching loss
- RoHs

Applications

- Solar Inverter
- Frequency Converter
- Inverter Air Conditioner
- UPS
- Servo
- Motor Drive

Product nomenclature



Products list

	Product	Topology	I _c (A) @ 100°C	SolarInverter	UPS	Inverter	Home appliance	Servo
600V Product Family	YG30N60P7	PIM	30			✓		✓
	YG50N60P7	PIM	50			✓		✓
	YG10N60D1	IPM	10			✓	✓	✓
	YG15N60D1	IPM	15			✓	✓	✓
	YG20N60D1	IPM	20			✓	✓	✓
	YG30N60D1	IPM	30			✓	✓	✓
	YG100N60H2	Half Bridge	100			✓		✓
	YG150N60H2	Half Bridge	150			✓		✓
1200V Product Family	YG40N120L3-F1	3 Level	40	✓	✓			
	YG80N120L3-F1	3 Level	80	✓	✓			
	YG10N120P7-E1	PIM	10			✓		✓
	YG10N120P7-F1	PIM	10			✓		✓
	YG15N120P7-E1	PIM	15			✓		✓
	YG15N120P7-F1	PIM	15			✓		✓
	YG25N120P7-E1	PIM	25			✓		✓
	YG25N120P7-F1	PIM	25			✓		✓



Add: Room 405, Building 3, 1690 Cailun Road,
Pudong New District, Shanghai, China
Web: www.sales@lu-semi.com
Tel: 021-31038501
Mail: sales@lu-semi.com