

# Shield Gate MOSFET News Release

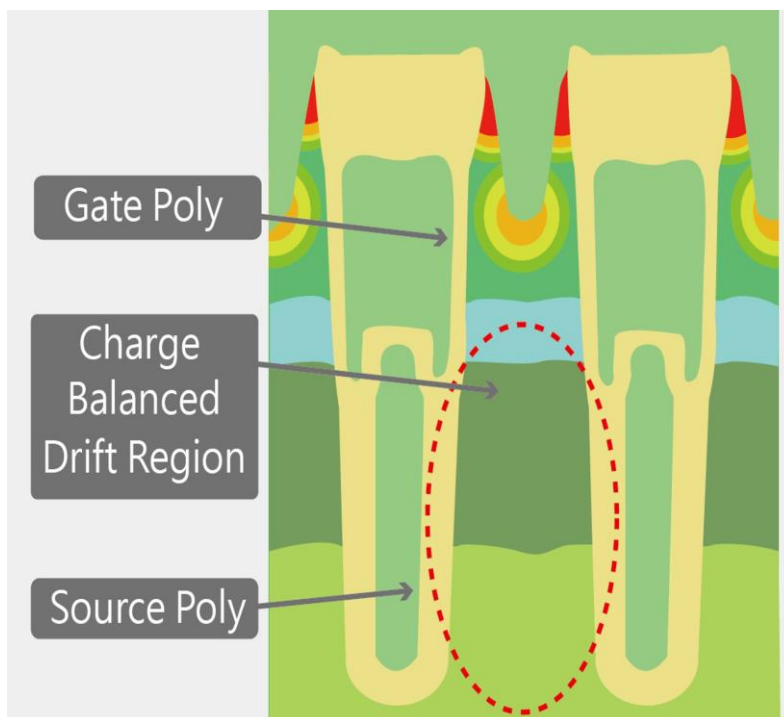
MAY 27, 2021

## New Power MOSFET series with shield gate technology

The  $R_{DS(ON)} \times Q_G$ , Figure of Merit (FOM) is generally considered the single most-important indicator of MOSFET performance in switching mode power supplies. Therefore, several new technologies have been developed to improve the  $R_{DS(ON)} \times Q_G$  FOM.

The vertical cell structure of a MOSFET can be classified into three structure types: planar, trench, or lateral. Among the three structures, trench gated MOSFETs have become the mainstream for high-performance discrete power MOSFETs with  $B_{VDS} < 200$  V.

The MOSFET with shielded-gate technology can dramatically reduce both on-resistance and gate charge, which are usually in conflict. With soft-body diode characteristics, the new power MOSFETs reduce voltage spikes that cause additional losses in the snubber circuits. It is ideal for BLDC motor driving.

Low  $R_{DS(on)}$ Reduce the  $Q_{rr}$  by 50% than trench MOSFET

Lower switching noise/ EMI

Product	BVDSS (V)	ID (A)	Rds(on)Max @ 10V(mΩ)	Rds(on)Max @ 4.5V(mΩ)	Qg Typ@ 10V(nC)	Ciss Typ (pF)	Package
MSH30N016	30	100	1.6	2.5	45	3420	DFN5x6
MSH30N039	30	60	3.9	6.1	-	1476	DFN5x6
MSH30N052	30	50	5.2	9	9	1113	DFN5x6
MSH40N018	40	100	1.8	2.6	45	3972	DFN5x6
MSH40N032	40	90	3.2	5.3	22.7	2648	DFN5x6
MSH40N085	40	50	8.5	15	5.8	690	DFN5x6
MSHM60N085	60	30	8.5	12.5	15	1270	DFN3x3
MSH60N036	60	85	3.6	5.4	58	3458	DFN5x6
MSH65N028SB	65	100	2.8	5.4	59	4780	DFN5x6
MSH65N042SB	65	85	4.2	7.2	54	2976	DFN5x6
MSD65N045SB	65	80	4.5	7.5	54	2976	TO-252
MSP65N047SB	65	115	4.7	8	54	2940	TO-220
MSH80N065	80	70	6.5	8.5	40	2860	DFN5x6
MSH80N087	80	60	8.7	13	29	1738	DFN5x6
MSB80N016	80	260	1.6	2.4	278	14000	TO-263
MSH100N045SA	100	100	4.5	-	72	4725	DFN5x6
MSH100N055SB	100	70	5.5	7.8	58.2	4570	DFN5x6
MSH100N065SC	100	70	6.5	-	57.9	3590	DFN5x6
MSH100N092SB	100	60	9.2	14	39.7	2550	DFN5x6
MSH100N110SC	100	55	11	-	28.8	1950	DFN5x6
MSD100N110SC	100	60	11	-	28.8	1950	TO-252
MSP100N042SB	100	150	4.2	6	110	6580	TO-220
MSP100N055SA	100	120	5.5	-	72	4725	TO-220
MSP100N046SC	100	145	4.6	-	88	5100	TO-220
MSP100N063SB	100	100	6.3	9	58.2	4570	TO-220
MSP100N065SC	100	100	6.5	-	57.9	3590	TO-220
MSP100N092SB	100	80	9.2	14	39.7	2550	TO-220
MSP100N115SC	100	80	11.5	-	28.8	1950	TO-220
MSB100N023	100	250	2.3	-	192	10100	TO-263
MSB100N042SB	100	150	4.2	6	110	6680	TO-263
MSB100N055SA	100	120	5.5	-	72	4725	TO-263
MSB100N046SC	100	145	4.6	-	88	5100	TO-263
MSB100N065SC	100	100	6.5	-	57.9	3590	TO-263
MSB100N115SC	100	80	11.5	-	28.8	1950	TO-263

## Applications

DC-DC Conversion Motor Control

LED Lighting

Battery Protection Load Switching Power Supplies Battery Chargers

Audio Circuits Power-Over-Ethernet

Automotive

Smartphones, and the Internet of Things.

**For the detail information and samples,**

**please contact our local sales representative or send to:  
sales@bruckewell.com**

- **About Bruckewell Technology**

Since 2008, Bruckewell technology is a multinational discrete semiconductor design company with headquarters in Hsinchu, Taiwan.

Bruckewell offers the KGD wafers, power semiconductor devices by applying both silicon and wide bandgap (WBG) materials such as SiC JBS Diode and Field Stop IGBT power devices and design in projects. Bruckewell also owns patents for the Schottky Barrier Diode, Silicon Device, Special trench MOSFET.

Bruckewell dedicate to contribute its power semiconductor technology and solution on the Electronics, Industrial and Automotive application.