

# SGT MOSFET Development Status



**Spencer Wu**

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# TSC MOSFET Marketing & Product Strategy

## Focus Application

- Automotive
- Industrial Motor Control
- Telecom Power
- Connectivity Power



## Product Development

- Strategy partnership with world class foundry



- Experience Design Team from tier-1 IDM

## Promotion

- Global Sales Branch Office
- Global disty Channel
- Leverage Rectifier AVL Position Tier-1 Customers
- Qualifying in Existing Automotive Customers



## Competitiveness

- Competitive Technology
- Fast Reaction for the Market Demand
- Great Service

# Global Sales Channels & Customer AVL Position



- Founded in Taiwan
- 15 Branch Offices Worldwide
- 4 Production Sites in Asia

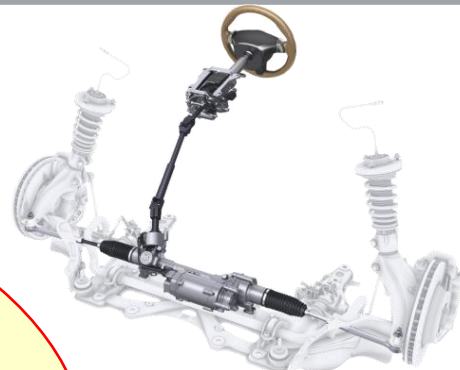
# MOSFET for Motor Drive Application in Automotive



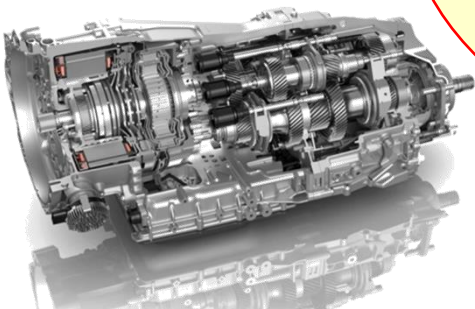
Windscreen Wiper



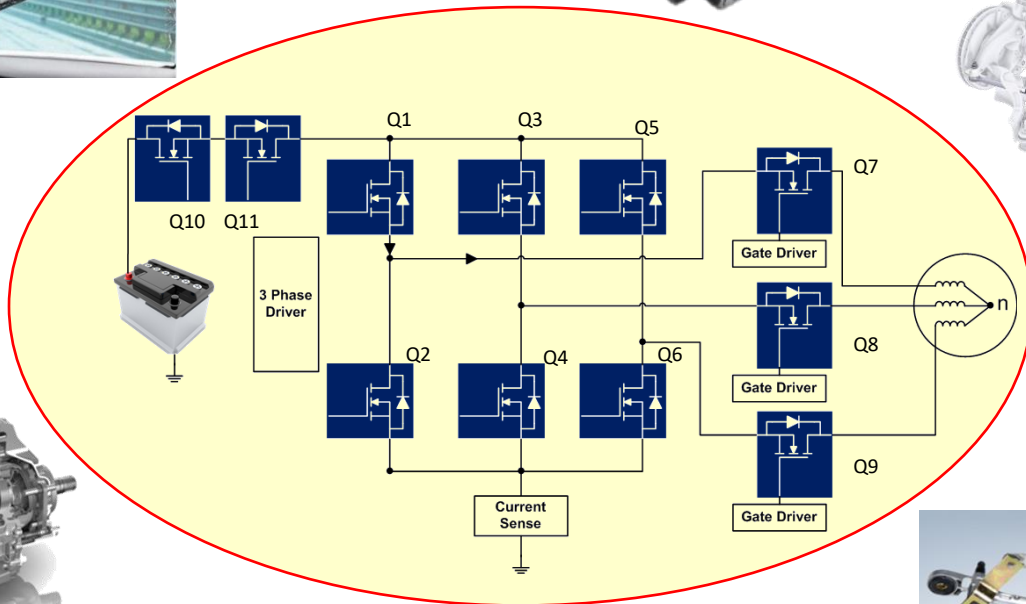
ECU



Electric Power Steering



Clutch Transmission



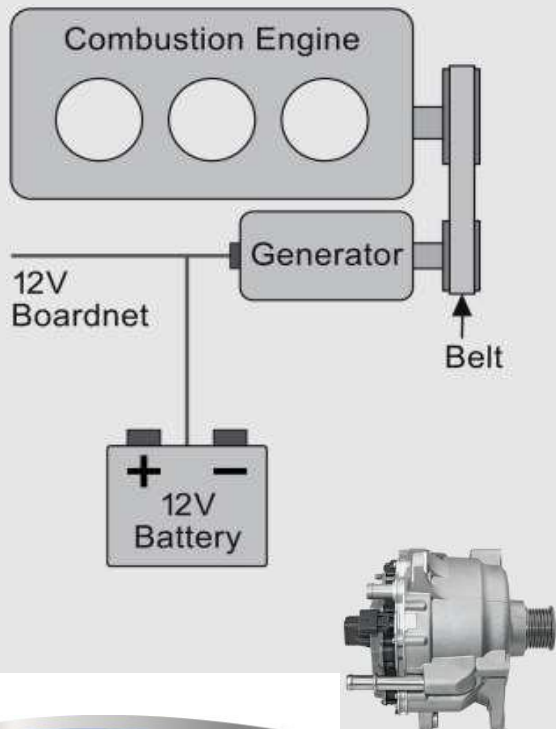
Power Window Lift

## Requirement:

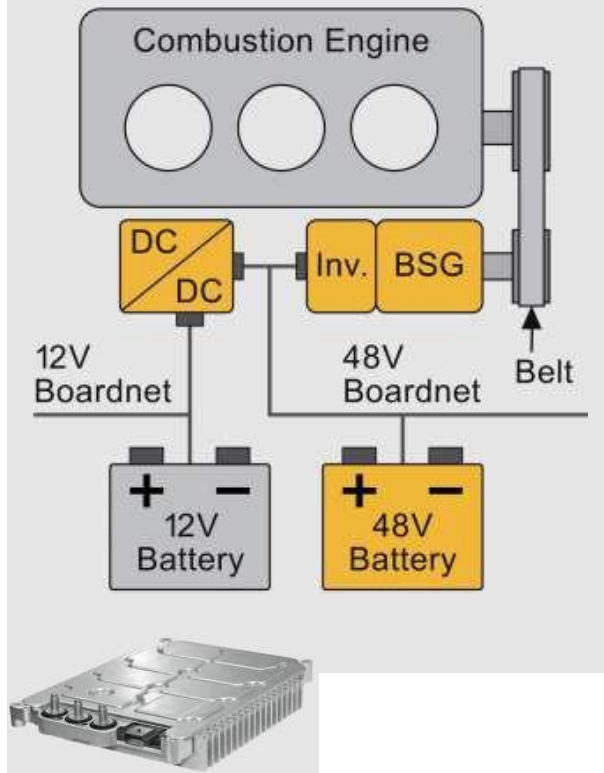
- $V_{DS}$ : 40V and 60V
- LOW  $R_{DS(ON)}$
- Package Preference: PDFN56 & PDFN33

# New MOSFET Opportunity for 48V System

## Conventional System



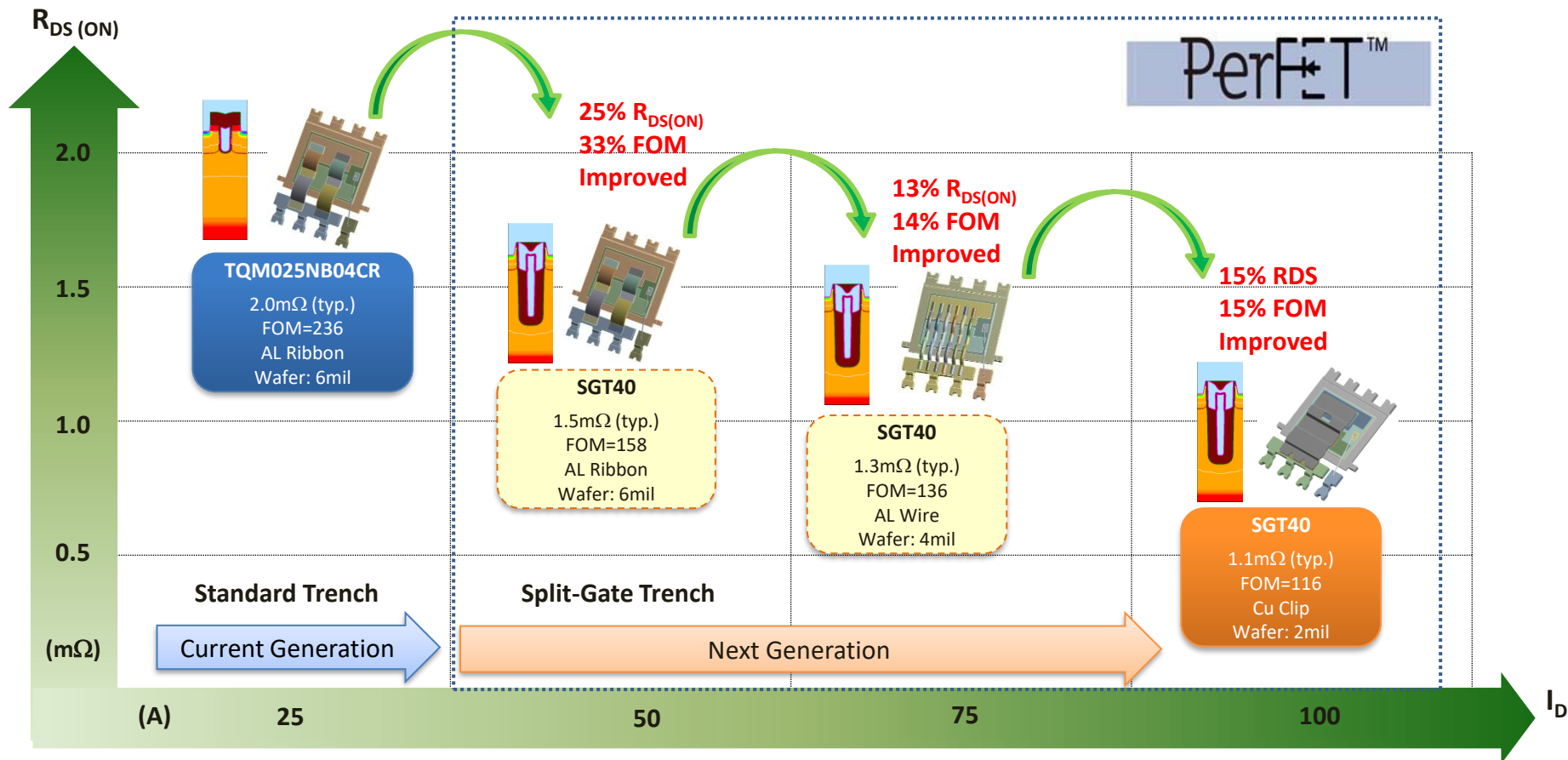
## Automotive 48V System



## Advantage

- ❑ Simple system integration to replace the traditional generator system.
- ❑ No necessary for the high-voltage protection devices
- ❑ Belt starter generator with 15kW peak performance:
  - ✓ Fast Engine Start
  - ✓ Recuperation and boost
  - ✓ 13% CO<sub>2</sub> Saving in NEDC
  - ✓ system.
- ❑ 25~40pcs of 80V/100V MOSFETs

# Development Milestone of TSC MOSFET



# TSC MOSFET Roadmap – Automotive

BVDSS

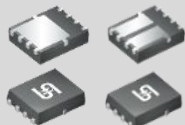
## SGT Program

TQM “NH” Family

- PerFET
- HyperMOS

### 40V/60V N Channel SDT

- TQM-NB Family
- Standard Trench
- AEC-Q101 Qualified
- Mass Production



PDFN56U Single & Dual

### 100V N Channel SGT

hyperMOS™



Leading Product

### 80V N Channel SGT

hyperMOS™



Leading Product

### 60V N Channel SGT

PerFET™



Leading Product



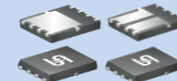
Product Family

### 40V N Channel SGT

PerFET™



Leading Product



Product Family

2019

1H'2020

2H'20

1H'21

2H'21



# TSC, Your Reliable Partner

**Taiwan Semiconductor Co., Ltd.**

## **Headquarter**

Address: 11F, No. 25, Sec. 3, Beishin Rd., Shindian Dist., New Taipei City, Taiwan

Website: [www.taiwansemi.com](http://www.taiwansemi.com)