



# Company Profile

Let's make electronics Safer!



[www.way-on.com](http://www.way-on.com)

Power Semiconductor/Circuit Protection/IC Products  
2022 V1.1

since  
1996



**Main Business**  
Circuit Protection,  
Power Semiconductors,  
IC Products

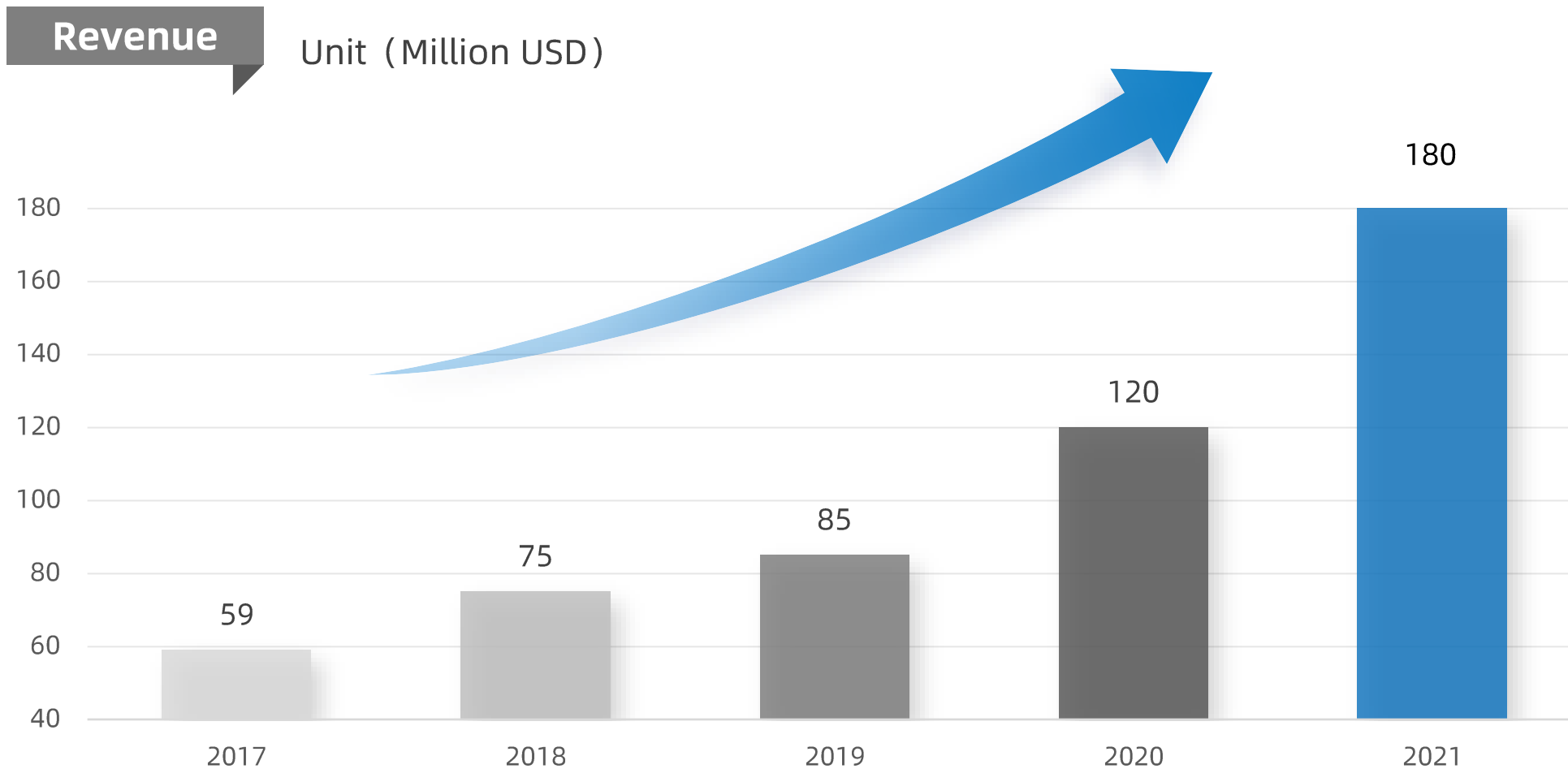
**Total Employees**  
More than 1000

**Registered Capital**  
\$ 8.9 M

**Competitive Force**  
Continuous technological  
innovation ability  
Professional and fast  
service mechanism

**R&D Team**  
Total 200+, PHD 6

# Business Revenue



# Company History

**1987**  
Stem from the R&D on conductive polymer in SRIM

**1996**  
WAYON founded

**1998**  
WAYON launched ceramic PTC

**2003**  
Established Semiconductor protection team

**2005**  
WAYON became the second PTC manufacturer in the world

**2012**  
WAYON began to develop Super Junction MOSFET Products

**2011**  
Strap low resistance oxidation SCF launched

**2008**  
Low Cap ESD launched

**2006**  
WAYON launched TSS&PTVS

**2013**  
WAYON launched OCP&OVP Protection IC

**2014**  
WAYON launched Load Switch

**2016**  
WAYON launched OVP&LDO

**2019**  
Type C Protection IC launched

**2020**  
WAYON launched E-fuse

# Development Milestone



1992

PPTC applied in Telecom application in Bell and Huawei



2001

Approved supplier to BYD



2004

Approved supplier to SGS and Sanyo



2005

Approved supplier to Samsung and LG



2013

Approved main supplier to Hikvision/Dahua



2011

Approved supplier to Apple on iPhone series



2010

Approved supplier to Sony, Panasonic



2009

Approved supplier to Motorola



2017

Wayon SJ-MOSFET was applied to Samsung 5G fast charger



2018

Approved main supplier to Foxconn AVL/ZTE 5G base station



2019

Approved supplier to BOE/CSOT



2021

Approved supplier to Great Wall and TTI



## Circuit Protection

- China most complete line largest scale Protection components Manufacturer
- PPTC (Resettable Fuse) Market Share No.3 Globally
- Ultra low clamping voltage ESD&EOS with international Leading Technology
- ESD&EMI Filter Assembly components Exclusive Source in China
- 5G Base Station - High Power Lighting Protection TVS international Leading Technology



## Power Semiconductors

- China First Company have Deep Trench & Multi-epi SJ MOSFET Technology
- China First Launched 1000V+ SJ MOSFET
- China First SJ MOSFET Supplier for Samsung the First 5G Cellphone Charger
- China First MP Bump Technology Ultra Low RDS(ON) DFN2x2 30V N-Channel MOSFET
- Full BVDS Range from 30V to 150V Ultra Low RDS(ON) SGT MOSFET With DFN3x3 & DFN5x6 For SMPS



## IC Products

- China First Launched Type C High Voltage Full Protection IC
- China First Launched under 0.5uA Ultra Low Iq LDO
- China First launched Vehicle Specification Level Smart Power switch IC
- China First launched high precision , high reliability and Full Protection E-fuse IC

# Company Distribution



**Shanghai:** Headquarters  
R&D, Manufacture

**Wuxi:** R&D Center

**Taipei:** R&D, FAE, Sales

**Shenzhen:** Sales, FAE

**Beijing:** Sales

**EU:** Sales

**Xi'an:** R&D Center

**Changchun:** R&D Center

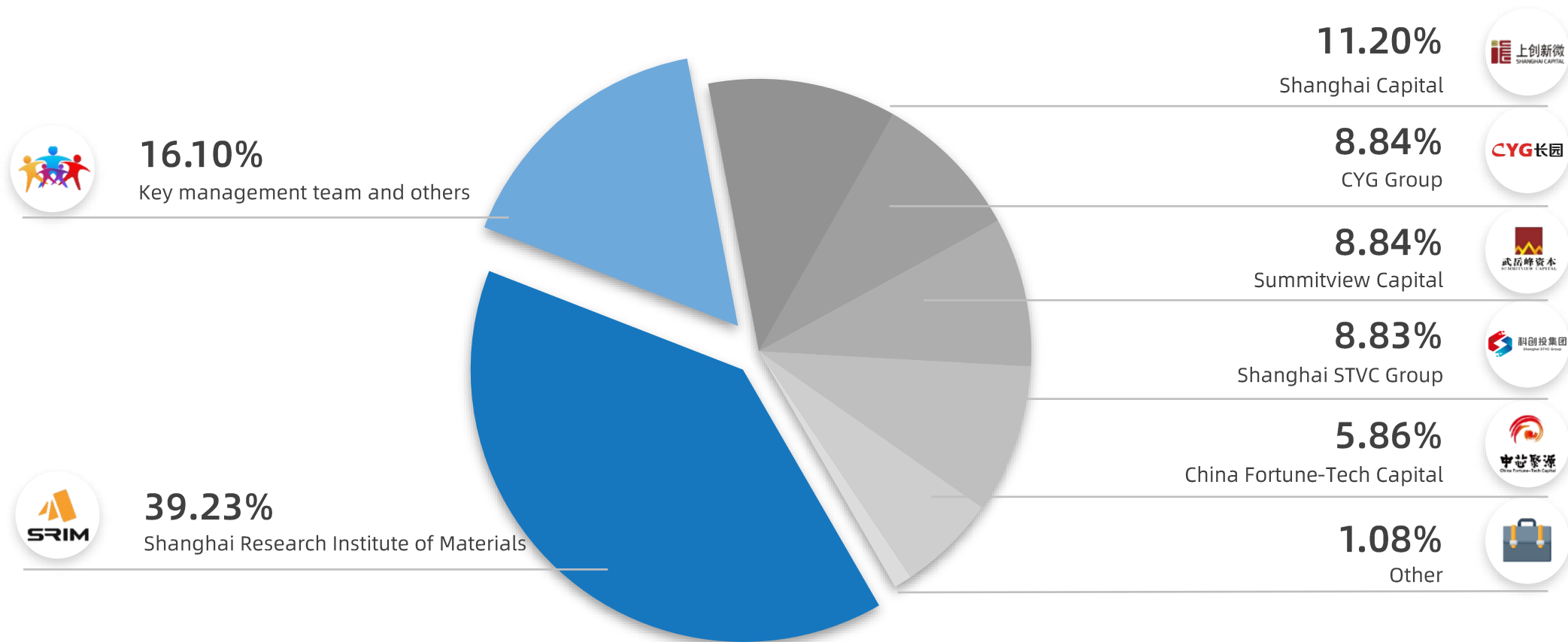
**Chengdu:** R&D, Sales

**Hefei:** Sales, FAE

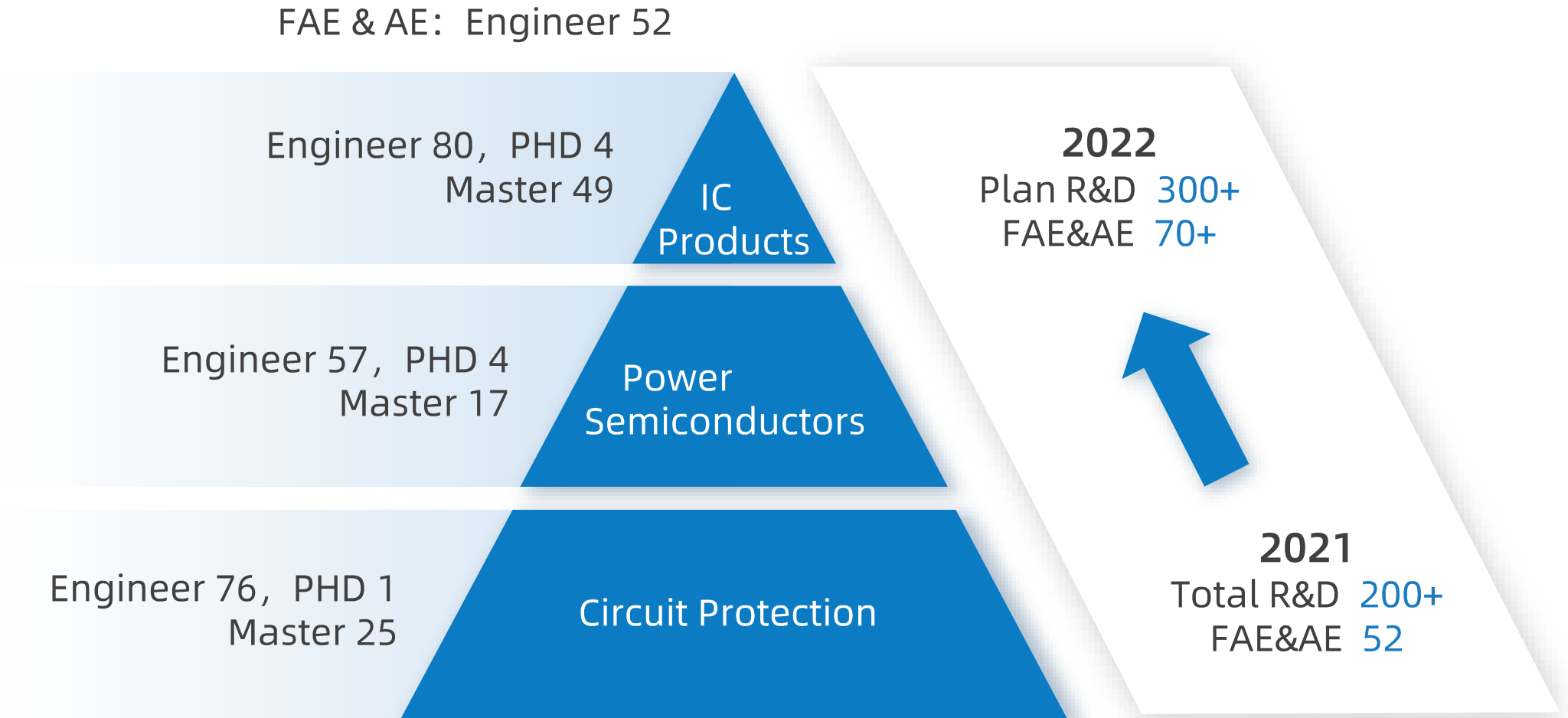
**Korea:** Sales

**America:** Sales(Planning)

# Shareholders Structure







# On-going technological innovation capability

- WAYON attaches great importance to technological innovation and provides system solutions for customers
- WAYON attached great importance to application, lab investment, and provides professional service for customers



## Intellectual Property

More than 300 patents have been applied



## R&D Center

Municipal enterprise technology center



## Lab Capability

UL CDTP and TUV TMPL lab



## Honor

More than 30 national and municipal awards

## System Cert

ISO9001 | ISO14001 | IATF16949

## Product Cert

UL | TUV

## Hazardous Substance

SONY GP Cert.

## LAB Qualification

UL—CDTP Lab. | TUV—TMPL Lab.





Over 2000 m<sup>2</sup> Lab. in WAYON Shanghai  
Professional Lab facility in:  
Xi'an | Shenzhen | Taiwan



Devices Test Lab



Application Test Lab



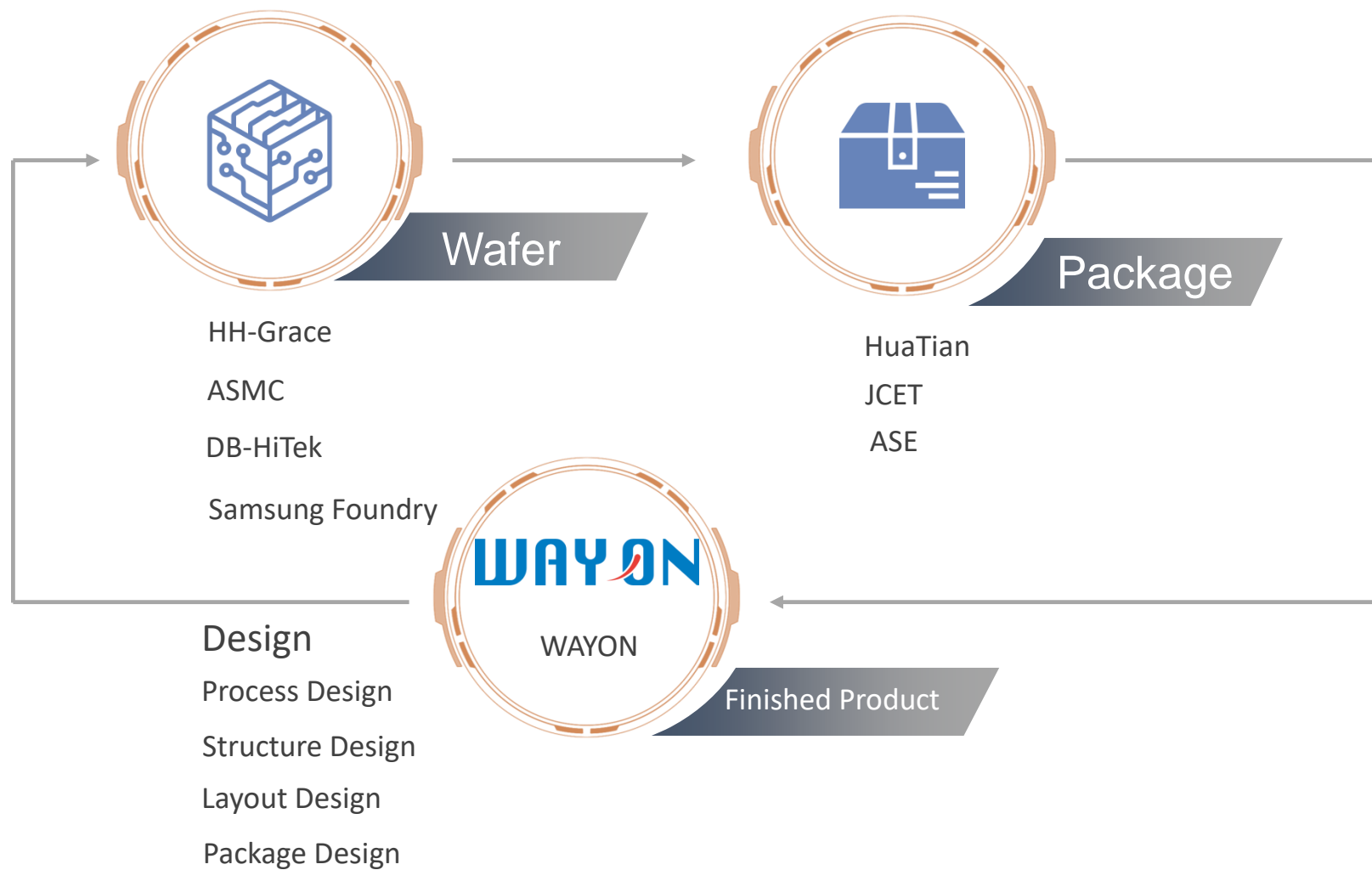
Automotive Reliability  
Test Center

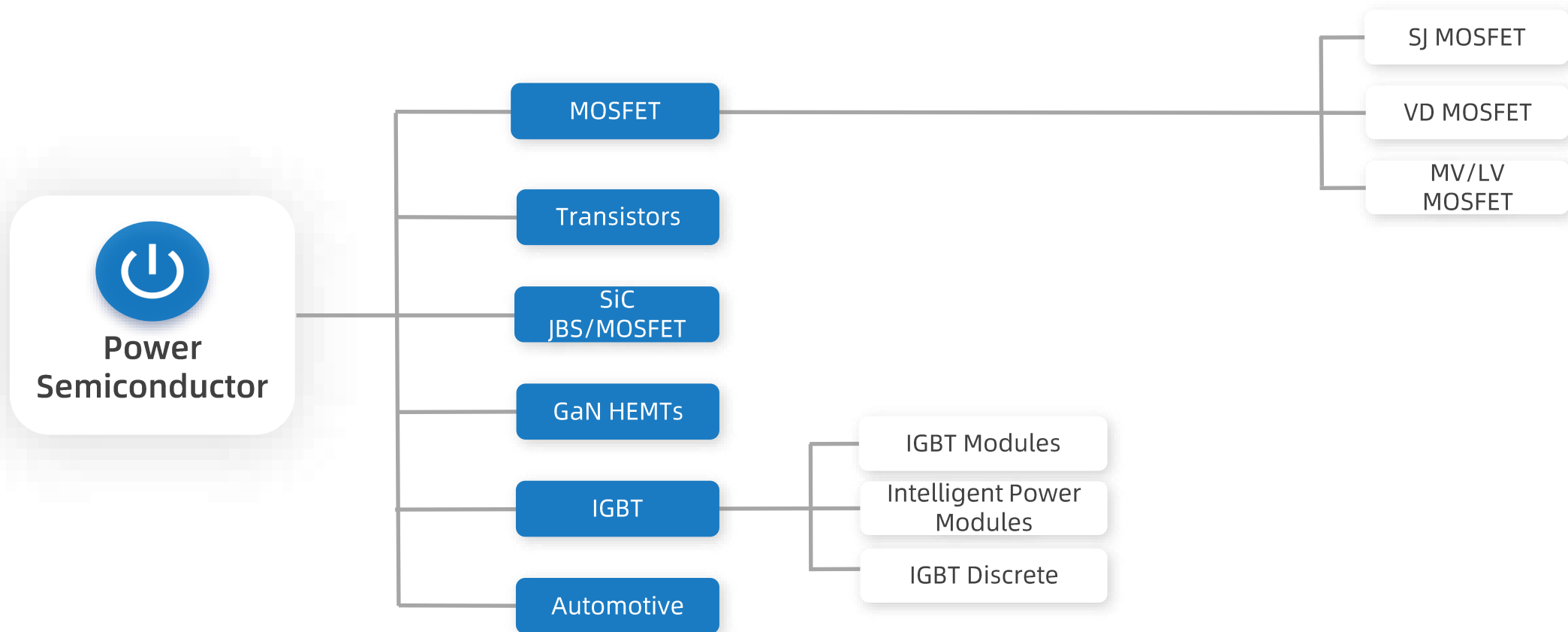


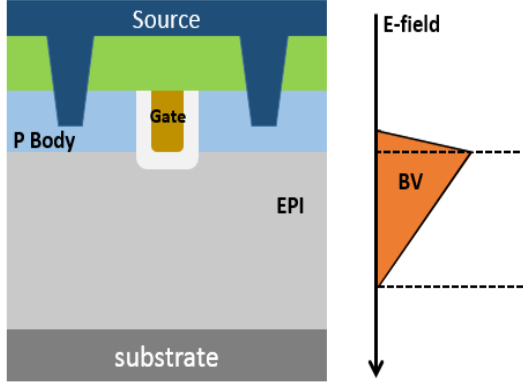
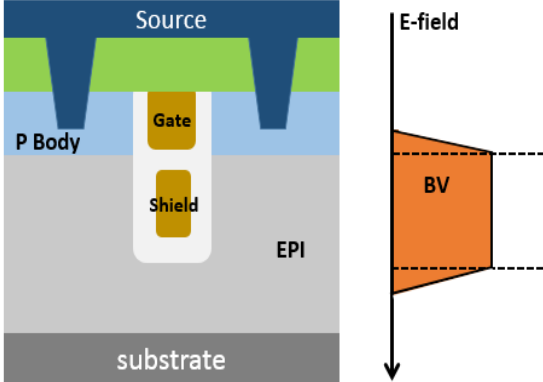
Failure Analysis Center



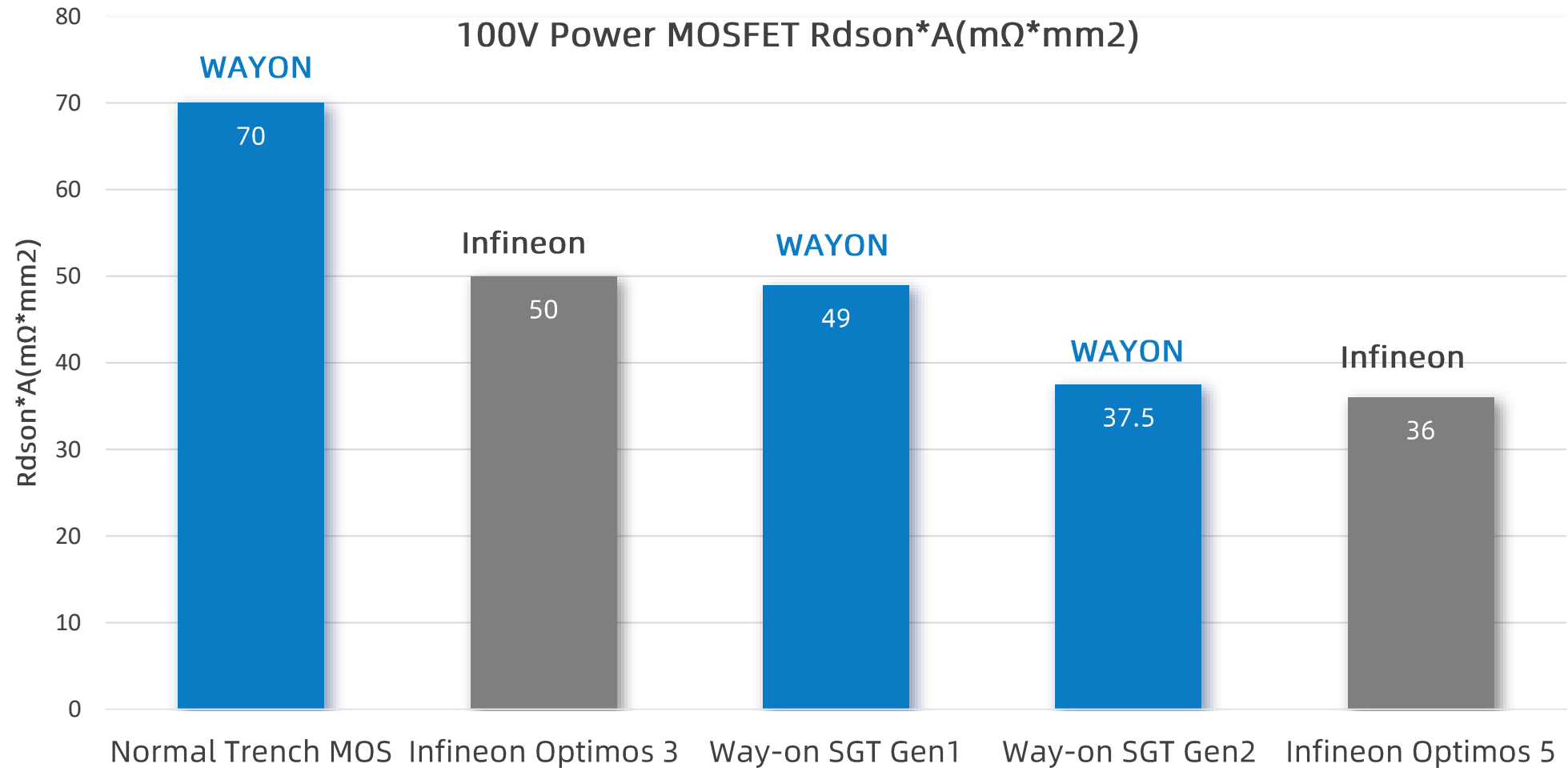
# WAYON Supply Chain





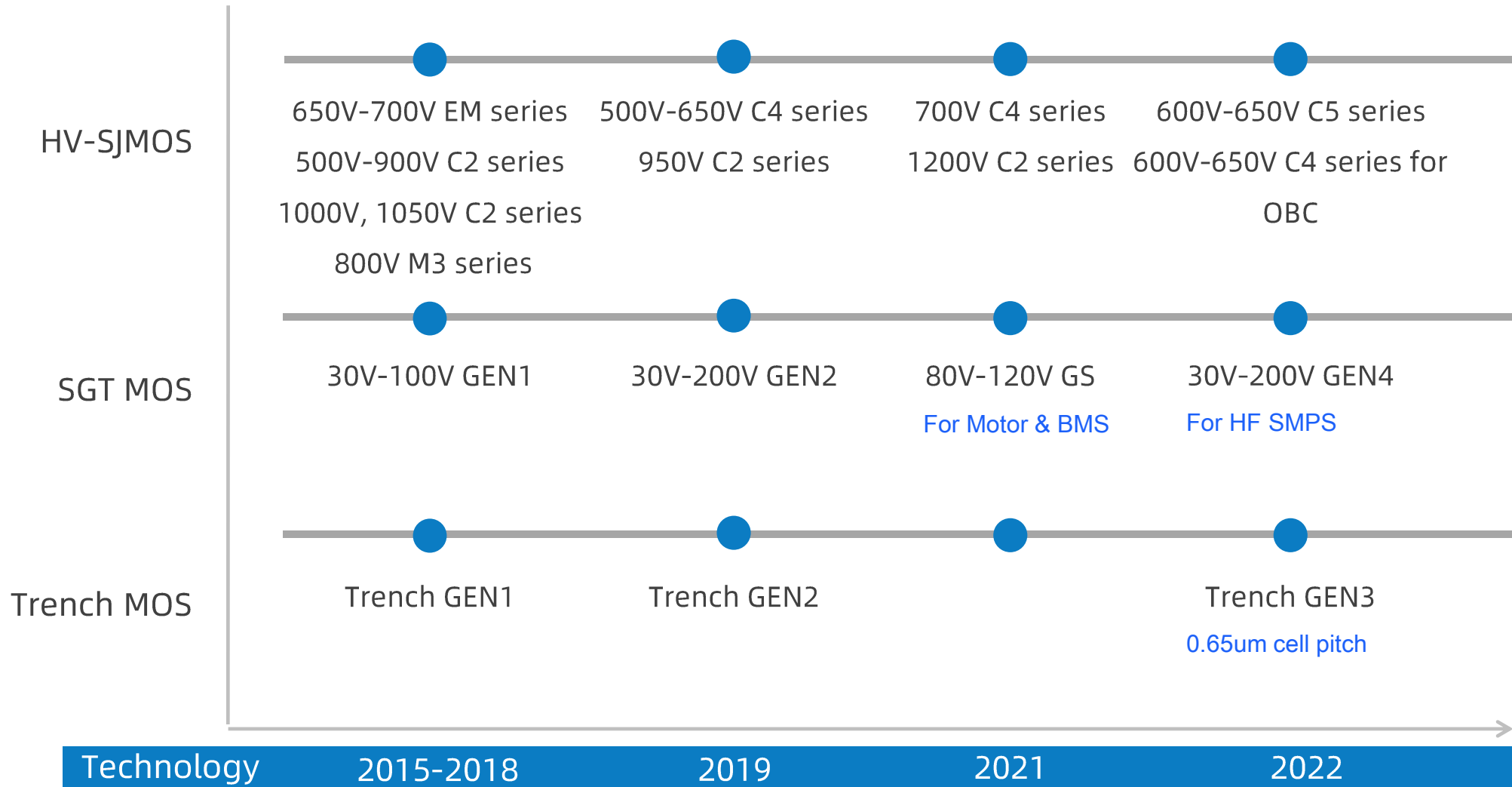
Category	Wayon-Trench MOS (12V-200V)	Way-on SGT MOS (30V-250V)
Device Structure		
Feature	<ul style="list-style-type: none"> <li>• Low cost</li> <li>• Flexible supplier</li> <li>• G-S ESD protection embedded</li> </ul>	<ul style="list-style-type: none"> <li>• Low Qg, switching loss</li> <li>• Ultra Low Rdson</li> </ul>
Application	<ul style="list-style-type: none"> <li>• Load switch</li> <li>• Motor Drive</li> <li>• Small signal</li> </ul>	<ul style="list-style-type: none"> <li>• Hi frequency SMPS</li> <li>• BMS, Motor drive</li> </ul>

## WAYON MOSFET SGT Gen2





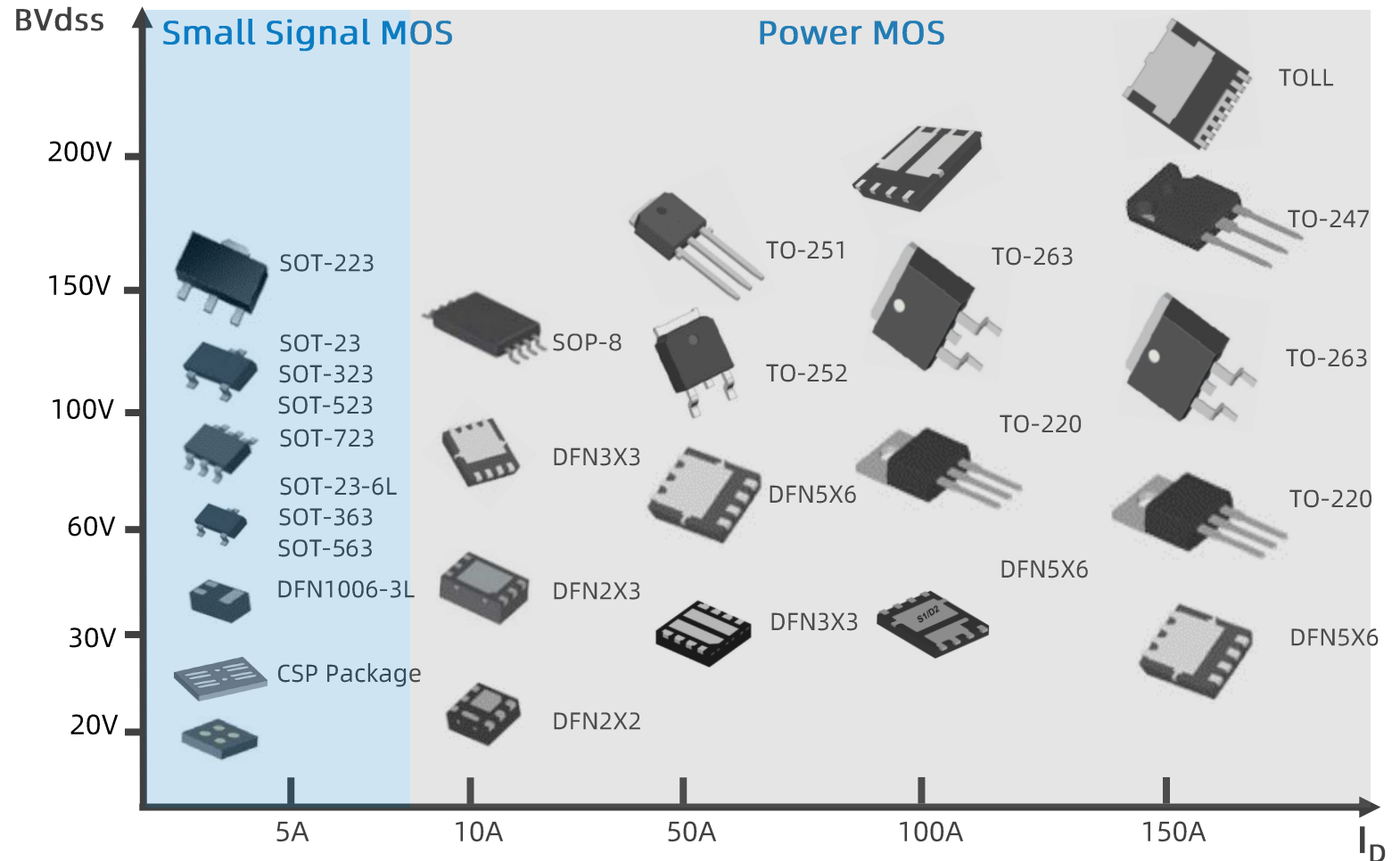
# Power Devices Technology Road Map



# 12V-250V MOSFET Matrix

## WAYON Small Signal And Power Mosfet

- Station Power
- Solar inverter
- LED Lighting
- Security & Telecom
- BMS
- E-Bike
- Motor Drive
- 2nd Sync.
- Power Tools
- Computing
- Consumer
- Battery Pack



# MV/LV MOSFET : H/L Side MOSFET with Clip+Flip package

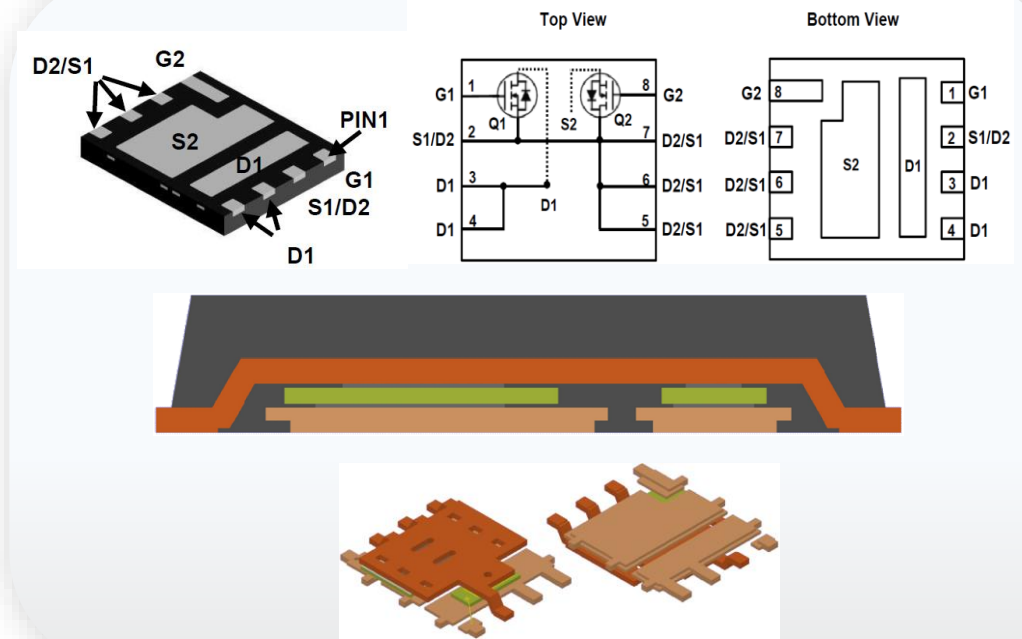
## Features

- High-Low side Dual-N asymmetric MOSFET
- Clip+Flip Package
- Super low  $R_{ds(on)}$  0.76m $\Omega$

## Applications

- DC-DC Power System
- buck converter for CPU/GPU Core

P/N	WMB31430DN	
Package	PDFN5*6 Dual	
Qx	Q1	Q2
Vds	30V	30V
Vgs	$\pm 20$	$\pm 20$
Vgsth	1.7	1.7
Ron at 10v (m $\Omega$ )	3.3	0.76
Ron at 4.5v (m $\Omega$ )	4.8	1.18
Qg at 4.5v(nC)	42	16.1

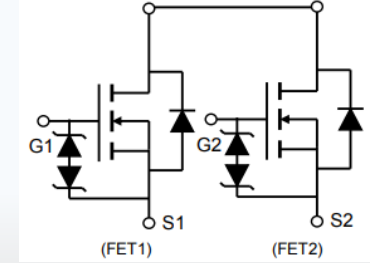


## Features

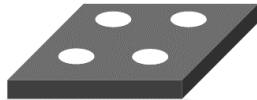
- Low source-source ON resistance:  $R_{ss(on)}$
- CSP(Chip Size Package)
- Ultra-thin encapsulation  $\sim 0.1\text{mm}$
- Advanced trench MOS technology use 12inch wafer process

## Applications

- Smart wear
- Smart phone



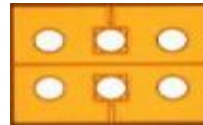
### WM4C62160A



**$BV_{ss} > 20\text{v}$**   
 **$R_{sson} \text{ typ } 17 \text{ m}\Omega @ 3.8\text{v}$**

**Size 1.5\*1.5mm**  
**THK 0.2mm**

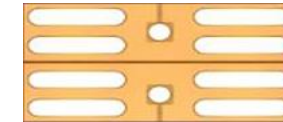
### WM6C61045A(Developing)



**$BV_{ss} > 12\text{v}$**   
 **$R_{sson} \text{ typ } 4 \text{ m}\Omega @ 3.8\text{v}$**

**Size 2.14\*1.67mm**  
**THK 0.1mm**

### WMAC61023A(Developing)



**$BV_{ss} > 12\text{v}$**   
 **$R_{sson} \text{ typ } 2.1 \text{ m}\Omega @ 3.8\text{v}$**

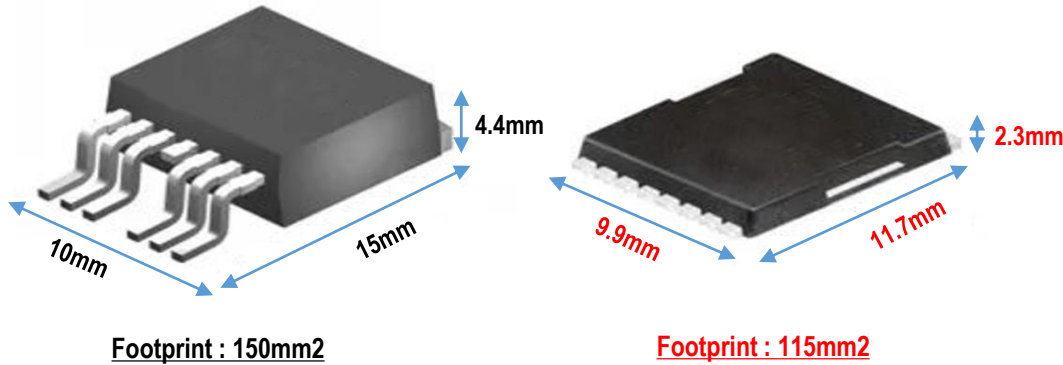
**Size 2.98\*1.49**  
**THK 0.1mm**

## Features

- Super current capacity~300A
- Low parasitic inductance
- High power density

## Applications

- Battery management system
- Electric vehicle system



**30% footprint reduction !**  
**50% height reduction !**  
**60% space reduction !**

Package	Voltage	P/N	R <sub>ds(on)</sub> max@10v	I <sub>D</sub> max(A)
TOLL	85V	WMLL029NV8HGS	3.0mΩ	240
	85V	WMLL022NV8HGS	2.2mΩ	280
	60V	WMLL017N06HGS	1.7mΩ	300

S/N	Equip.	Spec.	Qty	Tests Items
1	IOL	BTD-E810	1	IOL
2	UHASt	PC-422R8	1	UHASt/HAST
3	HTRB	BTR-E600	3	HTRB/HTGB/HTSL
4	HTRB	BTR-E600D	1	HTRB/HTGB/HTSL
5	HTOL	BTD-E852	1	HTOL
6	TST	ES-76EX	1	TST
7	THT	SETH-Z-021L	1	Pre-conditioning/THT/H3TRB
8	THT	H/HWHS-150L	1	Pre-conditioning/THT/H3TRB
9	Autoclave	R-PCT-350	1	AC
10	HTSL	H/GDW-100L	1	HTSL/LTSL

TST



PCT



HTRB/HTGB



HAST



# MV/LV MOS USB PD Charger

## Flyback Secondary SRMOS:

### 5V output DFN5\*6:

WMB018N04LG2 40V 1.8mΩ  
 WMB032N04LG2 40V 3.2mΩ  
 WMB050N04LG2 40V 5.0mΩ  
 WMB090N04LG2 40V 9.0mΩ

### 12V output DFN5\*6:

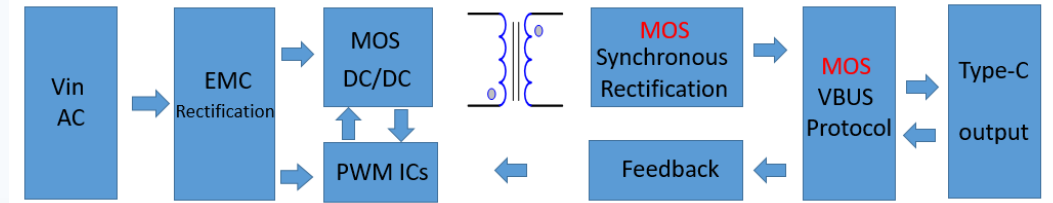
WMB060N08LG2 80V 6mΩ  
 WMB043N10LGS 100V 4.2mΩ  
 WMB060N10LGS 100V 6mΩ  
 WMB080N10LG2 100V 8mΩ  
 WMB099N10LGS 100V 9.9mΩ  
 WMB119N10LG2 100V 12mΩ  
 WMB175N10LG2 100V 17.5mΩ

### 9V output DFN5\*6:

WMB025N06LG2 60V 2.7mΩ  
 WMB048NV6LG2 65V 5.2mΩ  
 WMB076N06LG2 60V 7.6mΩ  
 WMB090NV6LG2 65V 9.0mΩ  
 WMB098N06LG2 60V 9.8mΩ

### 20V output DFN5\*6:

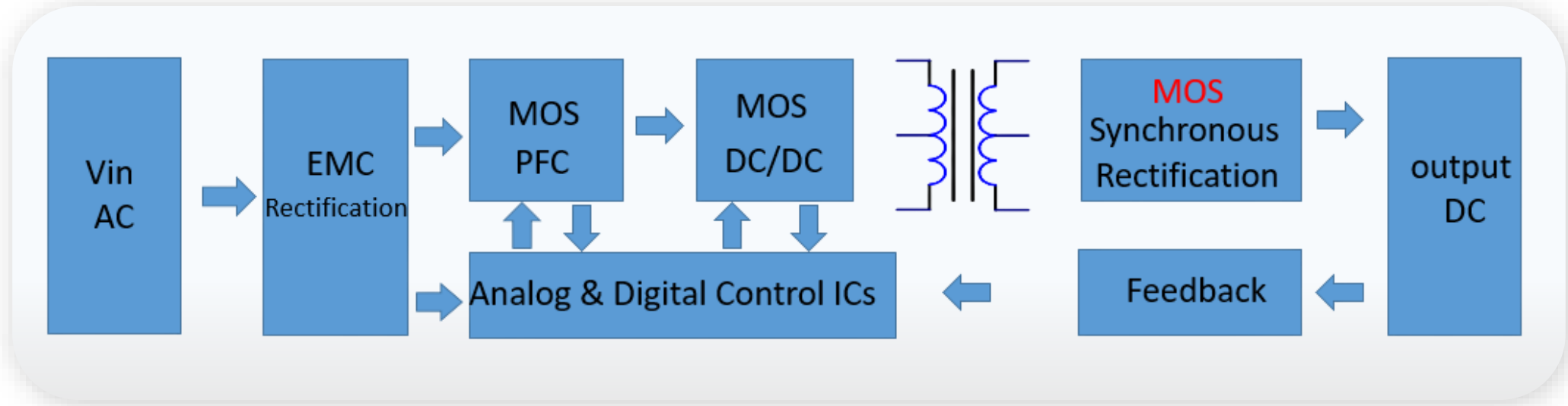
WMB072N12LG2 120V 7.2mΩ  
 WMB125N12LG2 120V 12.5mΩ  
 WMB115N15HG2 150V 11.5mΩ



## Vbus Switch For 5-20V out Protection with DFN3\*3:

WMQ40N03T1 30V 5.5mΩ  
 WMQ80N03T1 30V 4mΩ  
 WMQ50P03T1 -30V 9mΩ  
 WMQ42P03T1 -30V 12mΩ

# MV/LV MOS Telecom power supply



High-Power Synchronous rectifier  
Forward, Half Bridge Resonant, Full bridge

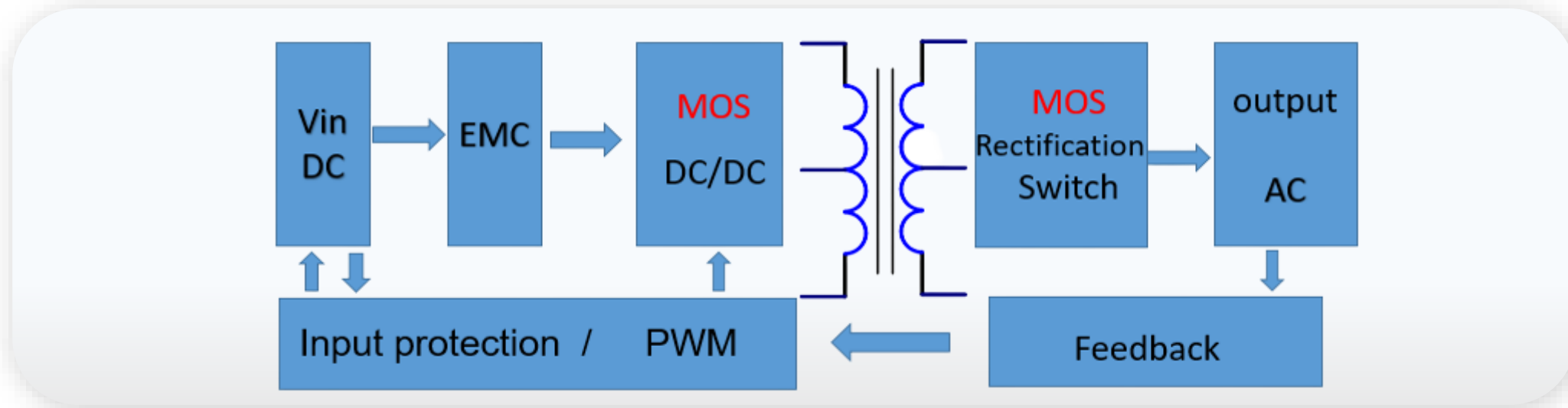
## 12V-24V output :

WMx025N06HG2	60V	2.8mR	TO220/DFN5*6
WMx034N06LGS	60V	3.4mR	TO220/DFN5*6
WMx040N08HGS	80V	4.0mR	TO220/DFN5*6
WMx028N10HG2	100V	2.8mR	TO220/DFN5*6
WMx043N10HGS	100V	4.3mR	TO220/DFN5*6
WMx060N10HGS	100V	6mR	TO220/DFN5*6

## 48V output :

WMx049N12HG2	120V	4.9mΩ	TO220/263
WMx058N12HG2	120V	5.8mΩ	TO220/263
WMx161N15T2	150V	5.7mΩ	TO220/263
WMx071N15HG2	150V	7.1mΩ	TO220/263
WMx115N15HG2	150V	11.5mΩ	TO220/263/DFN5*6
WMx198N15HG2	150V	19.8mΩ	TO220/263/DFN5*6

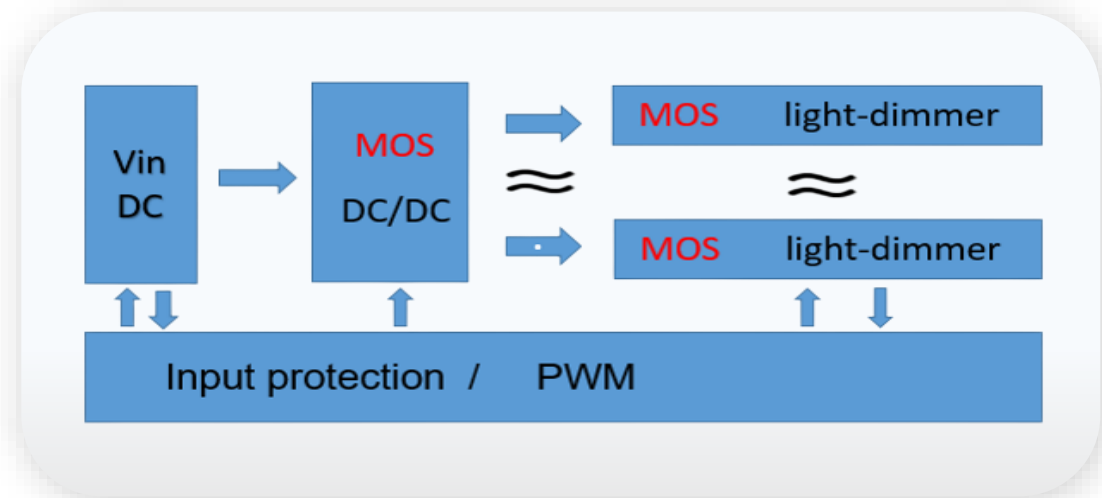
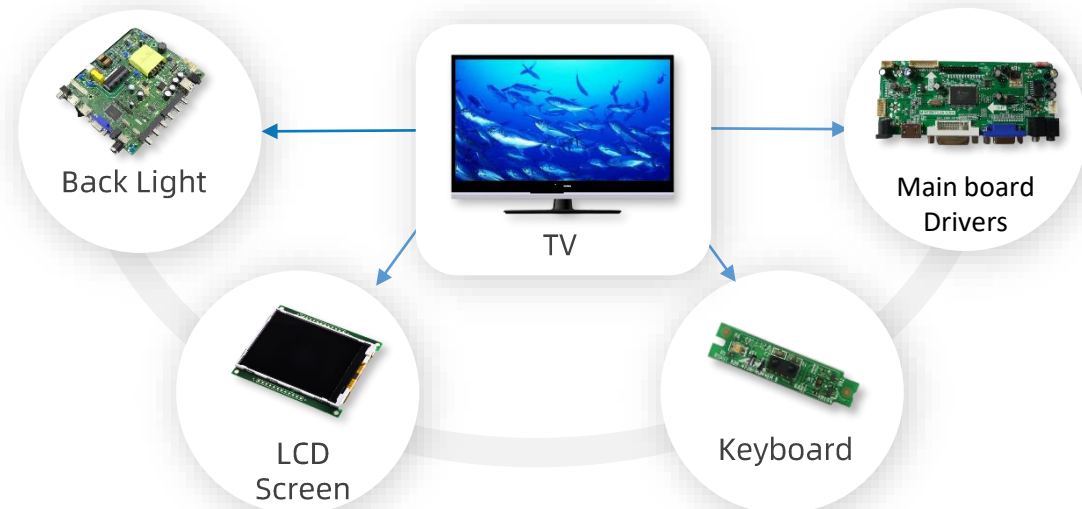




push-pull circuit

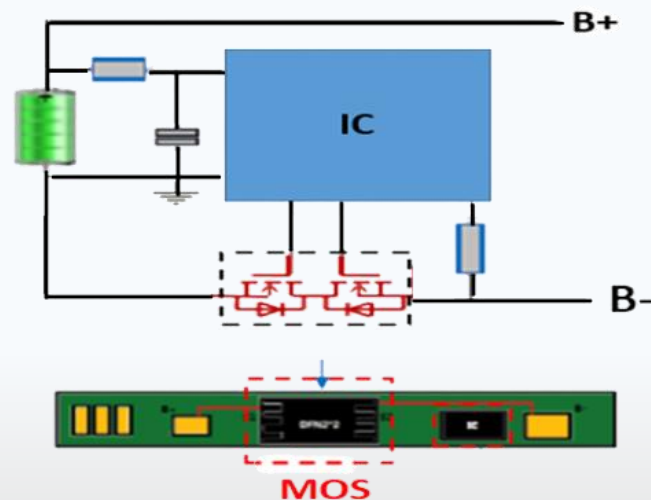
Part NO.	Vdss	ID	Rds (ON) max	Type	Package
WMK180N03T1	30V	180A	3.2mR	N-MOS	TO-220
WMK80N06T1	60V	80A	7.2mR	N-MOS	TO-220
WMK90N08TS	80V	90A	8.5mR	N-MOS	TO-220
<b>WMK043N10HGS</b>	100V	145A	5.0mR	N-MOS	TO-220
WMK060N10HGS	100V	115A	6.0mΩ	N-MOS	TO-220
WMK161N15T2	150V	161A	6.0mΩ	N-MOS	TO-220
WMK071N15HG2	150V	135A	7.1mΩ	N-MOS	TO-220

# MV&LV MOS for TV/MNT



	Way-on NO.	Package	MOSFET	VDS	ID (A)	VGS	VGS(th)	RDS(on)(mΩ) Max at Vgs	
		Type	Type	(V)		(V)	(Max.V)	10V	4.5V
Control LV MOS	WM03P41M	SOT23	P	-30	-4.1	±20	-2.5	50	60
	WM03P51A	SOP8	P	-30	-5.1	±20	-2.5	48	60
	WM03P91A	SOP8	P	-30	-9.1	±20	-2.5	24	30
Backlight MV MOS	WMO25N06TS	TO252	N	60	25	±20	2.5	32	90
	WMO09N10T1	TO252	N	100	9	±20	2.5	150	160
	WMO15N10T1	TO252	N	100	14.6	±20	2.9	90	130
	WMO25N10T1	TO252	N	100	25	±20	2.5	45	120
	WMO20N15T2	TO252	N	150	20	±20	2.5	75	95
	WMO18N20T2	TO252	N	200	18	±20	2.5	170	180

# MV&LV MOS for Battery Protection



Way-on NO.	Package	MOSFET	VDS	ID (A)	VGS	VGS(th)	RDSON(mΩ) TYP at Vgs	
	Type	Single/Dual	(V)		(V)	(Typ.V)	4.5V	2.5V
WM02DN50M3	SOT23-6	Dual N	20	6	±12	0.70	20	25
WM02DN60M3	SOT23-6	Dual N	20	6	±12	0.70	15	20
WM02DN70A	TSSOP8	Dual N	20	7	±12	0.70	15	20
WM02DN080C	DFN2*3-6L	Dual N	20	8	±12	0.65	14	20
WM02DN110C	DFN2*3-6L	Dual N	20	11	±12	0.65	6.0	8.2
WM02DN560Q	DFN3*3-8L	Dual N	20	56	±12	0.65	4.2	5
WM4C62160A	CSP1.5*1.5-4L	Dual N	20	5	±12	0.70	17(Rsson)	25(Rsson)

# MV&LV MOS for Power Battery Protection

BVDSS	P/N	Package	Rdson max
30V	WMB90N03T1	DFN5*6	3 mΩ
30V	WMQ80N03T1	DFN3*3	4 mΩ
30V	WMQ40N03T1	DFN3*3	5.5 mΩ
30V	WMO96N03T1	TO252	4 mΩ
30V	WMO80N03T1	TO252	5.5 mΩ

BVDSS	P/N	Package	Rdson max
40V	WMB018N04LG2	DFN5*6	1.8 mΩ
40V	WMB032N04LG2	DFN5*6	3.2 mΩ
40V	WMO60N04T1	TO252	7 mΩ
40V	WMQ50N04T1	DFN3*3	8 mΩ

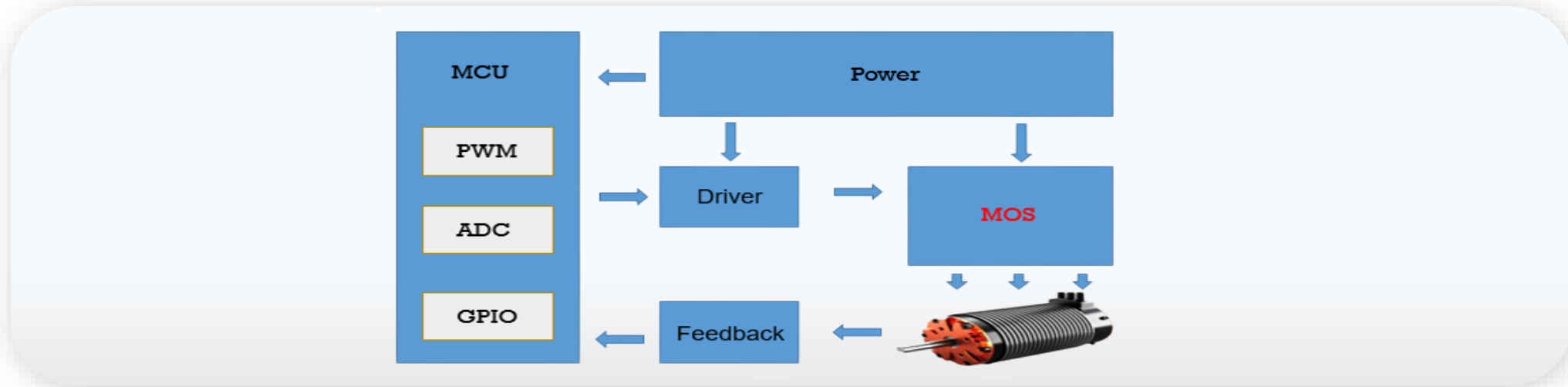
BVDSS	P/N	Package	Rdson max
60V	WMB025N06LG2	DFN5*6	2.8 mΩ
65V	WMB048NV6LG2	DFN5*6	5.0 mΩ
60V	WMB116N06T1	DFN5*6	5.5 mΩ
60V	WMB75N06T1	DFN5*6	8.5 mΩ
60V	WMO80N06T1	TO252	8.5 mΩ

BVDSS	P/N	Package	Rdson max
80V	WMM040N08HGS	TO263	4 mΩ
80V	WMB040N08HGS	DFN5*6	4 mΩ
85V	WMM053NV8HGS	TO263	5.3 mΩ
85V	WMB053NV8HGS	DFN5*6	5.3mΩ

BVDSS	P/N	Package	Rdson max
100V	WMM028N10HG2	TO263	2.8 mΩ
100V	WMM043N10HGS	TO263	4.3 mΩ
100V	WMB043N10HGS	DFN5*6	4.3 mΩ
100V	WMM060N10HGS	TO263	6 mΩ
100V	WMB060N10HGS	DFN5*6	6 mΩ



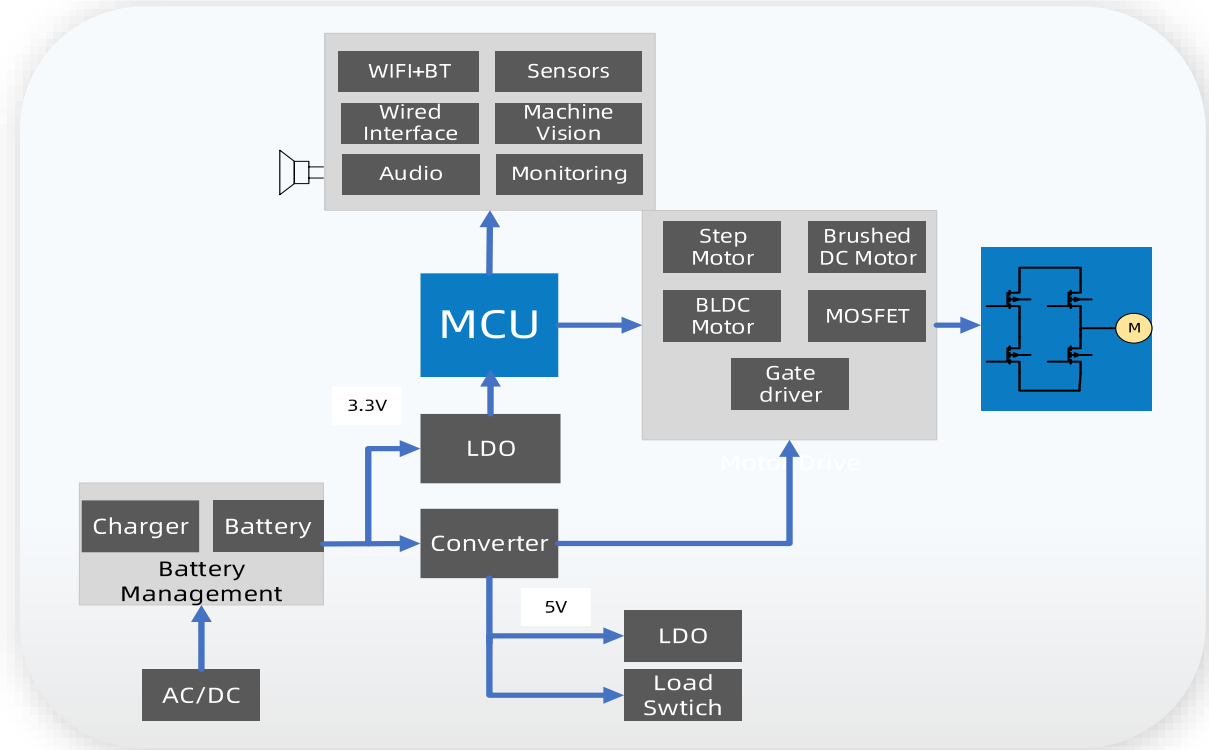
# MV&LV MOS for Motor control



Part NO.	Vdss	ID	Rds(on)max	Type	Package	Applications
WMB017N03LG2	30V	100A	1.7mΩ	N-MOS	DFN5*6	Electronic speed controller
WMB018N04LG2	40V	130A	1.8mΩ	N-MOS	DFN5*6	
WMB025N06LG2	60V	158A	2.8mΩ	N-MOS	DFN5*6	
WMS08DN06TS	60V	8A	38mΩ	Dual N-MOS	SOP8	home appliances
WMO50N06TS	60V	50A	16mΩ	N-MOS	TO-252	
WMO100N07T1	70V	100A	7.3mΩ	N-MOS	TO-252	48V / 60V / 72V System
WMK90N08TS	80V	90A	8.0mΩ	N-MOS	TO-220	
WMK040N08HGS	80V	180A	4.0mΩ	N-MOS	TO-220	
WMK053NV8HGS	85V	125A	5.3mΩ	N-MOS	TO-220	
WMK060N10HGS	100V	115A	6.0mΩ	N-MOS	TO-220	
WMK043N10HGS	100V	145A	5.0mΩ	N-MOS	TO-220	

# MV&LV MOS for Sweeper robot

## The Application For Sweeper robot:

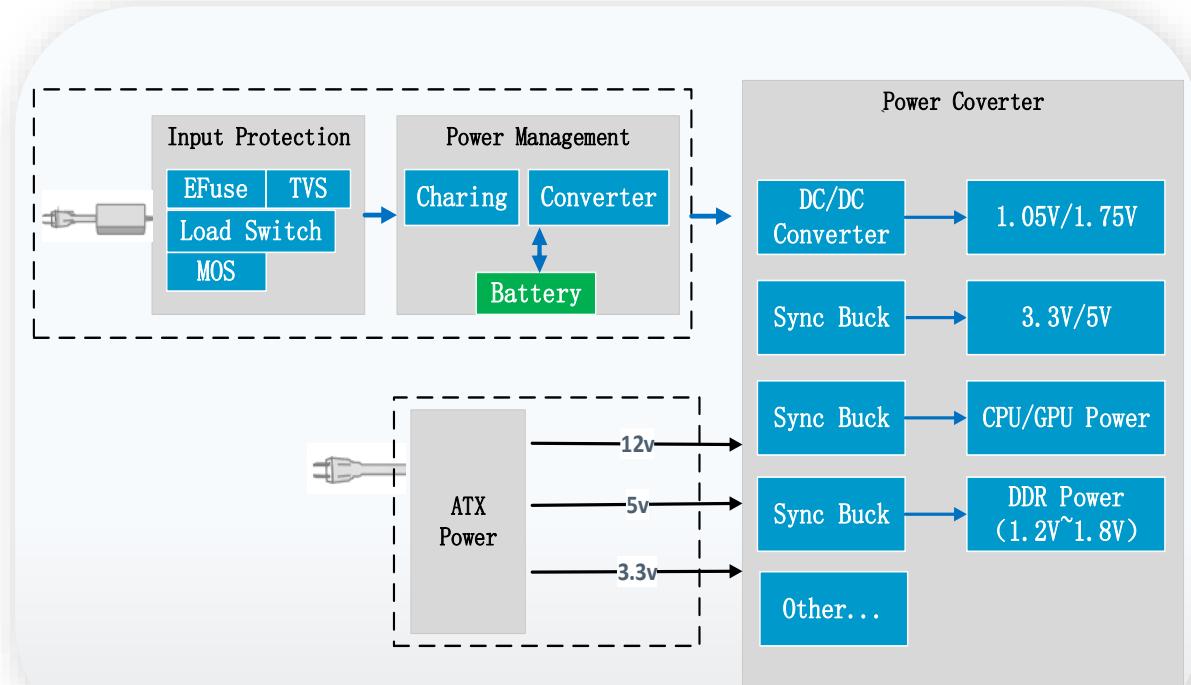


## Drive MOSFET:

Part NO.	Vdss	ID	Rds(on)max	Type	Package
WMO55N03T1	30V	55A	8.5mΩ	N-MOS	TO-252
WMQ42P03T1	-30V	-42A	14mΩ	P-MOS	DFN3*3
WMB025N06LG2	60V	160A	2.8mΩ	N-MOS	DFN5*6
WMO50N06TS	60V	50A	16mΩ	N-MOS	TO-252

# MV&LV MOS for PC

## The Application For PC:

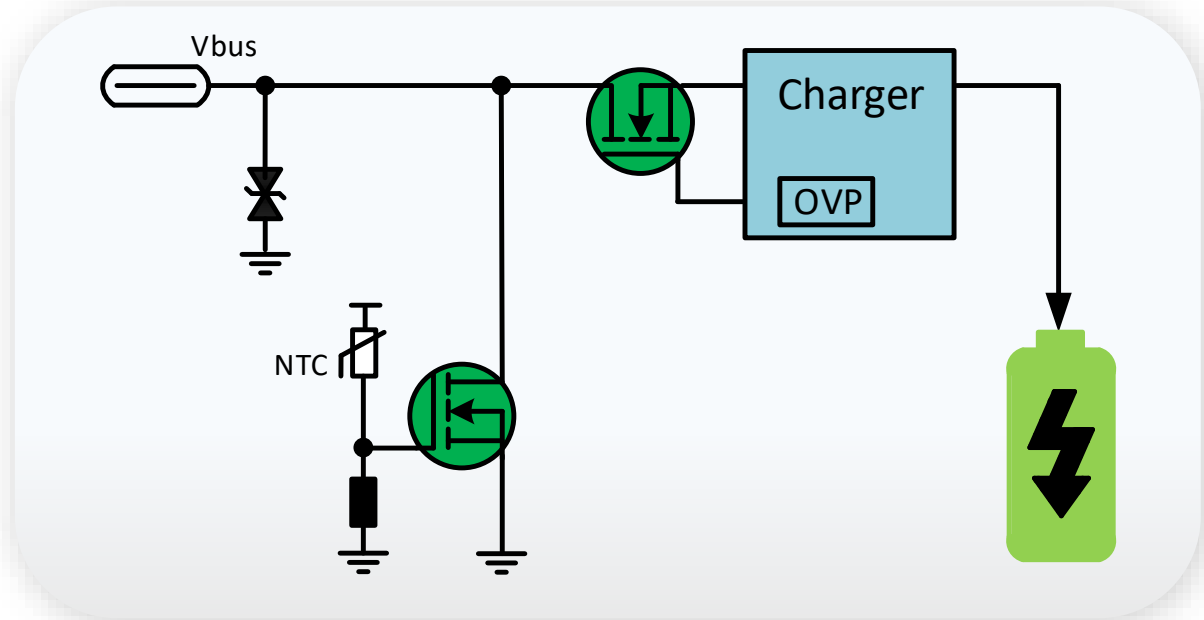


## Drive MOSFET:

Part NO.	Vdss	ID (max)	Rds(on)max@10 V	Type	Package
WMB31430DN	30V	130A/56A	1.4mΩ/4.3mΩ	NMOS	PDFN5*6
WMQ0xxN03LG2	30V	28A~75A	3mΩ~8mΩ	Dual NMOS	PDFN3*3
WMB0xxN03LG2	30V	42A~100A	1.7mΩ~8mΩ	NMOS	PDFN5*6
WMQ42P03T1	-30V	-42A	14mΩ	PMOS	PDFN3*3
WMQ55P03T1	-30V	-55A	7.5mΩ	PMOS	PDFN3*3

# MV&LV MOS for Phone

## The Application For Phone:



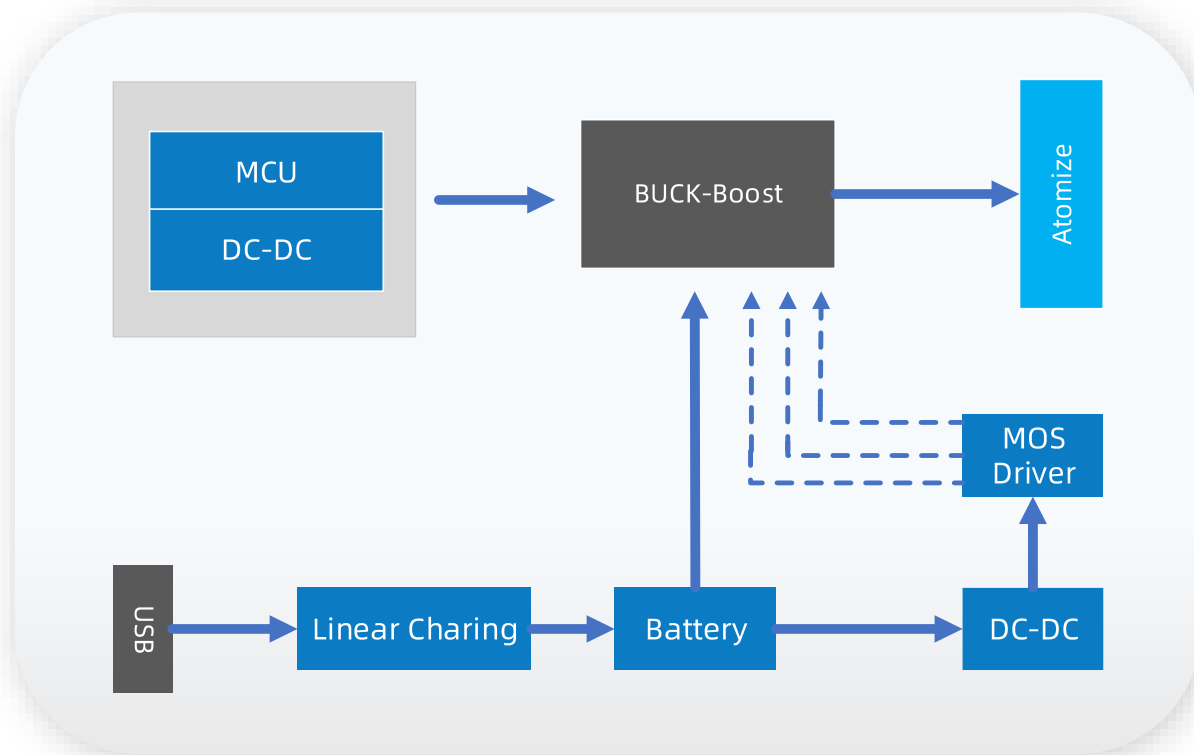
## Switch MOSFET:

Part NO.	Vdss	ID	Rds(on)max	Type	Package
WMR12N03T1	30V	12A	9.0mΩ	N-MOS	DFN2*2-6L
WMR14N03TA	30V	14A	7.2mΩ	N-MOS	DFN2*2-6L
WMR16N03T1	30V	16A	5.2mΩ	N-MOS	DFN2*2-6L
WMQ023N03LG2	30V	75A	3.0mΩ	N-MOS	PDFN3*3-8L



# MV&LV MOS for E-cigarettes

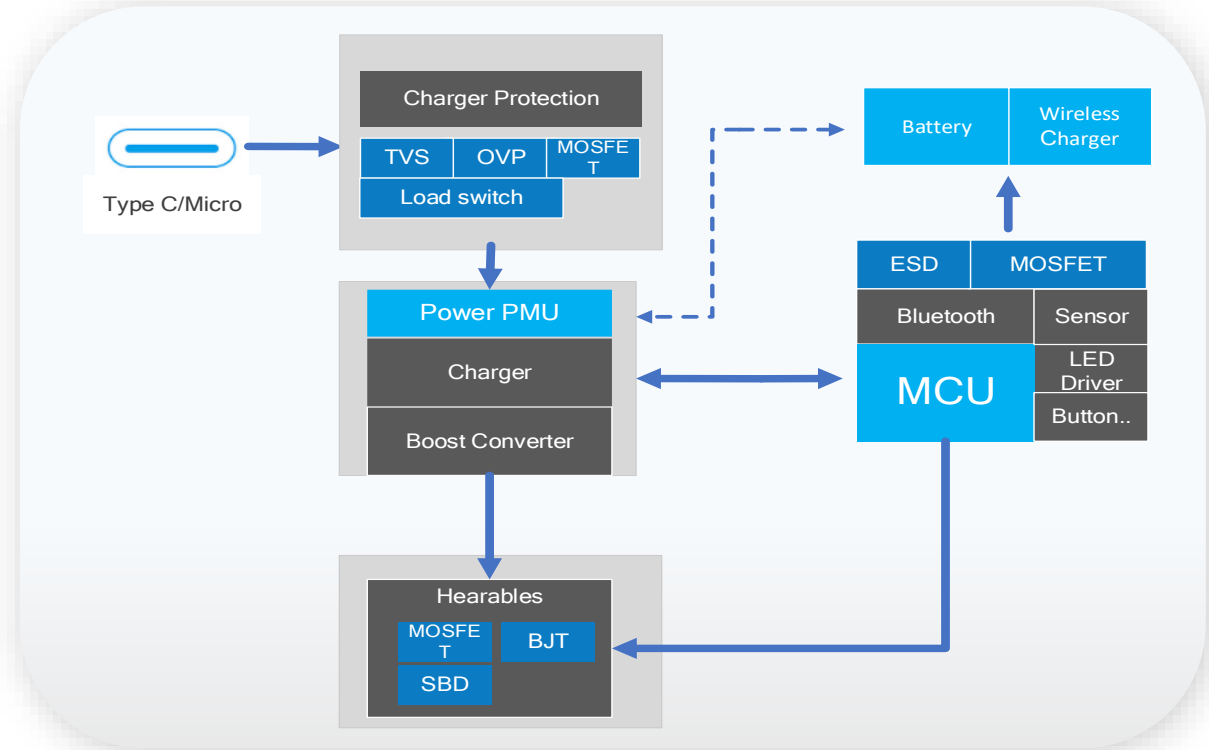
## The Application For E-cigarettes:



Part NO.	Vdss	Id	Type	Package
WM0xPxxM	12~30V	3~6A	P-MOS	SOT23
WM0xNxxM	20~30V	4.5~7A	N-MOS	SOT23
WM0xPxxxR	12/20V	7.5/16A	P-MOS	DFN2020-6
WMQ80N03T1	30V	80A	N-MOS	DFN3*3-8L
WMQ55P02T1	-20V	55A	P-MOS	DFN3*3-8L

# MV&LV MOS for TWS Headset

## The Application For TWS Headset:

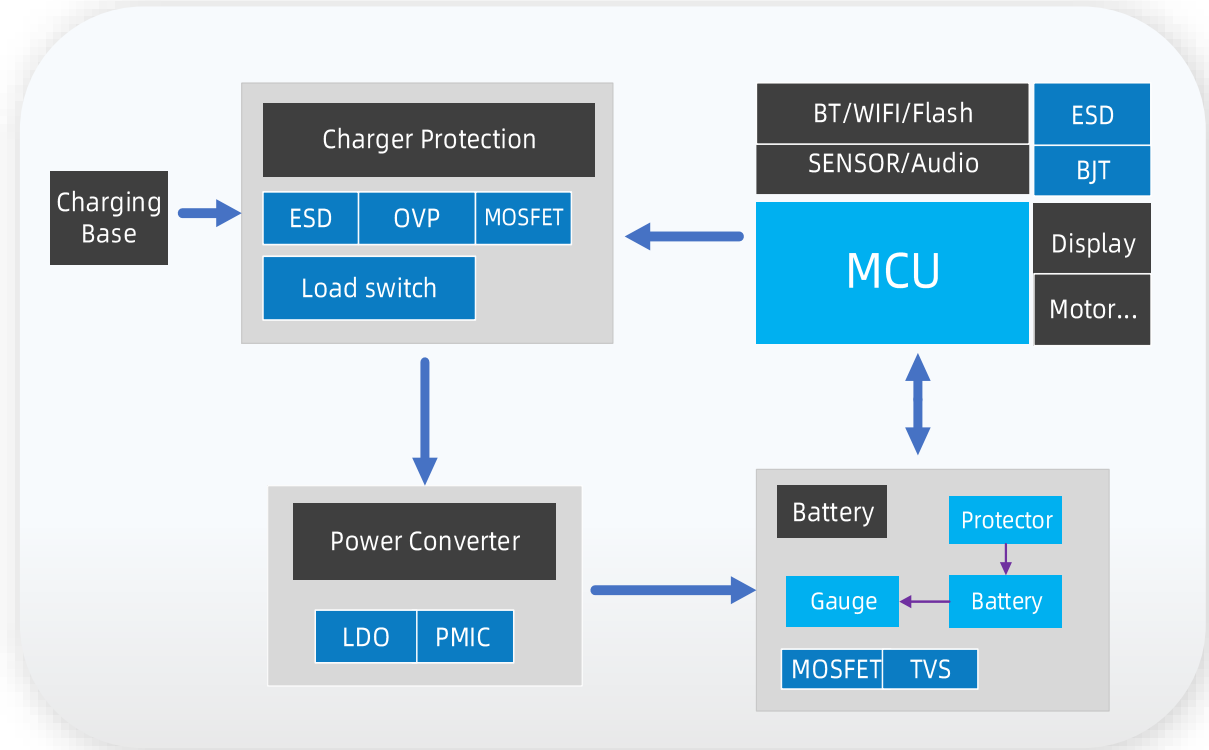


## Switch MOSFET:

Part NO.	Vdss	ID	Rds(on)max	Type	Package
WM02N31M	20V	3.1A	45mΩ	N-MOS	SOT-23
WM02P26M	-20V	-2.6A	90mΩ	P-MOS	SOT-23
WM02N08H	20V	0.75A	190mΩ	N-MOS	SOT-723
WM02P06H	-20V	-0.66A	520mΩ	P-MOS	SOT-723

# MV&LV MOS for Smart Watch

## The Application For Smart Watches:

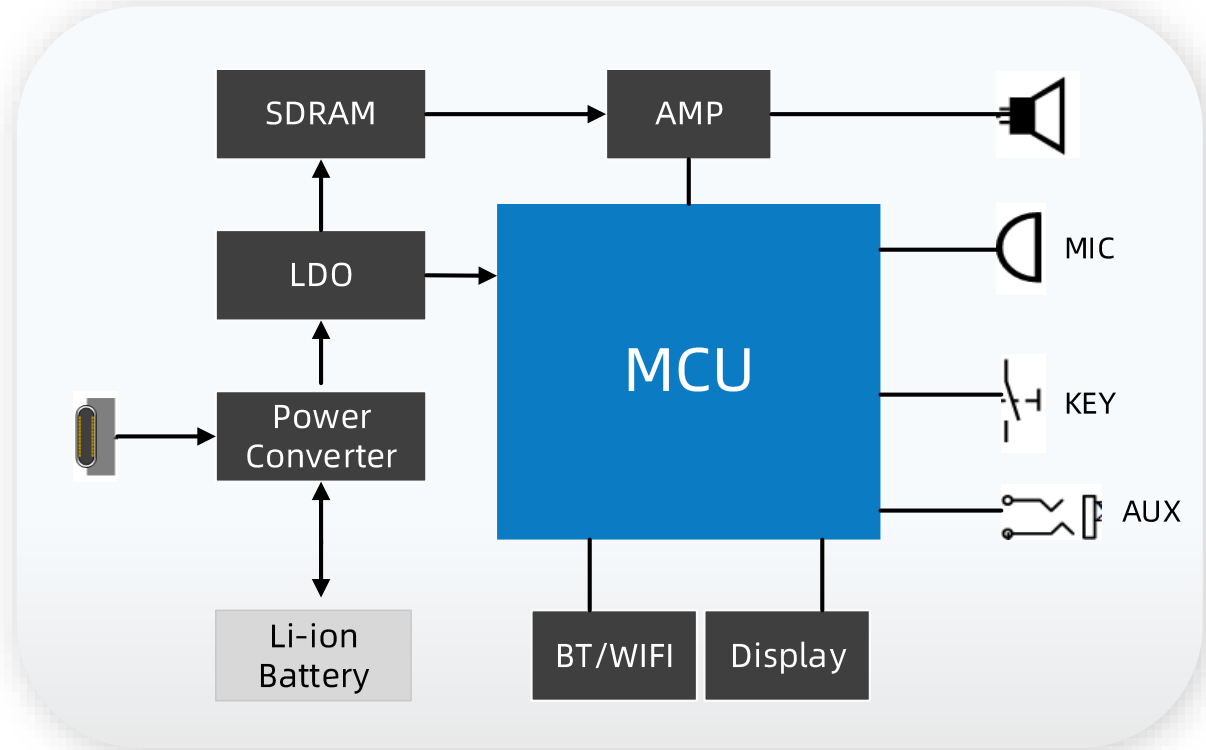
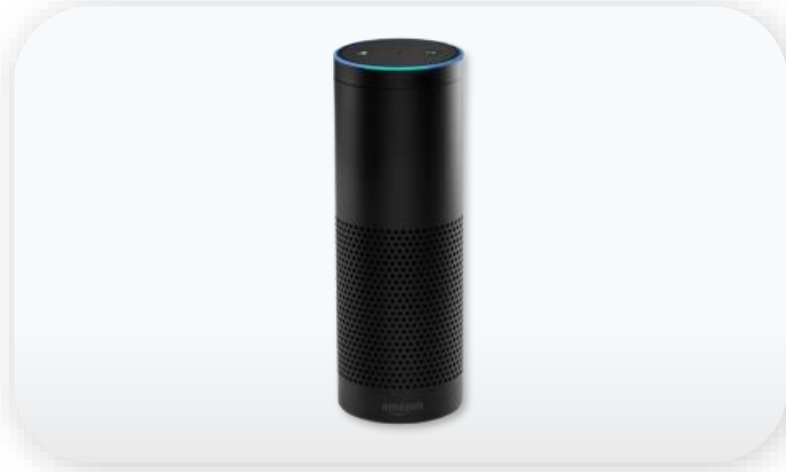


## Switch MOSFET:

Part NO.	Vdss	ID	Rds(on)max	Type	Package
WM06N03M	60V	0.34A	3Ω	N-MOS	SOT-23
WM02N08H	20V	0.75A	0.38Ω	N-MOS	SOT-723
WM02P06H	-20V	-0.66A	0.52Ω	P-MOS	SOT-723
WM02N31M	20V	3.1A	0.045Ω	N-MOS	SOT-23
WM02N08F	20V	0.75A	0.38Ω	N-MOS	DFN1006-3L
WM02P06F	-20V	-0.66A	0.52Ω	P-MOS	DFN1006-3L

# MV&LV MOS for Bluetooth Speaker

## The Application For Bluetooth Speaker:

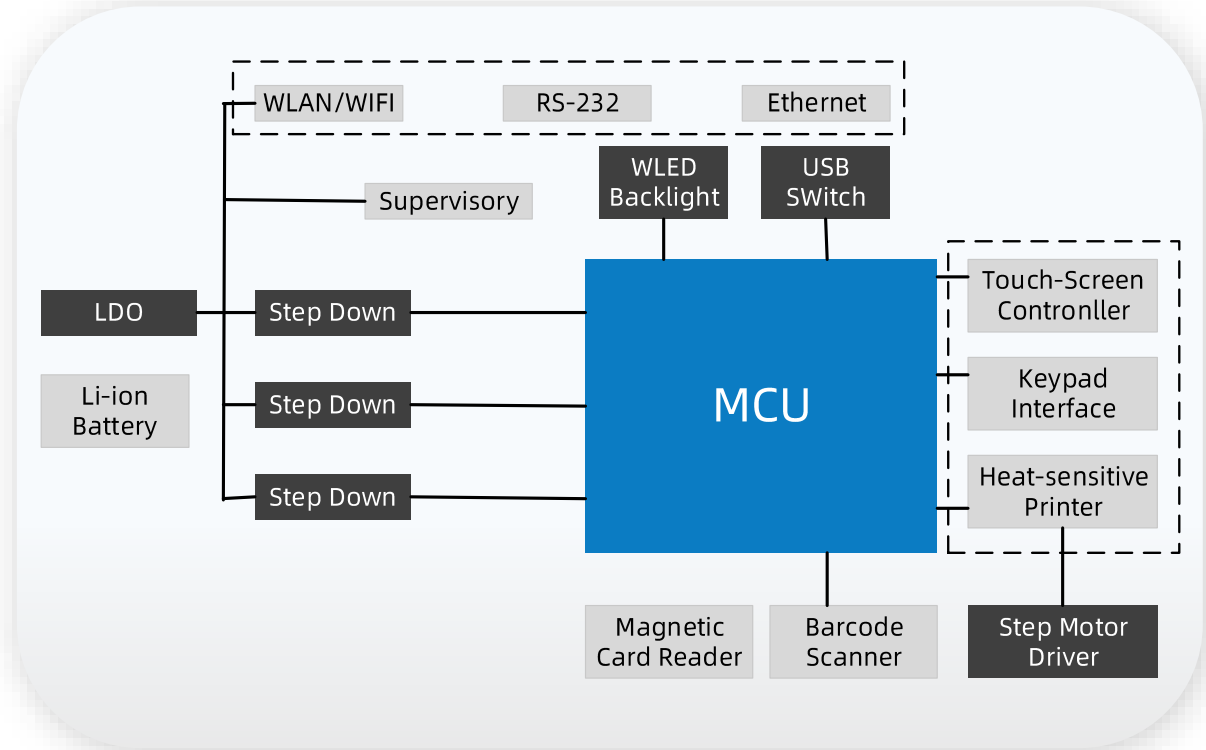


## Switch MOSFET:

Part NO.	Vdss	ID	Rds(on)max	Type	Package
WM03N58M	30V	5.8A	40mΩ	N-MOS	SOT-23
WM03P42M	-30V	-4.2A	75mΩ	P-MOS	SOT-23
WM03P91A	-30V	-9.1A	35mΩ	P-MOS	SOP8
WMS12P03T1	-30V	-11.5A	25mΩ	P-MOS	SOP8

# MV&LV MOS for POS

## The Application For POS:



## Switch MOSFET:

Part NO.	Vdss	ID	Rds(on)max	Type	Package
WM02P23M	-20V	-2.3A	115mΩ	P-MOS	SOT-23
WM03P42M	-30V	-4.2A	75mΩ	P-MOS	SOT-23
WM02N28M	20V	2.8A	60mΩ	N-MOS	SOT-23
WM03N58M	30V	5.8A	45mΩ	N-MOS	SOT-23

Network &  
Communication

Display  
Application

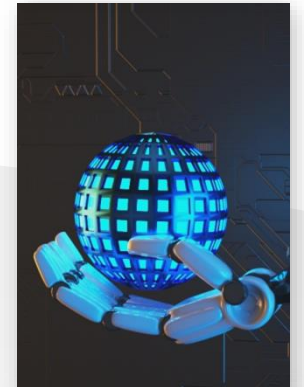
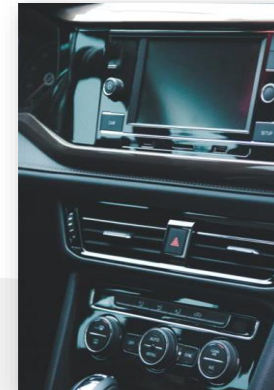
Power Supply

Automotive

Security System

Industrial

Consumer  
Electronics



# Main customer

Network								
Security								
Mobile Phone								
Battery								
Consumer								
Display								
Power								
Automotive & Industrial								



## Technology

Continuous R&D investment and technological innovation



## Products

Leading product layout and extensive product coverage



## Delivery

Fab and Package partners are the first-tier manufacturers and diversified industrial chain layout to ensure supply



## Quality

Sound quality management system and shipping history of international major customers, excellent quality assurance



## Service

International end customers and ODM customer service experience

Looking forward to more cooperation with Dell...





# THANK YOU



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ON THE WAY