

Mar. 11th, 2025

VOYAGE TO THE ANALOG WORLD!

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02 '23 MBO & MAJOR PROJECTS

03 PRODUCT LINE-UPS

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TechwidU's Fact Sheet

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Headquarter
- Suwon city, Korea

Capital
- USD 380K

Specialties
- **Analog IP provider** : a Samsung's SAFE™ - IP & SK Hynix IP partner
- **Automotive ICs** : LED driver IC, USB Type-C & PD charger IC, etc
- **Industrial & Consumer ICs** : PMIC, Motor driver IC, DDR5 DIMM & CIS PMIC, etc

History

- 2016 Dec — Founded in Dec. 20, 2016
- 2017 Q4 — 1st Mass-production of PMIC(CP1001) for SKHynix
- 2018 10 — Mosaicchips established in Chengdu, China
- 2018 Q4 — - Mass-production of HSIC, HVIC for SKHynix; - Mass-production of PMIC for Samsung
- 2019 01 — -Samsung Foundry Analog IP Partner (SAFE-IP)
- 2020 Q2 — Developing DC Motor driver IC Automotive Headlamp LED Driver IC and CIS PMIC; 2nd Mass-production of Industrial PMICs for Samsung & SKHynix
- 2021 Q2 — Merged Samsung FinFET process(~5nm)-specialized design company, HNLSI, in Korea
- 2022 Q3 — Providing SF FinFET process(4nm) Analog IPs
- 2023~ Q2 — Developing SF GAA process(3nm) Analog IPs



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Management Members

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- **26 Years** at SEC DDI, PMIC, Touch Screen, etc

CEO & President, Ph D.



- **28 Years** at SEC Media, Analog IP, etc

CTO & DVP



30 Years at SEC MCU, WBC in Germany, CEO of Mosaicchips in China

CMO & SVP



- **27 Years** at SEC DDI, etc

COO & VP, Ph D.

01 Patents

- over 50 ea
- over 100 ea

02 Technical papers

- IEEE: 8 ea, others: 10 ea

03 Production Success stories

- Mobile PMIC: over 500M pcs
- Touch screen IC: over 300M pcs
- DDI: over 800M pcs
- etc

Our management team are all from IC design divisions in Samsung Semiconductor,

“STILL EXECUTING or EXPERIENCED”!

Highly-successful IC design-engineering output resulted with

“PATENTS and PAPERS”!

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Roles of TechwidU & Subsidiaries

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01 As a Mother Company, develops and shares original power and analog technologies with subsidiaries

02 Targeting Automotive & Industrial - specific Power SoC products

03 Training talented engineers under co-works with government-funded R&D and universities



01 Providing Foundries based Analog IP & Layout service

02 Specialized in FinFET process- based analog IP design and Layout technology

03 Partnerships with W/W Foundries

01 Developing application-specific SoCs with TU & HNLSI

02 Specialized in Sales, Marketing and Application supports of Power SoC and Analog IP

03 Providing Cost-effective SCM services

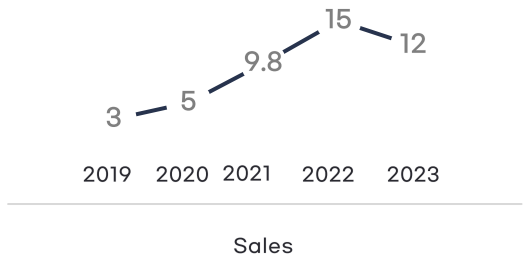
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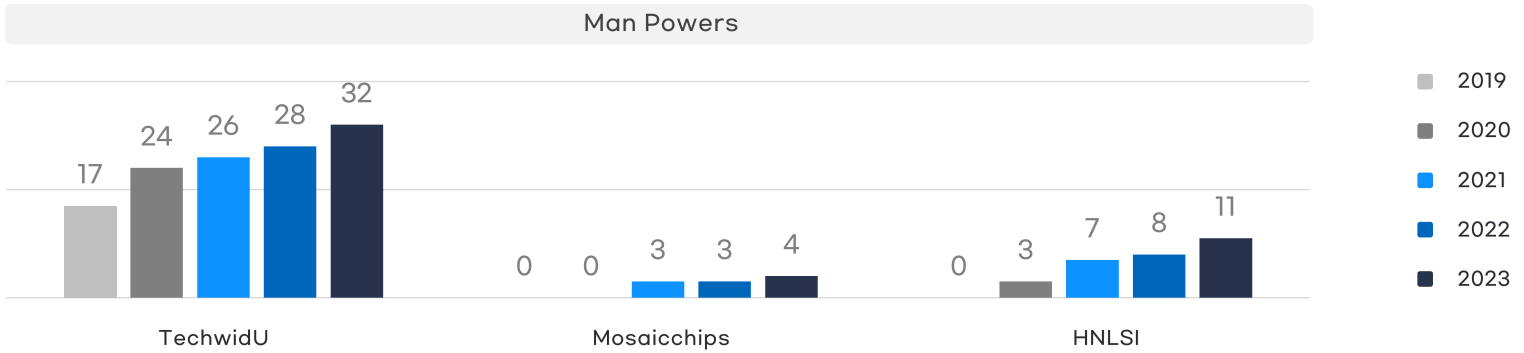
MBO In 2023

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MBO by years (Sales - TechwidU Only)

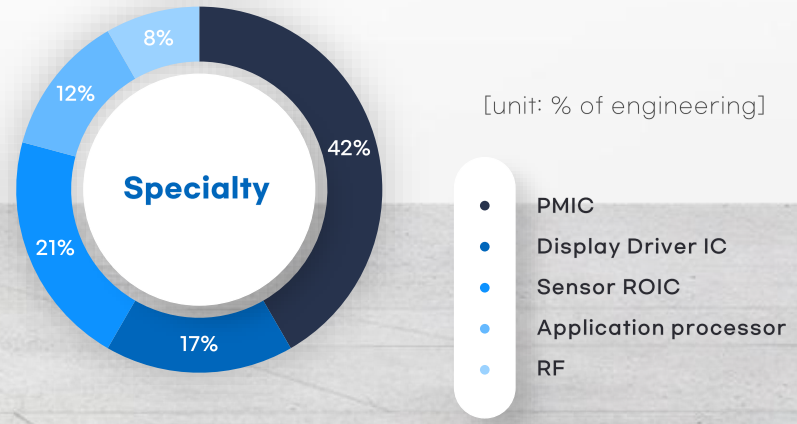
[Unit: M USD, persons]





Man Powers (2023, now) - TechwidU Only

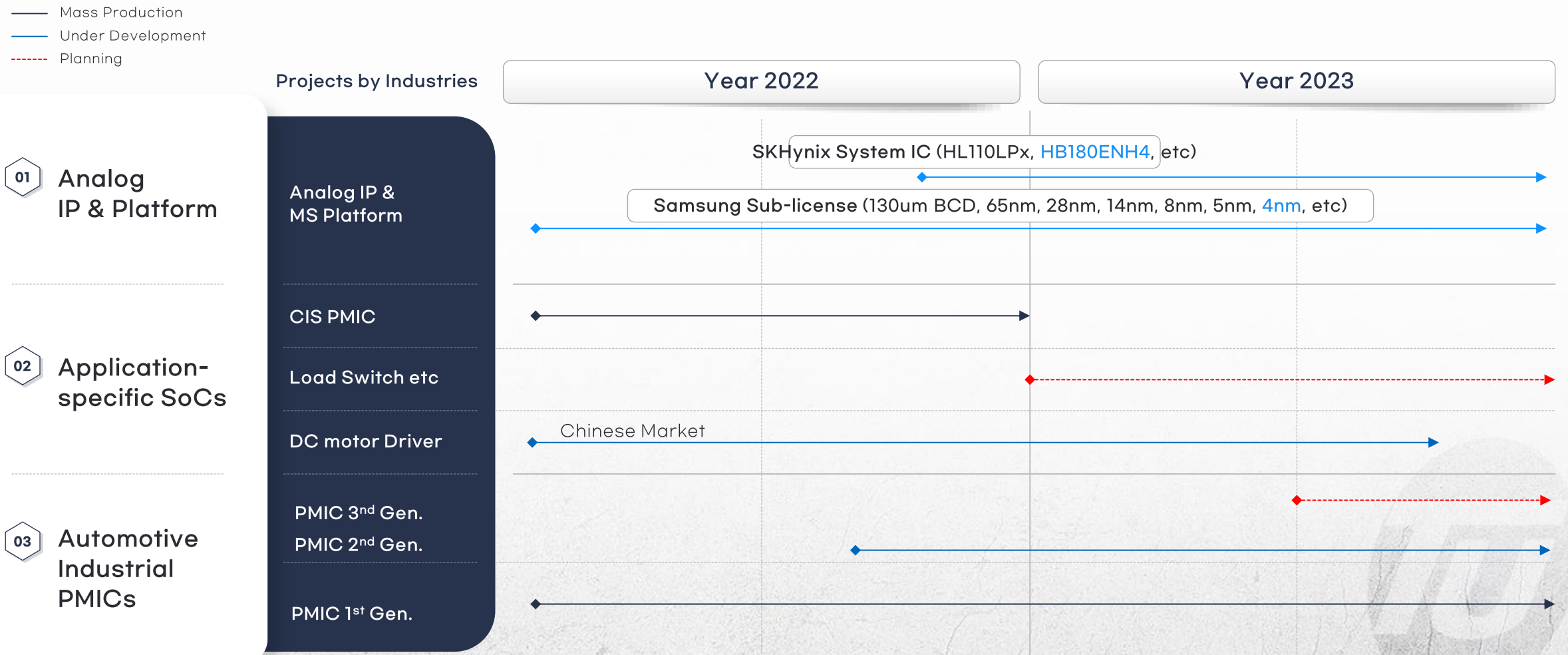
Department	Teams		Samsung/SK	Over 10 years
R&D	Analog	11	9	5
	Logic	6		3
	Layout	5		2
	FAE	5		1
Sales & Marketing + Financial		5	3	3
Total		32	12	14



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Main Projects by Years

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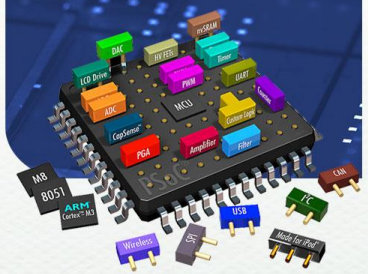
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MIXED SIGNAL
IP & PLATFORM

HNLSI is specialized in 5nm,8nm,10nm and 14nm FinFET process nodes.

01



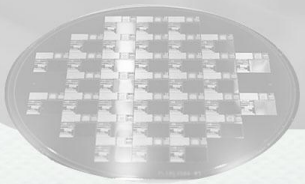
Mixed Signal
IP & Platform

02



Automotive

03



Industrial SoC

04



Consumer

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Analog IPs by process node

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[Process nodes: nm] EF=eFlash, MS=Mixed-signal, G=Generic Developed Under developing

Foundry		Domestic									Overseas										
IP List		Dongbu		Magna		SKHynix		Samsung			VIS	Tower Jazz	XFAB	GF		SMIC		TSMC			
Category	IP	180	130	180	130	110	350	130	65	28,14, 08,05,03	180	180	180	130 BCDLite	45	180	45	180	90	45	28
General	POR		EF	EF	EF	MS		EF	EF	MS	MS	MS	EF	EF	EF						
	OSC.		EF	EF	EF	MS		EF	EF	MS	MS	MS	EF	EF	EF						
	BGR		EF	EF	EF	MS		EF	EF	MS	MS	MS	EF	EF	EF						
	LDO		EF	EF	EF	MS		EF	EF	MS	MS	MS	EF	EF	EF						
	PLL					EF															
	Comparator,OP-Amp		EF	EF	EF	MS			EF		MS										
Data Converter	SAR-ADC		EF	EF	EF				EF												
	Pipeline-ADC		EF	EF	EF				EF												
	DAC		EF	EF	EF				EF												
	PVT, Temp. Sensor									MS. EF											
Power	Voltage-mode Buck			MS	EF			MS													
	Current-mode Buck							MS													
	Buck-boost Converter							MS					EF								
	Load Switch									EF											
I/O	I/O		EF	EF	EF	MS			EF		MS		EF	EF							

Expanding process nodes of world-wide foundries

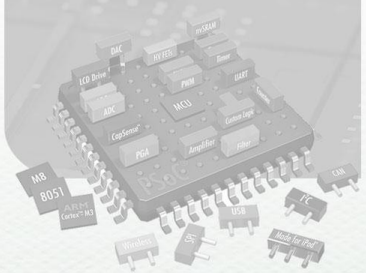
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Automotive

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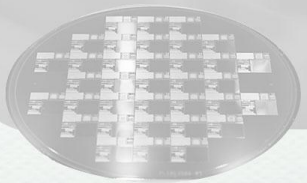
Mixed Signal
IP & Platform

02 –



Automotive

03 –



Industrial SoC

04 –



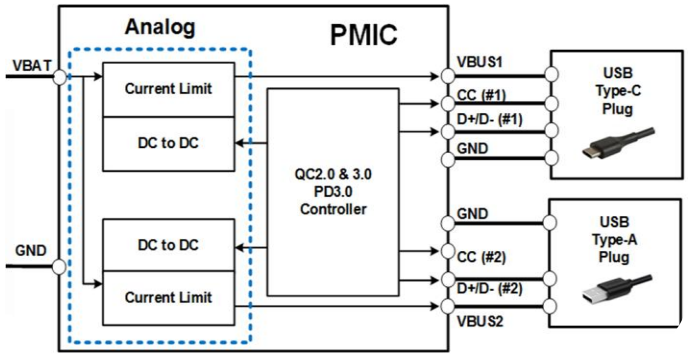
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USB Type-C PD Charger IC

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FEATURE

01 QC2.0/3.0, PD3.0 supported

02 USB Type-C and USB Type-A compatible

03 3.6-V to 24-V operating input range

04 5V, 9V, 12V output

05 Max. 27W output per channel

06 Protection Features: OCP, TSD, UVLO, nFault

07 Self-diagnostic function for ultra safety

08 AEC-Q100 Grade 0

09 Thermally Enhanced Package

8X8 mm2, 56-pin, TQFN, Exposed Pad Package

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Head Lamp LED driver IC

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FEATURE

01 **16 Series LED Bypass Switches**

02 **Multi-Drop UART Communication Interface**

03 **Programmable 10-bit PWM Dimming**

- Individual Turn-on and Turn-off Times
- Inherent Phase Shift Capability
- Device-to-Device Synchronization

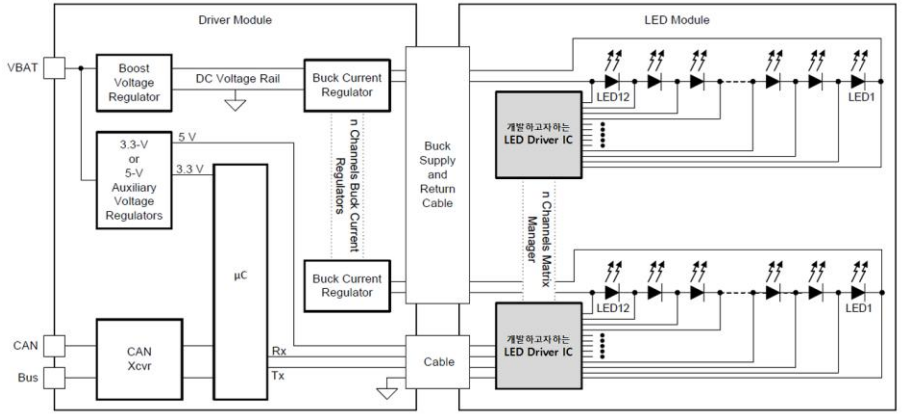
04 **LED Open/Short Detection and Protection**

- Fault Reporting

05 **AEC-Q100 Grade 1**

06 **Thermally Enhanced Package**

- 48-pin, TQFP, Exposed Pad Package





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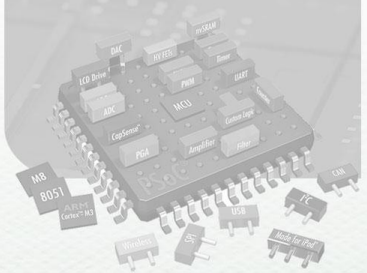
Industrial

SoC & PMICs

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01



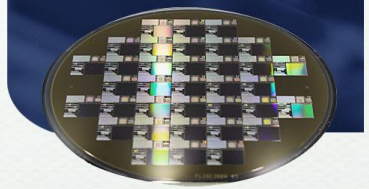
Mixed Signal
IP & Platform

02



Automotive

03



Industrial SoC

04

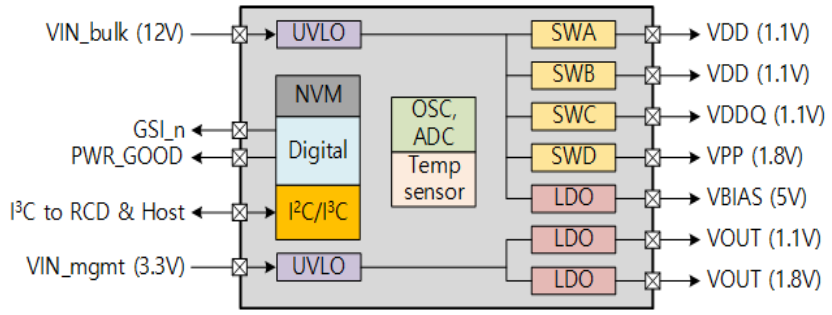


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DDR5 DIMM PMIC

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FEATURE

01 Fault Reporting

02 I2C/I3C interface

03 1.1V/1.8V LDOs for RCD, DB ICs

04 Single/dual-phase Buck converter (5A/10A)

05 8-bit ADC for temp sensing and voltage monitoring

06 AEC-Q100 Grade 1 Thermally Enhanced Package

- 36-pin, FcQFN, Exposed Pad Package



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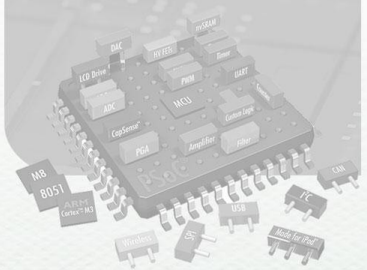
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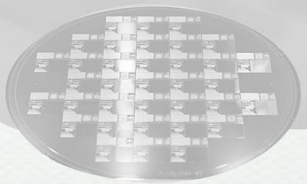
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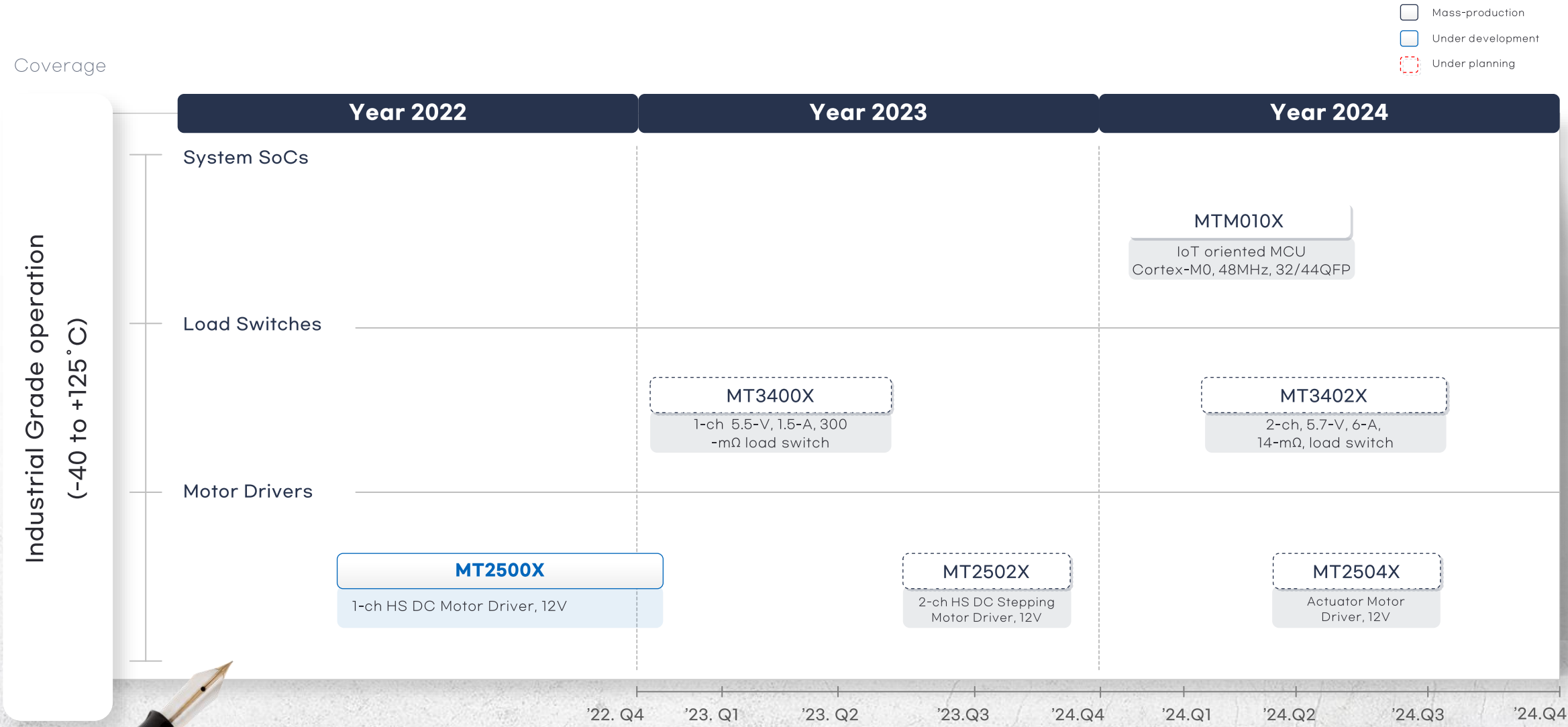


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Product Line-ups

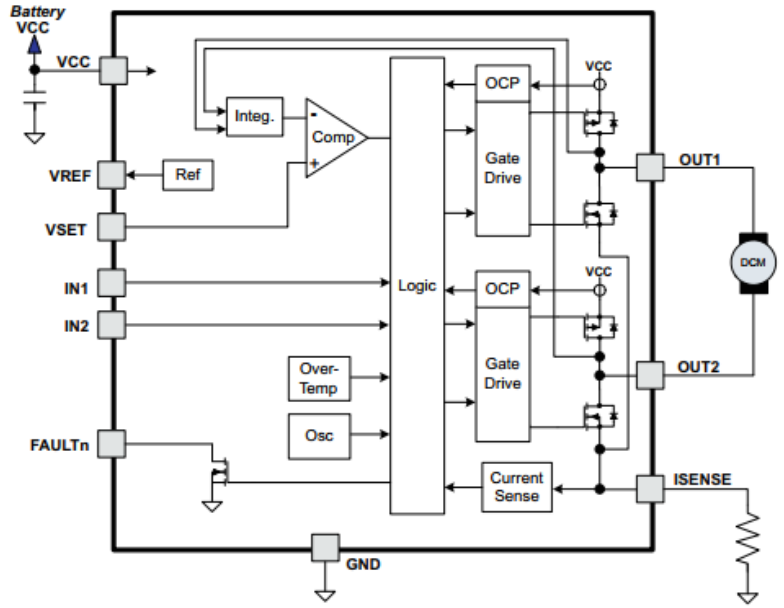
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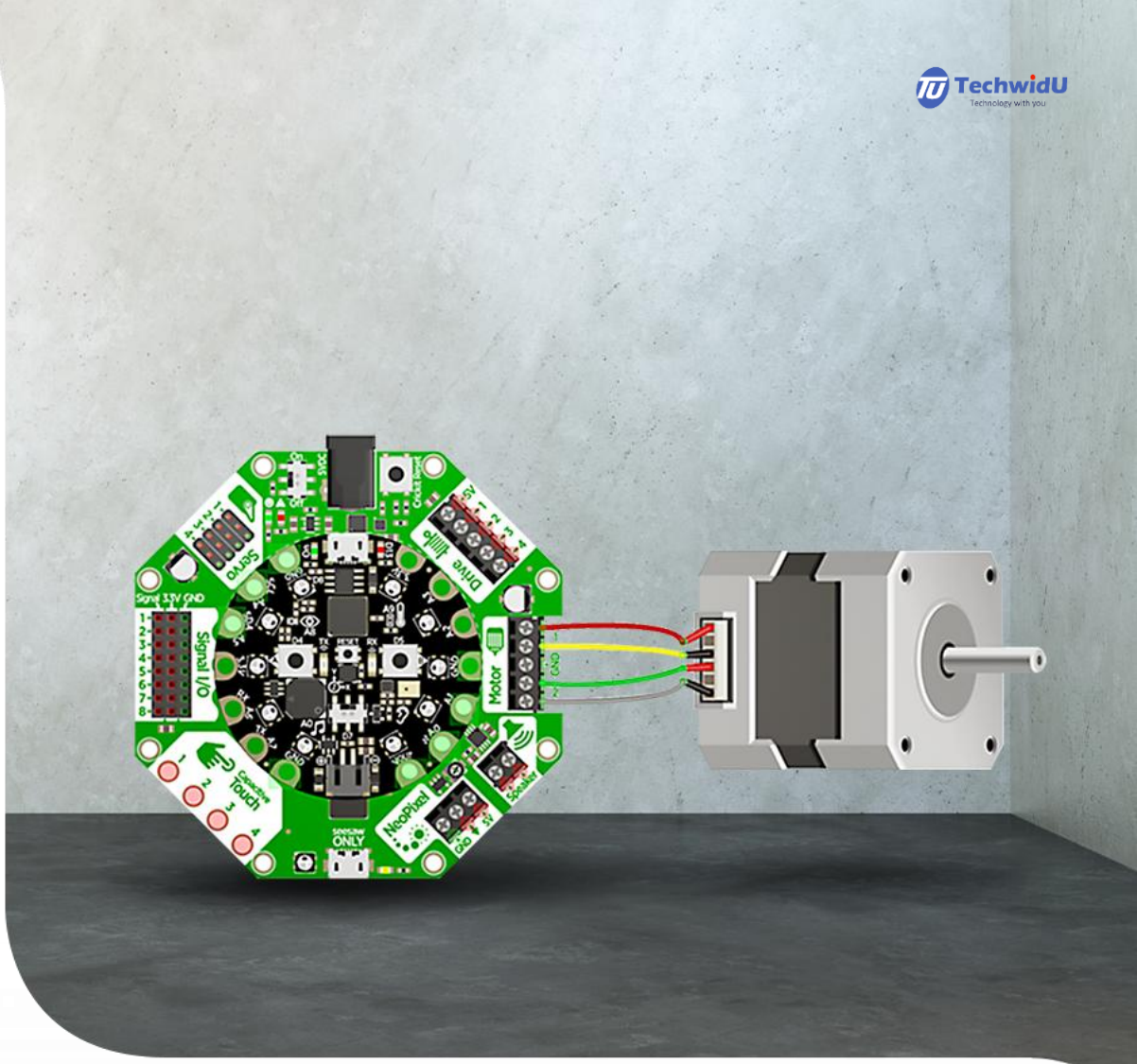


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Motor Driver IC

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FEATURE

01 2-CH 12V outputs

02 1A~2A current limit

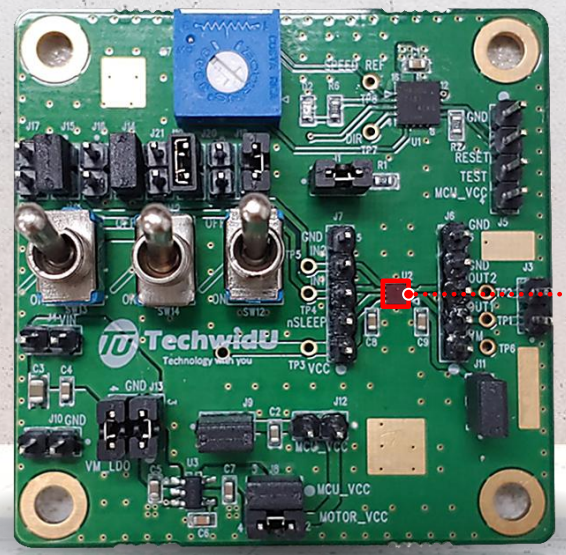
03 UVLO, TSD, OCP protection

04 Thermal Enhanced Surface Mount Package - 6-pin, TSOP

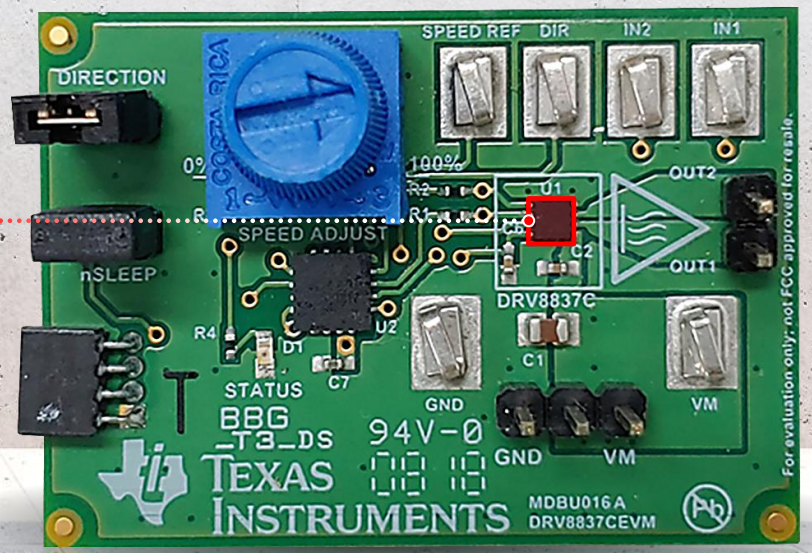
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MT2500X Motor Driver IC EVB

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Q&A

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02 | www.mosaicchips.com

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