

ABOV Semiconductor Company Profile

ABOV @ a Glance

“Global Top Smart MCU Innovator”

30+ Years of Experience

Employees



300
(2022.12)

Revenue

\$156M
(2022.12)

Production

5 Billion+
Units Up
to Date



2006 ~ Present



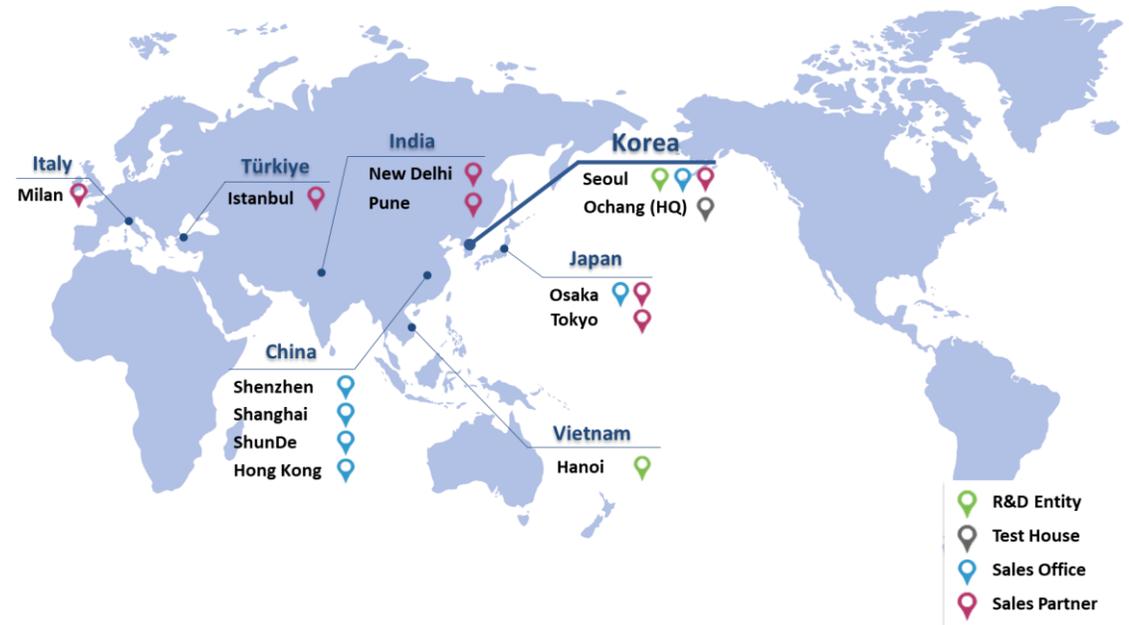
2004 ~ 2006



1999 ~ 2003

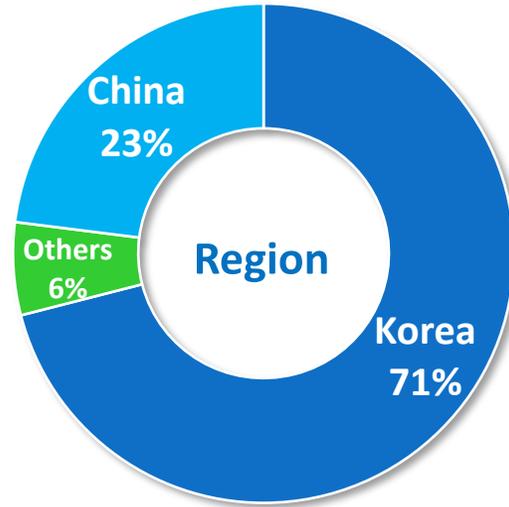
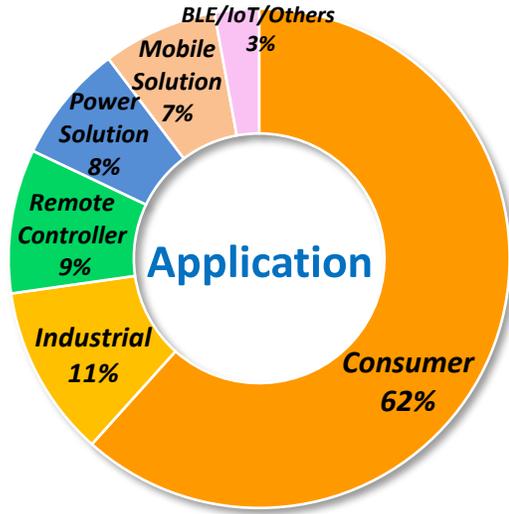


1991 ~ 1998



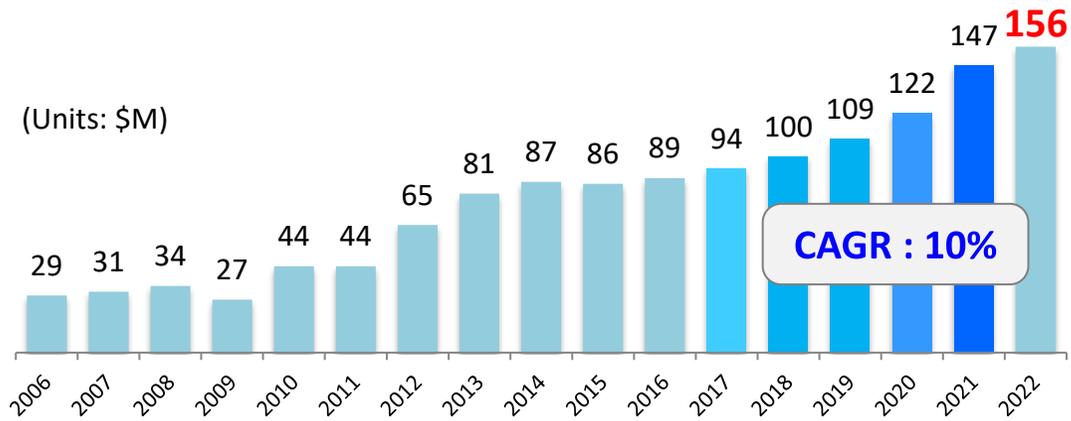
Business Potential Continuous Growth & Proven Track Records

10% CAGR Since Foundation / Track Records with Global Industry Leaders



Customer

SAMSUNG	Midea
LG	Lenovo
UNIVERSAL ELECTRONICS	Xiaomi
PHILIPS	GST
SHARP	Hisense
SMIK	CHANGHONG
OHSUNG	HUAWEI
NAVIENT	Joyoung 九阳
SK magic	SUPOR 苏泊尔
WINIA	Galanz
	DAIKIN
	CUCKOO
	coway
	iRevo

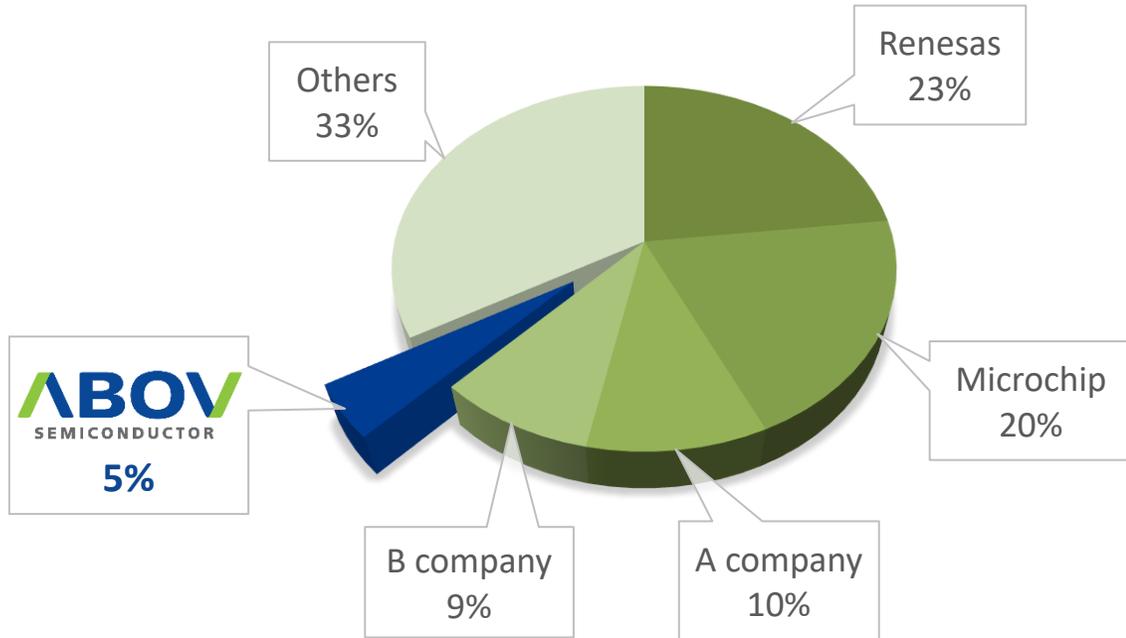


Total ≅ 800 Customers Around the World

Why ABOV? World-Class MCU Professional

ABOV is ...
Worldwide No. 5 in Home Appliance MCU Market
& Worldwide No. 12 in Total MCU Market

Consumer Electronics MCU Market Share



Global MCU Multi-Market Supplier

- 1st Microchip Technology
- 2nd STMicroelectronics
- 3rd Renesas Electronics Corporation
- 4th Texas Instruments
- 5th NXP
- ⋮
- 12th **ABOV SEMICONDUCTOR**

(Source: OMDIA Microcontroller Market Tracker, 2022)

* Multi-Market: Excluding automotive and smart cards from the whole MCU market.

Current Product Lineup

Total Solutions to Satisfy Various Customer Needs

8-bit 8051 Cores

Remote Controller

- Universal Remote
- LCD Remote



32-bit Cortex®-M Cores

Bluetooth® Low Energy SoC



Universal Fast Charge Solution

- USB PD 3.0 PPS
- Quick Charge 4+
- Wireless Charger
- Travel Adaptor
- Car Charger

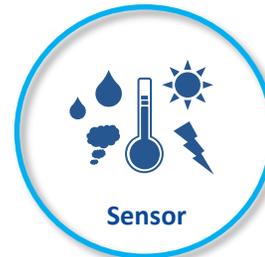


Ultra Low Power GP MCU

- under 100uA/MHz active mode
- RTC current : ~1uA
- deep Sleep : under 450uA
- shut down : ~45nA
- Fast wakeup : ~ 6us
- IoT, Smart Home
- Measurement

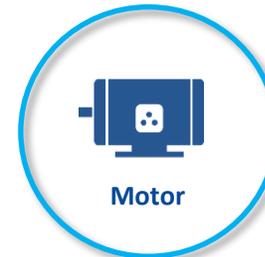
Optic Sensor

- Ambient Light Sensor
- RGB Sensor
- Proximity Sensor



Capacitive Sensor

- Touch Key Sensor
- Grip/SAR Sensor
- TWS Touch Solution



Inverter & Motor Solution

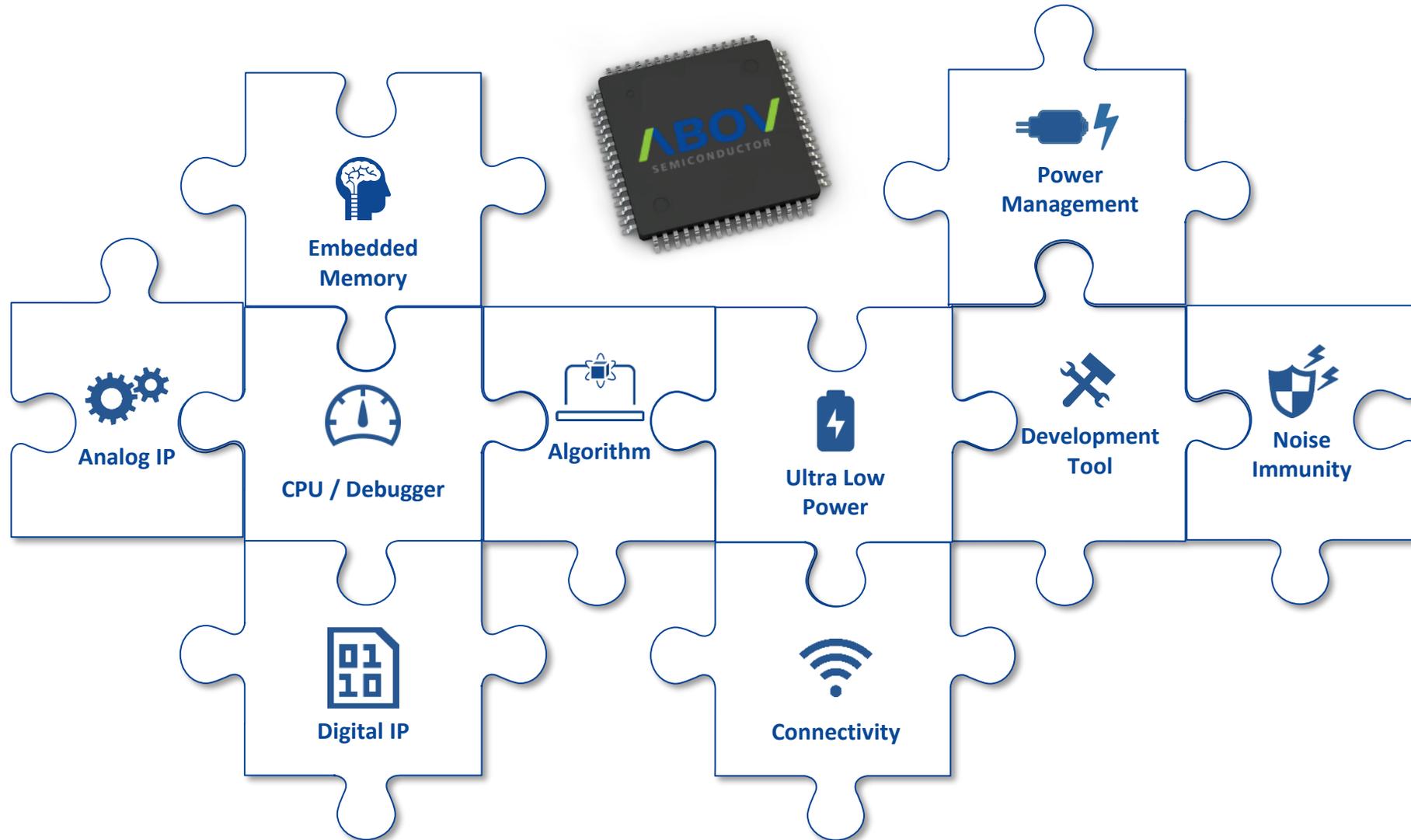
- 6-step BLDC Motor
- Inverter Motor
- Compressor Solution
- HVAC Control Solution

Fire & Safety Products

- Smoke Detector
- Heat Detector

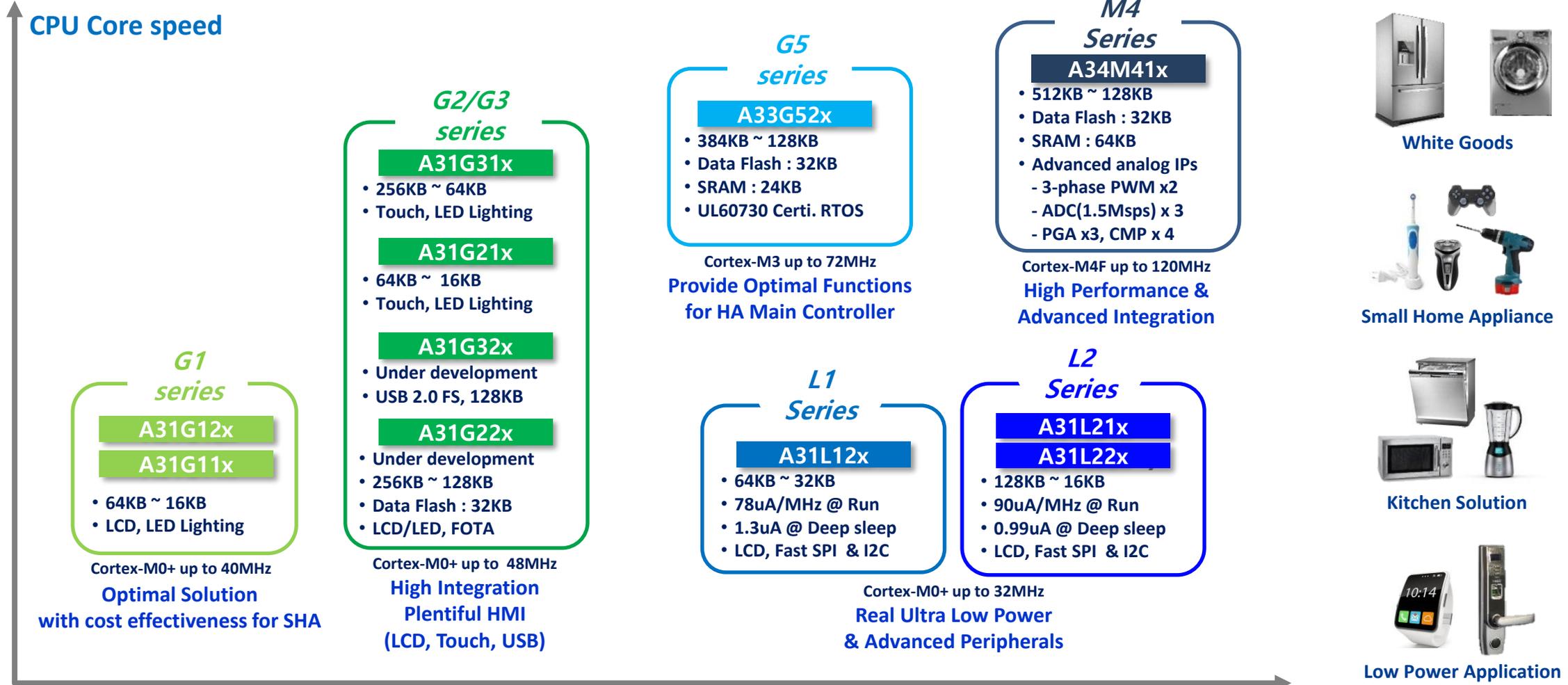
IP Portfolio Enabling ABOV Products

Our In-House IPs and Technical Expertise Differentiate Our Products



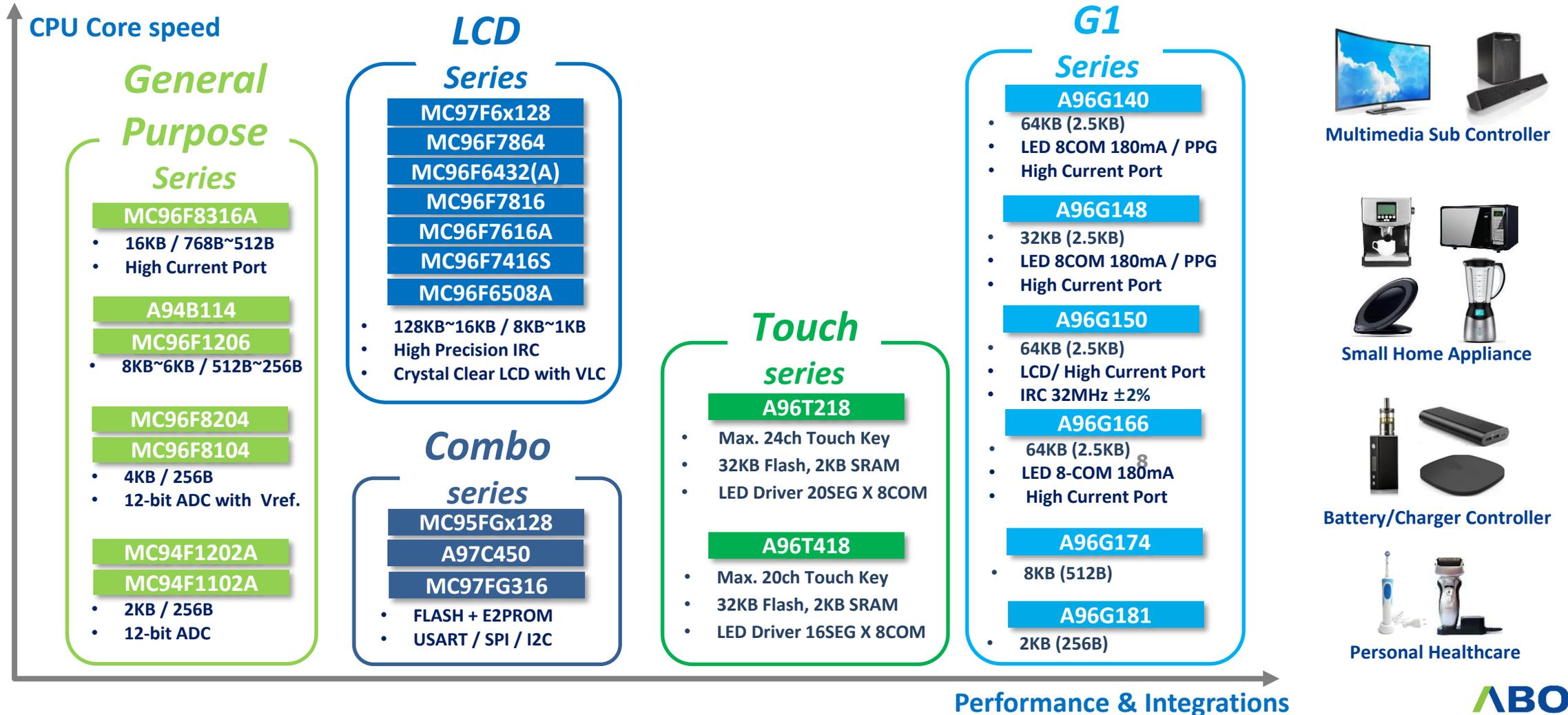
32-bit Microcontrollers Line-up

From Cortex-M0+ to M4F, Our Lineup Offers Optimized Products for Customer's Various Needs and Performance Requirements



8-bit Microcontrollers Line-up

ABOV's Bestseller 8051 8-bit MCUs Offer a Variety of Field-Proven Products Sold More than 3 Billion Units Up-to-Date



Products: Application Specific Standard Product

High Performance IPs with Optimized MCUs Together
Enable World-Class Sensor ICs and MCUs

Touch Key MCU



- 24-ch capacitive touch key sensing
- Internal LED/LCD Driver
- Single/Multi-key mode
- Effective Water Proof
- CS 10V Immunity

Grip Sensor



- 8-ch capacitive touch key sensing
- Auto/Manual calibration
- Adjustable 256-step sensitivity
- Single/Multi-key mode
- Robust in noisy environment

TWS Sensor MCU



- 3-ch ~ 9-ch capacitive touch key sensing
- Single/Double/Long Touch
- Slide Touch(Volume Up/Down)
- In-ear detection

LED BLU MCU



- Sync. detector
- Floating-point timer
- High-speed S&H ADC with tracer
- 32/64-pin MCP, 8KB

Ambient Light Sensor/ RGB Color Sensor



- Detectable Illuminance : 0.00056 ~ 237,500lx
- 16/20-bit ADC
- I²C interface
- Interrupt function / selectable slave address
- Sensitivity variation by light source : <math>< \pm 10\%</math>

LCD MCU



- Flexible LCD Duty Options and Capacitor Bias
- Built-in IR LED transistor
- $\pm 1\%$ Accuracy Internal RC Oscillator by User Trim
- 12-bit ADC 50kps, LCD Driver
- Multi Connectivity Peripheral
- 48/64/80-pin

Products: Application Specific Standard Product

We Power Our Growth in New Markets with Application-Specific MCUs and In-House Solutions for Fast Charge, Bluetooth, and Smoke Detector.

Power Bank MCU



- 8-bit (M8051) Core
- USB PD3.0 PPS and proprietary fast charging methods
- Certificate for PD3.0 PPS: TID 2836, etc.
- Certificate for QC2.0: QC20200313141

Car Charger



- 8-bit (M8051) Core
- USB PD3.0 PPS and proprietary fast charging methods (TID 877)
- AEC-Q100

Bluetooth® Low Energy SoC



- Sensitivity: -94~-98dBm
- Built-in Power AMP: +0~8dBm Tx
- Built-in PMU: DC/DC, LDOs
- Security: TRNG, AES-128, ECDH
- Ultra Low Power Performance

Freestanding Smoke Detector MCU



- Low Noise OP-Amp 2ch
- 10-bit SAR ADC
- Constant Sink Current Generator 2-ch (Max 274mA)
- Idle Current: 1.5uA @3V, Ring OSC on
- LDO 2.3V & BGR 0.92V

Networking Smoke Detector MCU



- Low Noise OP-Amp 2ch
- 10-bit SAR ADC
- Constant Sink Current Generator 2-ch (Max 274mA)
- Integrated Line Interface Tx/Rx
- HVLDO 5.0V (Max Vin 42V)

One and Only MCU Design and Manufacturing Company in Korea

- **Immediate On-Site and Full Technical Support**
 - ABOV's highly experienced Application Engineers
 - Easy and fast development platform

- **On-Demand IP Design Capability**
 - Satisfying customer's needs and system requirements

- **In-House MCU Development System Support**
 - Easy and convenient mass production for the customers
 - Cost competitiveness

Design / Engineering Resource

▪ Multiple Engineering Resources under ABOV Alliance in Korea



▪ Global R&D Center

- Vietnam (R&D Center, Jan. 2022)
- India (Sub Contractors, POC focused)

▪ Smallest Chip Design Capability

- In-House, Cost-Effective NVM IP Design
- ABOV's Proprietary Analog IP Design (*Not Bulky IP Design Offered by Foundries*)

▪ Fast Development TAT

- Platform-Based Design Infrastructure
- 6 Months Design Turnaround (Spec to Silicon)

Ecosystem One-Stop Shop for MCU Development

ABOV Offers a Total Ecosystem Covering Our Customer's Entire Value Chain



Global Top Smart MCU Innovator

For more information about our product and package, please contact our sales team
or visit our website: www.abovsemi.com

