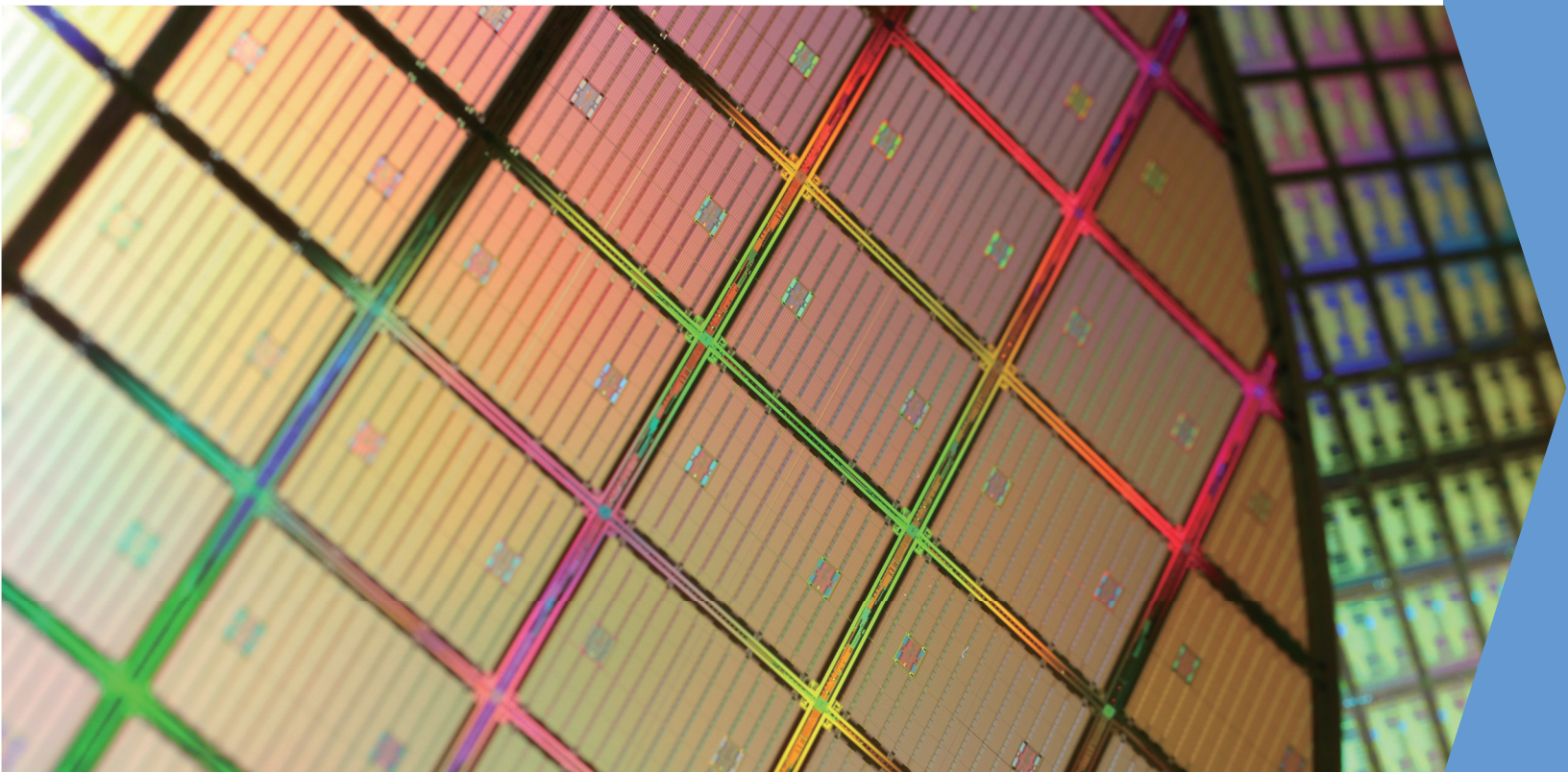


FOUNDRY LEADERSHIP FOR THE SoC GENERATION

WWW.UMC.COM

MATURE TECHNOLOGIES



UMC

MATURE TECHNOLOGIES

Many modern electronics such as analog, mixed mode, RFCMOS, MCU, power management, audio IC, etc., are produced on foundry's mature 6" or 8" technologies. UMC has world class manufacturing capabilities with innovative engineering resources to support these industry segments, with millions of 6" and 8" wafers already shipped. UMC continues to support the evolving market by differentiating our mature technologies for our customers, such as offering UMC's A+ technology, the most innovative 0.11um aluminum platform in the foundry industry .

UMC offers a complete technology portfolio to fulfill the requirements of diversified applications at mature nodes. Customers are able to select a suitable solution among technology nodes ranging from 0.8um to 0.11um, all with good yield, reliable quality and efficient logistic services.

TECH.	LOGIC/MM	MM/RF	HV	eNVM	CIS	PMIC	MEMS
0.11um	√ (Cu/Al)	√	√	√	√	-	-
0.13um	√ (Cu)	√ (Cu)	√	-	√	-	-
0.15um	√	√	√	-	-	-	-
0.153um	√	-	-	-	√	-	-
0.162um	√	-	√	-	-	-	-
0.18um	√	√	√	√	√	√	√
0.22um	√	-	-	-	√	-	-
0.25um	√	-	√	√	√	-	-
0.30um	√	-	√	-	-	√	-
0.35um	√	-	√	√	√	√	-
0.45um	√	-	-	-	-	-	-
0.5um	√	-	√	√	-	√	-
0.6um	√	-	√	-	-	√	--
0.8um	√	-	√	-	-	-	-

Note: Technologies not specified with Cu (copper) are Al-BEOL.

In addition to process technology, UMC provides silicon verified libraries, including standard cells, I/O, memory compilers, etc., to effectively enable customer designs.

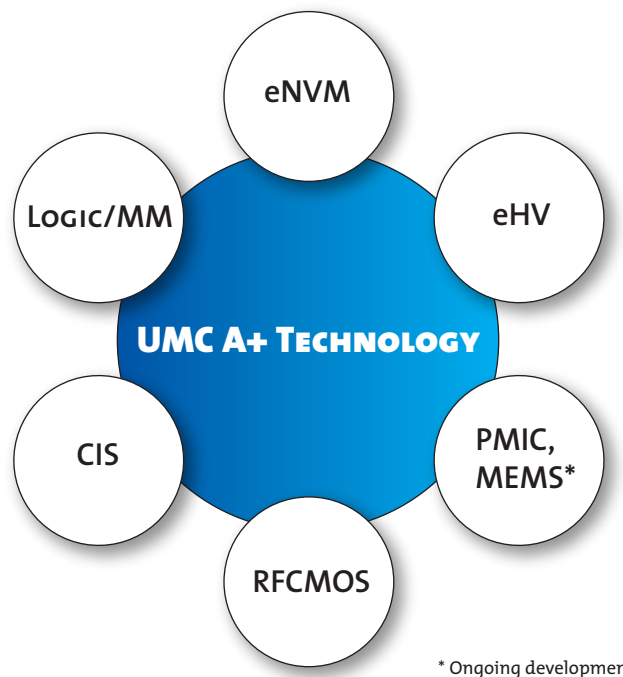
IP CATEGORY	0.11um	0.13um	0.15um	0.18um	0.25um	0.35um
STANDARD CELL	√	√	√	√	√	√
STANDARD I/O	√	√	√	√	√	√
ANALOG I/O	√	√	√	√	√	-
SRAM COMPLIER	√	√	√	√	√	-
REGISTER FILE	√	√	√	√	√	-
ROM	√	√	√	√	√	-
eOTP	√	√	√	√	√	√
eFUSE	√	√	-	√	-	-

UMC A+ TECHNOLOGY

Driven by market requirements, UMC has integrated its experience in pure AI-BEOL capabilities to deliver UMC A+ technology, an all aluminum process for 110nm. This UMC process can help maximize customer benefits by providing a differentiated solution over 130nm and 110nm Cu-BEOL technology, providing a favorable cost and performance balance. UMC A+ technology is highly suitable for applications including flash card controller, MP3, Touch controller, Tcon, DSC controller, Display driver, etc. Many of these applications have been proven in mass production at UMC.

SCOPE OF UMC A+ TECHNOLOGY

UMC's A+ technology options include a wide range of solutions, including logic/MM, RFCMOS, CIS, eHV and unique eNVM offerings such as eFlash and eE²PROM technology at 110nm. In addition, UMC has allocated ample capacity for UMC A+ technology to support customers' mass production needs.



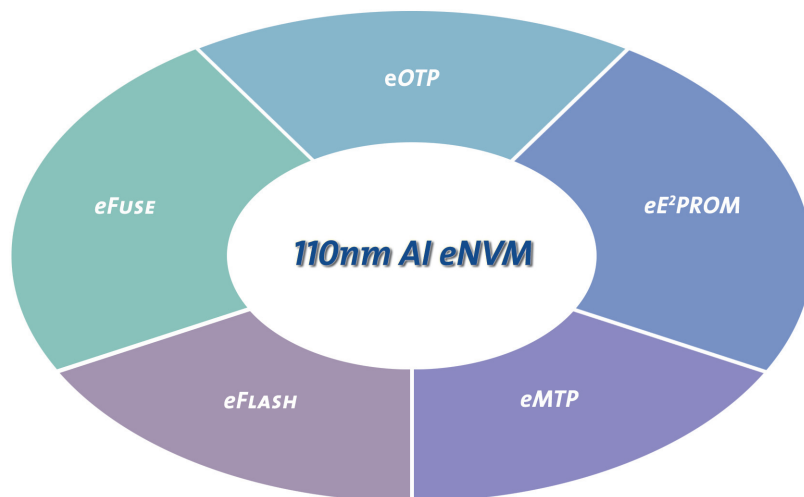
Logic/MM/RFCMOS

UMC provides a comprehensive device family for its 110nm, logic/MM/RF platform. Three types of core devices are offered, including standard performance (SP), low leakage (LL), and high speed (HS). The core devices can be chosen with different combinations to optimize performance and leakage. In addition, various I/O, passive, mixed mode and LDMOS devices are offered as design options as well.

More than 40 IPs have been established for the platform, such as standard cell libraries, memory compilers, functional IPs and Varactor/ Inductor/Transformer libraries, etc.

EMBEDDED NON-VOLATILE MEMORY (eNVM)

eNVM is a key IP for today's system-on-chip designs. In addition to eFuse and eOTP, UMC provides 110nm embedded eFlash with AI-BEOL, a foundry industry first. Moreover, UMC will soon have eE²PROM and eMTP for the same platform. The eNVM solution for UMC's A+ technology family exhibits an excellent cost/performance balance to meet rigid design requirements.



EMBEDDED HIGH VOLTAGE (eHV) & CMOS IMAGE SENSOR (CIS)

UMC also provides leading edge display driver IC solutions with eHV technology. Together with customers, UMC's eHV technology has enabled better resolution with reasonable cost, lower leakage power and higher display quality/performance for the demanding display driver IC market. With these successful solutions, UMC has taken a leading foundry share position for the display driver IC market.

In addition, UMC supports CMOS image sensor technology for camera phone, toys, ambient light sensors, proximity sensors, optical mouse and medical applications. UMC has remarkable in-house micro-lens and color filter capabilities to fulfill one-stop-shop requirements with 110nm AI-BEOL process technology.

SUMMARY

UMC offers the best 6" and 8" foundry solutions to customers with its complete mature technology portfolio and IPs, continuous innovation for state-of-the-art solutions, and differentiated solutions for customers. UMC's A+ technology family (110nm, AI-BEOL) is creating a new foundry standard to enable the new wave of consumer electronic products.