



Long-Term Support World Class Quality

SRAM • DRAM • Flash • Analog & Mixed Signal



Automotive



Communications



Industrial & Medical



A Broad DRAM Solution

DRAM	4Mb	16Mb	32Mb	64Mb	128Mb	256Mb	512Mb	1Gb	2Gb	4Gb	8Gb
3.3V, 5V EDO/FP	✓	✓									
3.3V SDRAM		✓		✓	✓	✓	✓				
2.5V DDR					✓	✓	✓				
1.8V DDR2						✓	✓	✓	✓		
1.35V & 1.5V DDR3/DDR3L								✓ ECC	✓ ECC	✓ ECC	✓
1.2V [2.5V] DDR4										✓	✓

Mobile DRAM	4Mb	16Mb	32Mb	64Mb	128Mb	256Mb	512Mb	1Gb	2Gb	4Gb	8Gb
1.8V/2.5V/3.3V Mobile SDRAM			✓	✓	✓	✓	✓				
1.8V Mobile DDR			✓	✓	✓	✓	✓	✓	✓		
1.2V [1.8V] LPDDR2						✓	✓	✓	✓	✓	✓
1.2V [1.8V] LPDDR3									✓	✓	
1.1V [1.8V] LPDDR4									✓	✓	✓



A Broad Flash Solution

SPI/QSPI (Serial NOR)	256Kb	512Kb	1Mb	2Mb	4Mb	8Mb	16Mb	32Mb	64Mb	128Mb	256Mb	512Mb	1Gb	2Gb
2.5/3V	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓ ECC	✓	✓	✓
1.8V		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓ ECC	✓	✓	✓

1.2V Serial Flash Under Consideration

Serial SLC NAND	512Mb	1Gb	2Gb	4Gb	8Gb
3V/1.8V	✓ 1bit ECC	✓ 4bit ECC	✓ 1bit ECC	✓ 1bit ECC	✓ 1bit ECC

Parallel Flash (NOR)	32Mb	64Mb	128Mb	256Mb	512Mb	1Gb
3V	✓	✓	✓	✓	✓	✓
1.8V	✓	✓	✓	✓	✓	✓

HyperFlash™	128M	256M	512M	1Gb	2Gb	4Gb
2.5/3V	✓	✓	✓	✓	✓	✓
1.8V	✓	✓	✓	✓	✓	✓

SLC NAND	1Gb	2Gb	4Gb	8Gb
3V/1.8V; x8/ x16	✓ 1 or 4bit ECC	✓ 1 or 4bit ECC	✓ 1 or 4bit ECC	✓ 4bit ECC

e.MMC	4GB	8GB	16GB	32GB	64GB	128GB
3V/1.8V	✓	✓	✓	✓	✓	✓

Industrial/Automotive Temperature, Long Term Support, Leaded/Lead Free

STATUS ✓ Production ✓ Roadmap ✓ Under Consideration ECC : Error Correcting Code is available option



MCP solutions combining LPDDR2 DRAM & Serial NOR Flash in one chip package

LPDDR2 DRAM

- Density: 256M, 512M, 1G, 2G
- VDD2 = 1.2V, VDDCA/VDDQ = 1.2V, VDD1 = 1.8V
- Clock Frequency Range : 10MHz to 533MHz
- [Data rate range : 20Mbps to 1066Mbps per I/O]

Serial NOR Flash

- Density: 64M, 128M, 256M
- VDD = 1.8V
- 532 MHz equivalent QPI
- DTR (Dual Transfer Rate) up to 66MHz

Low Power • 168-ball PoP BGA package • Long-Term Support • Space-constrained applications



Complete SRAM/High Speed Memory Solution

Asynchronous SRAMs	64Kb	256Kb	512Kb	1Mb	2Mb	3Mb	4Mb	8Mb	16Mb	32Mb	64Mb
5V	✓	✓	✓	✓			✓	✓			
High Speed Asynchronous		✓	✓	✓ ECC	✓ ECC	✓	✓ ECC	✓ ECC	✓ ECC	✓	
Ultra Low Power		✓		✓	✓		✓	✓	✓		
Pseudo SRAMs/ HyperRAM	8Mb	16Mb	32Mb	64Mb	128Mb	256Mb					
Pseudo SRAMS	✓	✓	✓	✓							
HyperRAM			✓	✓	✓	✓					
High Speed Memory	2Mb	4Mb	9Mb	18Mb	36Mb	72Mb	144Mb	288Mb	576Mb	1Gb	2Gb
Standard/No-Wait[ZBT] Synchronous	✓	✓ ECC	✓	✓	✓	✓					
QUAD [Compatible to QDR-II™]				✓	✓	✓	✓				
QUADP/DDRIP [Compatible to QDR-II+™]				✓	✓	✓	✓				
RLDRAM2								✓	✓	✓	
RLDRAM3									✓	✓	✓
HP DRAM										✓	

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Analog & Mixed Signal Products

General & Automotive Lighting



DC/DC LED Drivers:

Buck, Boost, Buck/Boost, Boost with Current Sink

Linear Drivers:

Single, Dual, Quad, Eight Channel with special functions

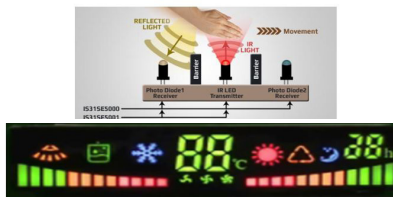
Charge Pump and Boost Converters:

For Backlight & Flash Drivers

Applications:

Automotive, LCD Backlight, Illumination

FxLED & Sensors



RGB Drivers:

3, 6, 9, 10 channels

Multichannel:

16, 18, 28, 36 Channels

Matrix Drivers:

64, 128, 144 dot LED array display

Sensors:

Cap Touch, Proximity & Gesture

Applications:

Consumer, Automotive

Audio



Class AB, Class D, Class G Amplifiers

SPA: Speaker Amplifiers:

<3W to 20W

Analog or Digital (I2S) Inputs

HPA:

Headphone Amplifiers: <100mW

SPA +HPA- Combo

Applications:

Automotive, Consumer, Medical, Industrial