SRAM

	Part No.	Ord. No.	Description
s	621024 LLP-07 (SM621008LLP70)	2922	SRAM 128Kx8 5V DIP32
s	621024 LLP-07 SMD (SM621008LLP70M)	2949	SRAM 128Kx8 5V SOP32
s	62256 LLP-07 (SM620808LLP70)	27325	SRAM 32Kx8 70ns 5V DIP28
s	62256 LLP-07 SMD (SM620808LLP70M)	21110	SRAM 32Kx8 70ns 5V SOP28
s	6264 LLP-07	27324	SRAM 8Kx8 70ns 5V DIP28
s	628512 LP-07 (SM624008LLP70)	3452	SRAM 512Kx8 70ns 5V DIP32
s	628512 LP-07 SMD (SM624008LLP70M)	3331	SRAM 512Kx8 5V SOP32
s	PCF 8570 P	36468	SRAM 256x8 I2C DIP8

SRAM - speed

	Part No.	Ord. No.	Description
o	SM61 1016HSA10J	9668	SRAM 64Kx16 10ns SOJ44
o	SM61 1016VHSA12T	9682	SRAM 64Kx16 12ns 3,3V TSOP44
o	SM61 4016HSA12T	9674	SRAM 256Kx16 12ns TSOP44
o	SM62 4008VLLP70T	48345	SRAM 512Kx8 70ns 3,3V TSOP32-II

SRAM - Zeropower a Timekeeper

	Part No.	Ord. No.	Description
o	DS 1250 Y-70	49467	SRAM Nonvolatile 512Kx8 DIP32
s	M 41 T 81 M6E	52690	Timekeeper SRAM 512bit SO8
o	M 48 T 08 - 150 PC1	29187	CMOS Z-Power/Tim. DIP28

FRAM

FRAM, an acronym for ferroelectric random access memory, is a non-volatile memory that can hold data even after it is powered off. In spite of the name, FRAM is a ferroelectric memory and is not affected by magnetic fields as there is no ferrous material (iron) in the chip. Ferroelectric materials switch polarity in an electric field, but are not affected by magnetic fields.

FRAM's key advantages over EEPROM:

1) Speed. FRAM has fast write times. Beyond all the other operations, the actual write time to an FRAM memory cell is less than 50ns. That is approximately 1000x faster than EEPROM. Additionally, unlike EEPROM where you must have two steps to write data: a write command, followed by a read/verify command; FRAM's write memory function happens in the same process as read memory. There is only one memory access command, one step for either reading or writing. So in effect, all the time associated with an EEPROM write transaction is effectively eliminated in an FRAM-based smart IC.

2) Low Power. Writes to the FRAM cell occur at low voltage and very little current is needed to change the data. With EEPROM high voltages are needed. FRAM uses very low power – 1.5v compared to 10-14v for EEPROM. FRAM's low voltage translates into low power usage and enables more functionality at faster transactions speeds.

3) Data Reliability. Because only a small amount of energy is required, all the necessary power for FRAM is front-loaded at the beginning of data write. This avoids "data-tearing," a partial write of the data which occurs when EEPROM based smart ICs are removed from the RF field power source during a write cycle. Further, FRAM experiences 100 Trillion read/write cycles or greater – far exceeding EEPROM write cycles.

Parallel FRAM
- standard pins out SRAM/EEPROM
- very low consumption in idle mode, less than 20 uA

Serial FRAM 2-Wire
- standard protocol 2-Wire
- very low consumption in idle mode, version for 3V less than 1uA
- very low consumption

Serial FRAM SPI
- standard SPI protocol
- very low consumption in idle mode, version for 3V less than 1uA

	Part No.	Ord. No.	Description
o	FM 1608-120-S	48209	FRAM 8Kx8 5V 120ns SOIC28
o	FM 1808-70-S	48210	FRAM 32Kx8 5V 70ns SOIC28
o	FM 18L08-70-S	48208	FRAM 32Kx8 3-3,65V 70ns SOIC28
s	FM 24 C 04A-G	4324	FRAM 4K 400kHz 2WIRE SO8
s	FM 24 C 16A-G	5356	FRAM 16K 400kHz I2C SO8
s	FM 24 C 16A-P	5496	FRAM 16K 400kHz I2C DIP8
s	FM 24 C 256-G	5358	FRAM 256K 1MHz I2C SO8
s	FM 24 C 64-G	5357	FRAM 64K 1MHz I2C SO8
o	FM 24 CL 16-G	64333	FRAM 16Kb 1MHz 2WIRE 2,7-3,6V SO8
o	FM 24 CL 64-G	43132	FRAM 64K 3,3V I2C SO8
s	FM 25 640-S	5361	FRAM 64K 5MHz SPI SO8
o	FM 25 L 256-G	52824	FRAM 256K 3V 25MHz SPI SO8

Comparsion			
Manufacturer	Part No.	Idle current	Write 1 Byte
RAMTRON	FM24C16	10uA	72us
ATMEL	AT24C16	18uA	10ms
ST	ST24C16	300uA	10ms
MICROCHIP	24AA16	100uA	10ms
XICOR	X24C16	150uA	10ms

Integrated Circuits