

# Analog IP Portfolio

- ADC - Analog/Digital Converters (30)
  - 6/8/10-bit, 20-60 MHz Flash ADC's
  - 6/8/10/12-bit, 1-100 MHz Pipeline ADC's
  - 8/10-bit, 0.01-1 MHz SAR ADC's
- AS - Analog Switches (7)
- BGB - Bandgap Reference and Bias Buffers (30)
- CMP - Comparators (18)
- DAC - Digital/Analog Converters (28)
  - 6/8/10 bit, 0.1-5 MHz Resistive String DAC's
  - 6/8/10/12 bit, 100-400 MHz Current DAC's
  - 10 bit, 100-400 MHz Triple/Quad Video DAC's
- DLL - Delay Lock Loops (8)
  - Analog and Digital DLL's
  - Memory Interface (DDR) DLL's
- LPF - Low Pass Filters (5)
  - 2 to 8 pole GmC Low Pass Filters
  - Switch capacitor Low Pass Filters
- MUX - Analog Multiplexers (8)

- OP - Operational Amplifiers (21)
- OSC - Oscillators (8)
  - Ring Oscillators
  - Oscillators with no external components
- PLL - Phase Lock Loops (70)
  - 10 - 5000 MHz Programmable PLL's
  - Spread Spectrum PLL's
- POR - Power on Reset Circuits (12)
  - Low Power POR's
  - Reset and Brownout detect POR's
- SH - Sample and Hold Circuits (5)
- VR - Voltage Regulators (10)
  - 2 to 350 mA current capability
  - Optional internal bandgap reference
- XTAL -Oscillators (25)
  - 32KHz - 50 MHz Crystal Oscillators
  - 30 - 100 MHz 3rd Overtone Crystal Oscillators

**Total Analog IP - 350**

# Special I/O Portfolio

- AGP - Accelerated Graphics Port (2)
  - AGP1x/2x/4x/8x
  - Calibrated On Die Termination variations
- CML - Current Mode Logic (4)
  - Frequencies up to 5 GHz
- HSTL -High Speed Transceiver Logic (2)
  - Frequencies up to 300 MHz
  - Capacitive loads up to 20 pF
- LVDS -Low Voltage Differential Signaling (15)
  - Frequencies from 50 MHz to 1.244 GHz
- LVPECL - LV Pseudo Emitter-Coupled Logic (4)
  - Frequencies up to 800 MHz
- LVTTTL - Low Voltage Transistor Transistor Logic (30)
  - Frequencies up to 350 MHz

- LVCMOS - Low Voltage CMOS (40)
- PCI - Peripheral Component Interface (3)
  - PCI 2.2 I/O's
  - PCI X I/O's
- SSTL - Stub Series Terminated Logic (16)
  - Class I and II
  - Frequencies up to 1.2GHz
- TMDS - Transition Minimized Diff Signaling (3)
  - 1.65 GHz Frequencies
- USB - Universal Serial Bus (3)
  - USB 1.1
  - USB 2.0

**Total Special I/O - 150**

- CCD - Correlated Double Sampling Signal Processor (1)
- DDAC - Dual Video Current DAC's (2)
- DDR - Dual Data Rate Memory Interface (1)
- DDR2/DDR3 COMBO in 65nm
- DVI - Digital Video Interface (2)
- QDAC - Quad Video Current DAC's (2)
- SERDES - Serializer/Deserializer (4)
- TDAC - Triple Video Current DAC's (8)
- TSC - Touch Screen Controllers (2)

- I/O interfaces
  - Ethernet 10/100/1G MAC
  - PCI2.2 & PCI-X
  - USB1.1 device/host/OTG
  - USB2.0 device
  - PCMCIA
  - PCI Express
- DSP cores
  - AD218x 16-bit / 24-bit DSP, W & W/O Pipeline
- Micro-controllers
  - 8051 & M6805/8/11
  - 8-bit & 16-bit
- Memory controllers
  - SDR/DDR memory
  - Flash/SRAM/ROM
  - DMA

- Storage device controllers
  - Parallel-ATA IDE
  - Serial-ATA
  - Flash media
    - Compact flash (CF)
    - Memory stick (MS)
    - Secure Digital (SD)
    - Multi-media card (MMC)
    - Smart media (SM)
- System interfaces
  - UART / I2C
  - IRDA