

## Microelectronics Product List

Product Description	Part Number	Radiation Technology	Package Style			Screening Level	Specification	Status
			FP	DIP	QFP			
<b>Computer Products</b>								
Single Board Computer, PowerPC® Based	SCS750®	EDAC, RP, RS, RH, TRP	Standard 6u cPCI			FS, FB, E	Data Sheet	Active
Single Board Computer, PowerPC® Based	SCS750P®	EDAC, RP, RS, RH, TRP	Standard 6u cPCI			Prototype	Data Sheet	Active
<b>Digital to Analog Converters</b>								
DAC, 8 Bit, Quad, Multiplying	8408	RP	28			S, B, I, E	Data Sheet	Active
DAC, 12 Bit Serial	8143	RP	16			S, B, I, E	Data Sheet	Active
DAC, 12 Bit, Buffered, Multiplying	7545B	RP	20	20		S, B, I, E	Data Sheet	Active
DAC, 16 Bit, Low Power	7846B	RP	28			S, B, I, E	Data Sheet	Active
DAC, 16 Bit, 30 MSPS	768A	RT	28			S, B, I, E	Data Sheet	Active
<b>Analog to Digital Converters</b>								
ADC 8 Bit, 73.5 kSPS	7820	RP		20		S, B, I, E	Data Sheet	Active
ADC, 12 Bit, 100 kSPS	7672	RP	24	24		S, B, I, E	Data Sheet	Active
ADC, 12 Bit, 41 MSPS	9042	RP	28			K, H, I, E	Data Sheet	Active
ADC, 14 Bit, 10 MSPS	9240LP	LPT, RP			44	K, H, I, E	Data Sheet	Active
ADC, 14 Bit, 83 kSPS, Single Supply	7872A	RP	16	16		S, B, I, E	Data Sheet	Active
ADC, 16 bit, 100 kSPS, Serial	7809ALP	LPT, RP	24			K, H, I, E	Data Sheet	Active
ADC, 16 bit, 200 kSPS	976A	RP	28			S, B, I, E	Data Sheet	Active
<b>Low Voltage 3.3V EEPROM (200ns or 250ns Access Time)</b>								
EEPROM, 1 Mb (128kb x 8) .480" Wide	28LV010	RP, RT	32	32		S, B, I, E	Data Sheet	Active
EEPROM, 1 Mb (128kb x 8) .410" Wide	28LV011	RP, RT	32			S, B, I, E	Data Sheet	Active
EEPROM, 4 Mb (512kb x 8)	79LV0408	RP, RT, XP	40			K, H, I, E	Data Sheet	Active
EEPROM, 8 Mb (256kb x 32)	79LV0832	RP, RT			96	K, H, I, E	Data Sheet	Active
EEPROM, 20 Mb (512kb x 40) Rad-Stak®	79LV2040	RS, RT	100			K, H, I, E	Data Sheet	Active
EEPROM, 20 Mb (512kb x 40) <b>Dual-Cavity</b>	79LV2040B	RP, RT	100			K, H, I, E	Data Sheet	Active
<b>5.0V EEPROM (120ns, 150ns, or 200ns Access Time)</b>								
EEPROM, 1 Mb (128kb x 8) .480" Wide	28C010T	RP, RT	32	32		V, Q, S, B, E, I	SMD / Data Sheet	Active
EEPROM, 1 Mb (128kb x 8) .410" Wide	28C011T	RP, RT	32			V, Q, S, B, E, I	SMD / Data Sheet	Active
EEPROM, 4 Mb (512kb x 8)	79C0408	RP, RT, XP	40			K, H, I, E	Data Sheet	Active
EEPROM, 8 Mb (256kb x 32)	79C0832	RP, RT			96	K, H, I, E	Data Sheet	Active
EEPROM, 20 Mb (512kb x 40) Rad-Stak®	79C2040	RS, RT	100			K, H, I, E	Data Sheet	Active
EEPROM, 20 Mb (512kb x 40) <b>Dual-Cavity</b>	79C2040B	RP, RT	100			K, H, I, E	Data Sheet	Active
<b>Low Voltage 3.3V SRAM (20ns, 25ns or 30ns Access Time) - Re-introduced!</b>								
SRAM, 4 Mb (512kb x 8)	33LV0408	RP	32			S, B, I, E	Data Sheet	Active
SRAM, 16 Mb (512kb x 32)	89LV1632	RP			68	K, H, I, E	Data Sheet	Active
<b>SDRAM (100MHz Operating Frequency)</b>								
SDRAM, 256 Mb (16Mb x 16)	48SD1616	RP	72			K, H, I, E	Data Sheet	Active
SDRAM, 256 Mb (32Mb x 8)	48SD3208	RP	72			K, H, I, E	Data Sheet	Active
SDRAM, 256 Mb (64Mb x 4)	48SD6404	RP	72			K, H, I, E	Data Sheet	Active
SDRAM, 512 Mb (32Mb x 16)	97SD3216	RS			132	K, H, I, E	Data Sheet	Active
SDRAM, 768 Mb (32Mb x 24)	97SD3224	RS			132	K, H, I, E	Data Sheet	Active
SDRAM, 1.0 Gb (32Mb x 32)	72SD3232B	RP	72			K, H, I, E	Data Sheet	Active
SDRAM, 1.0 Gb (64Mb x 16)	97SD6416	RS			132	K, H, I, E	Data Sheet	Active
SDRAM, 1.25 Gb (32 Mb x 40) Rad-Stak®	97SD3240	RS			132	K, H, I, E	Data Sheet	Active
SDRAM, 1.25 Gb (32 Mb x 40) <b>Dual-Cavity</b>	97SD3240B	RP			132	K, H, I, E	Data Sheet	Active
SDRAM, 1.5 Gb (96Mb x 16)	97SD9616	RS			132	K, H, I, E	Data Sheet	Active
SDRAM, 1.5 Gb (64Mb x 24)	97SD6424	RS			132	K, H, I, E	Data Sheet	Active
SDRAM, 1.5 Gb (32Mb x 48) Rad-Stak®	97SD3248	RS			132	K, H, I, E	Data Sheet	Active
SDRAM, 1.5 Gb (32Mb x 48) <b>Dual-Cavity</b>	97SD3248B	RP			132	K, H, I, E	Data Sheet	Active
<b>PROM - OTP EPROM (120ns, 150ns or 200ns Access Time)</b>								
PROM, 512kb (64kb x 8)	27C512T	RP	32	32		S, B, I, E	Data Sheet	Active
PROM, 512kb (32kb x 16)	27C1512T	RP		40		K, H, I, E	Data Sheet	Active
PROM, 1 Mb (128kb x 8)	27C010T	RP	32	32		S, B, I, E	Data Sheet	Active
<b>FLASH</b>								
FLASH, NAND, 32 Mb (4Mb x 8)	29F0408	RP	44			S, B, I, E	Data Sheet	Active
FLASH, NAND, 128 Mb (16Mb x 8)	69F1608	RP	24			K, H, I, E	Data Sheet	Active
FLASH, NAND, 32 Gb x8 - <b>High Density</b>	29F32G08	RP	68			S, B, I, E	Data Sheet	Active
FLASH, NAND, 64, 128, 256 Gb x16- <b>HD</b>	69FxxxG16	RP	68			K, H, I, E	Data Sheet	Active
FLASH, NAND, 12, 24, 96, 192 Gb x24 - <b>HD</b>	69FxxxG24	RP	70			K, H, I, E	Data Sheet	Active
FLASH, NOR, 512 Mb (x 8 or x16) - <b>HD</b>	56F6408	RP	56			S, B, I, E	Data Sheet	Active

Product Description	Part Number	Radiation Technology	Package Style			Screening Level	Specification	Status
			FP	DIP	QFP			
<b>Nuclear Event Detectors</b>								
Designed In Rad-Hard	HSN-500	RH	14	14		H	Data Sheet	Active
Designed In Rad-Hard w/Event Flag	HSN-1000	RH	14	14		H	Data Sheet	Active
Guaranteed Rad-Hard	HSN-2000	RH	14	14		H	Data Sheet	Active
Guaranteed Rad-Hard w/Event Flag	HSN-3000	RH	14	14		H	Data Sheet	Active
<b>Processor and Peripherals</b>								
Microprocessor, 32 Bit, 25 MHz	80386DX	RP			164	S, B, I, E	Data Sheet	CF
Math Co-Processor	80387DX	RP			68	S, B, I, E	Data Sheet	CF
<b>Multiplexers</b>								
8 Channel, Fault Protected	358	RP	16			S, B, I, E	Data Sheet	Active
16 Channel	306	RP	28			S, B, I, E	Data Sheet	Active
16 Channel, Fault Protected	338	RP	16			S, B, I, E	Data Sheet	Active
128 Channel, Fault Protected	81840	RP			256	K, H, I, E	Data Sheet	Active
<b>Amplifier and Comparators</b>								
Comparator, High Speed	903	RP	8			S, B, I, E	Data Sheet	Active
Operational Amplifier, Quad, Rail to Rail	6484	RP	14			S, B, I, E	Data Sheet	Active
Operational Amplifier, Dual	OP220	RP	8			S, B, I, E	Data Sheet	Active
Operational Amplifier, Dual	OP284B	RP	8			S, B, I, E	Data Sheet	Active
Operational Amplifier, Quad	OP400A	RP	16			S, B, I, E	Data Sheet	Active
Operational Amplifier, Quad, Low Voltage	OP490	RP	16			S, B, I, E	Data Sheet	CF
<b>Logic</b>								
Buffer/Driver, 8 Bit	54BCT244	RP	20			S, B, I, E	Data Sheet	CF
Transceiver, 8 Bit	54BCT245	RP	20			S, B, I, E	Data Sheet	CF
Buffer/Driver, 16 Bit with 3 State Outputs	54LVTH162240	RP	48			S, B, I, E	Data Sheet	CF
Buffer/Driver, 16 Bit, 3.3V	54LVTH162244	RP	48			S, B, I, E	Data Sheet	CF
Transceiver, 16 Bit, 3.3V	54LVTH162245	RP	48			S, B, I, E	Data Sheet	CF
Interface, D-Latch, 16 Bit, 3.3V	54LVTH162373	RP	48			S, B, I, E	Data Sheet	CF
Interface, D-Latch, 16 Bit, 3.3V	54LVTH16373	RP	48			S, B, I, E	Data Sheet	CF
Buffer,/Driver, 8 Bit, 3.3V	54LVTH244A	RP	20			S, B, I, E	Data Sheet	CF
Transceiver, 8 Bit, 3.3V	54LVTH245A	RP	20			S, B, I, E	Data Sheet	CF
Programmable Skew Clock Buffer	7B991	RP	32			S, B, I, E	Data Sheet	Active

**Radiation Technology Definitions**

EDAC = Built In Error Detection and Correction  
LPT = Latch Up Protection Technology  
RH = Rad Hard at the Die Level  
RP = RAD-PAK® Package  
RS = Rad-Stak® Package  
RT = Radiation Tolerant to 10, 25 or 40 krad(Si)  
TRP - Triple Redundant Processing  
XP = Xray-Pak® Package

**Package Style Definitions**

FP = Flat Package  
DIP = Dual In Line Package  
QFP = Quad Flat Package  
  
OTP - One-time programmable  
CF - Contact Factory

**Screening Level Definitions**

V = QML V Per MIL-PRF-38535  
Q = QML Q Per MIL-PRF-38535  
S = Maxwell Class S  
K = Maxwell Class K  
B = Maxwell Class B  
H = Maxwell Class H  
I = Maxwell Class I  
E = Maxwell Class E

Maxwell Technologies is certified to QML-V, QML-Q, ISO9001 and AS9100

Please visit <http://www.maxwell.com/microelectronics/products/datasheets.html> for Data Sheets, SMDs and Process Flows

**Optocouplers\***

\*Maxwell is the exclusive sales and support channel for Isocom optocouplers in North America

**Transistor**

Part Number	CTR (IF = 10 mA) MIN (%)	Isolation Breakdown Voltage VDC	Continuous Forward Current MAX (mA)	VF(V)@IF = 10mA		BVceo @ 1 mA MIN (V)	ICEO(Dark) MAX (nA)	VCE Sat MAX (V)
				Min.	Max.			
CS200/201	100	1500	50	0.7	1.8	40	VCE = 20V 100	IF = 10 mA IC = 2.5 mA 0.3
CD500/501	50	1500	50	0.7	1.8	40	VCE = 20V 100	IF = 10 mA IC = 2.5 mA 0.3
CH300/301A	50	500	15	0.7	1.8	30	VCE = 20V 100	IF = 2mA IC = 0.2mA 0.25
4N24	50	1500	50	0.7	1.8	40	VCE = 20V 100	IF = 10 mA IC = 2.5 mA 0.3
4N49	50	1500	50	0.7	1.8	40	VCE = 20V 100	IF = 10 mA IC = 2.5 mA 0.3
CS224	50	1500	50	0.7	1.8	40	VCE = 20V 100	IF = 10 mA IC = 2.5 mA 0.3
CSM200	50	1500	50	0.7	1.8	40	VCE = 20V 100	IF = 10 mA IC = 2.5 mA 0.3
CSM1200	50	1500	50	0.7	1.8	40	VCE = 20V 100	IF = 10 mA IC = 2.5 mA 0.3
CSM1224	50	1500	50	0.7	1.8	40	VCE = 20V 100	IF = 10 mA IC = 2.5 mA 0.3
CSM2224	50	1500	50	0.7	1.8	40	VCE = 20V 100	IF = 10 mA IC = 2.5 mA 0.3
CSM165-2	50	1500	50	0.7	1.8	40	VCE = 15V 100	IF = 10mA IC = 10mA 0.9
CSM165-4	50	1500	50	0.7	1.8	40	VCE = 15V 100	IF = 10mA IC = 10mA 0.9
IS49	50	1500	50	0.7	1.8	40	VCE = 20V 100	IF = 10 mA IC = 2.5 mA 0.3

**High Speed**

Part Number	CTR (IF = 16 mA) MIN (%)	Isolation Breakdown Voltage VDC	Continuous Forward Current MAX (mA)	VF(V)@IF = 20mA	Typical Data Rate	Propagation Delay Times Vcc = 5V, IF = 16 mA	
				MAX		tPHL MAX (µS)	tPLH MAX (µS)
MC800	9	1500	40	1.9		2.0	6.0
CH380	9	500	40	1.9	1Mbit/s	2.0	6.0
CSM1800/01	9	1500	40	1.9	1Mbit/s	2.0	6.0
CD850	9	1500	40	1.9	1Mbit/s	2.0	6.0
CS800/801	15	1500	40	1.9	700Kbit/s	2.0	6.0
4N55	9	1500	40	1.9	400Kbit/s	2.0	6.0
CSM168-2	9	1500	40	1.9	1Mbit/s	2.0	6.0
CSM168-4	9	1500	40	1.9	1Mbit/s	2.0	6.0

**Optocouplers\* (Continued)**

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**High Gain**

Part Number	CTR (IF = 0.5/ 1.6/ 5mA) MIN/TYP (%)	Isolation Breakdown Voltage VDC	Continuous Forward Current MAX (mA)	VF(V)@IF = 1.6mA (4.0mA CSM160/161) MAX	Propagation Delay Times Vcc = 5V, IF = 0.5mA		
					tPHL MAX (µS)	tPLH MAX (µS)	
CH370	300/ 700 200/ 1000 200/ 600	1000	20	1.9	100	60	
CH390	300/ 700 200/ 1000 200/ 600	1000	20	1.9	100	60	
CSM141A	300/ 700 200/ 1000 200/ 600	1500	20	1.9	100	60	
CSM1700	300/ 700 200/ 1000 200/ 600	1500	20	1.9	100	60	
CS700/ CS5700	300/ 700 200/ 1000 200/ 600	1500	20	1.9	100	60	
CD750/ CD5731	300/ 700 200/ 1000 200/ 600	1500	20	1.9	100	60	
6N140A	300/ 700 200/ 1000 200/ 600	1500	20	1.9	100	60	
CSM160/ 161/ 162-2	300/ 700 200/ 1000 200/ 600	1500	20	1.9	100	100	
CSM160/ 161/ 162-4	300/ 700 200/ 1000 200/ 600	1500	20	1.9	100	100	

**High Gain Photon**

Part Number	CTR (IF = 10 mA, 5mA CS600/ CD650) MIN/TYP (%)	Isolation Breakdown Voltage VDC	Continuous Forward Current MAX (mA)	VF(V)@IF = 10mA MAX	Propagation Delay Times Vcc = 5V, IF = 16 mA		
					tPHL MAX (nS)	tPLH MAX (nS)	
CH350	100	1500	40	1.9	200	200	
CSM1600	100	1500	40	1.9	90	90	
MC600	100	1500	40	1.9	90	90	
CD650/ 651	100/ 300	1500	40	1.9	100 @7.5mA	90	
CS600	100/ 300	1500	40	1.9	100 @7.5mA	75 @7.5mA	
6N134	100	1500	40	1.9	90	90	
CSM169-2	100	1500	40	1.9	90	90	
CSM169-4	100	1500	40	1.9	90	90	

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Maxwell Technologies is Certified to QML-V, QML-Q, ISO9001 and AS9100

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