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Networking Products

Ethernet, 10Mbps

Part Number	Description	Package	LED Outputs	Autopolarity
ML2652	10BASE-T Physical Layer with AUI Port	Q44	6	Yes
ML2653	10BASE-T Physical Layer	Q28, H44-10	2	Yes
ML4642	AUI Multiplexer (2-port)	Q28, R28	6	N/A
ML4644	AUI Multiplexer (4-port)	Q68	10	N/A
ML4652	10BASE-T MAU	P24N, Q28	6	No
ML4658	10BASE-T MAU	P24N, Q28	6	Yes
ML4662	10BASE-FL MAU (without Quantizer)	Q28	5	N/A
ML4663	10BASE-FL MAU (includes Quantizer)	Q28	5	N/A
ML4664	10BASE-FL to 10BASE-T Converter	Q28	5	Yes
ML4665	Single-Chip 10BASE-FL MAU	Q20	1	N/A
ML4667	10BASE-FL MAU (without Quantizer)	Q28	5	N/A
ML4668	Single-Chip 10BASE-FL MAU	Q28	5	N/A
ML4669	10BASE-FL to 10BASE-T Converter	Q28	5	Yes

Fast Ethernet 100Mbps/FDDI

Part Number	Description	Applications	Package	Interface	Auto-Neg.	Baseline Wander Correction
ML6671	TP-PMD Transceiver	Fast Ethernet (100BASE-TX) FDDI over Copper (TP-PMD)	H32-7, Q32	Serial	No	No
ML6673	TP-PMD Transceiver with BLW Correction	Fast Ethernet (100BASE-TX) FDDI over Copper (TP-PMD)	H32-7, Q32	Serial	No	Yes
ML6676	3.3 Volt PMD Transceiver	Fast Ethernet (100BASE-TX)	H32-7	Serial	No	No
ML6691	PCS: 4B/5B, Scrambler	Fast Ethernet (100BASE-TX)	Q44	MII/5-Bit	No	No
ML6692	100BASE-TX Single-chip Physical Layer	Fast Ethernet (100BASE-TX)	H64-10, Q52	MII	Yes	Yes
ML6694	100BASE-TX PHY with 5-Bit Interface	Fast Ethernet (100BASE-TX) FDDI over Copper (TP-PMD)	H44-10, Q44	5-Bit	No	Yes
ML6695	100BASE-X Fiber PHY with 5-Bit Interface,	100BASE-FX, 100BASE-SX	Q44	5-Bit	No	N/A
ML6696	100BASE-X Fiber PHY with 5-Bit Interface, Integrated Quantizer	100BASE-FX, 100BASE-SX	Q52	MII	No	N/A
ML6697	100BASE-TX Single Chip PHY	100BASE-TX Repeater	H64-10, Q52	MII	No	Yes
ML6698	100BASE-TX PHY w/5-Bit Interface	Fast Ethernet (100BASE-TX)	H44-10, Q44	5-Bit	No	Yes

ATM

Part Number	Description	Package	Data Rate	Adaptive Equalization	Baseline Wander Correction
ML6672	ATM UP Transceiver	H32-7, Q32	155 Mbps	Yes	No
ML6674	ATM UTP Transceiver with BLW Correction	H32-7, Q32	155 Mbps	Yes	Yes

Token Ring Physical Interface

Part Number	Application	Package	Data Rate	Cable Type	Processor Interface
ML6680	Token Ring Copper-to-Fiber Converter	Q28	4Mbps/16Mbps	UTP/Fiber	N/A
ML6682	Token Ring Physical Layer	H44-10, Q44	4Mbps/16Mbps	UTP/STP	No
ML6686	Intelligent Token Ring Physical Layer	Q32	4Mbps/16Mbps	UTP/STP	Yes

Fiber-Optic Components

Part Number	Description	Package	I/O Types	Bandwidth	Applications
ML4621	Fiber Optic Quantizer (post-amp)	P24N, Q28	TTL, ECL	50MHz	Fiber Optic Ethernet, Fiber Optic Token Ring
ML4622	Fiber Optic Quantizer (post-amp)	P16, S16N	TTL, ECL	40MHz	Fiber Optic Ethernet, Fiber Optic Token Ring
ML4624	Fiber Optic Quantizer (post-amp)	P24N, Q28	TTL, ECL	40MHz	Fiber Optic Ethernet, Fiber Optic Token Ring
ML4632	Fiber Optic LED Driver	P14, S16W	TTL, ECL	20 MHz	Fiber Optic Ethernet, Fiber Optic Token Ring
ML6622	Fiber Optic Quantizer (post-amp)	S16N	ECL	200MHz	FDDI, ATM (SONET), ESCON, Fibre Channel (133 & 266)
ML6633	Fiber Optic LED Driver	S08	ECL	200MHz	FDDI, ATM (SONET), ESCON, Fibre Channel (133 & 266)

Multi-Standard Interface Products

Part Number	Description	Package	Protocols	Data Rate	Drivers	Receivers
ML4670	Multi-Standard Serial Transceiver	Q84	RS-449, RS-232, V35, X.21	10Mbps/115kbps	8	8



Video Products

Part Number	Description	Package	Key Features
ML6401	8 Bit A/D Converter	S24, S16W	20MHz Conversion Rate with Parallel Output, 150MHz Input S & H, 5V Operation
ML6420	Triple Video Filter/Line Driver	S16W	Phase Equalized, Low Pass Video Filter with On-board 75Ω Drivers. Choice of Cut-off Frequencies: 5.5MHz, 1.8MHz, 3.0MHz, 8.0MHz or 12MHz
ML6421	Triple Video Filter/Line Driver	S16W	Sinx/x and Phase Equalized, Low Pass Video Filter with On-board 75Ω Drivers. Choice of Cut-off Frequencies: 5.5MHz, 1.8MHz, 8.0MHz or 3.0MHz
ML6422	Dual Video Low Pass Filter/Line Driver	S16W	Dual 5.5 or 9.3MHz, Phase Equalizer, Low Pass Filter with On-board 75Ω Drivers and Sum Output
ML6423	Dual S-Video Filter/Line Driver	S16W	Dual 5.5MHz or 9.3MHz, Phase Equalizer, Low Pass Filter with On-board 75Ω Drivers, Sum Output and Sinx/x Correction
ML6424	Precision Video Filter	S16W	CCIR 601 Output Filter w/5.5 or 2.75 MHz Cutoff Frequency
ML6425	Precision Video Filter	S16W	CCIR 601 Output Filter w/5.5 or 2.75 MHz Cutoff Frequency and Sinx/x Correction
ML6427	Quad Channel Video Filter/Line Driver with CV, Y/C, RGB, or SCART Outputs	S24	Low Cost Filter and 75Ω Line Driver Combination, Multiple CV, Y/C, RGB Outputs plus TV Modulator Output, Input/Output Channel Muxing, Clamps and Sync Strip/Detect with Sync Out, 6.7MHz 4th-Order Butterworth Filters
ML6428	Dual Channel Video Filter/Line Driver	S08	Low Cost, Y/C and CV Video Filter and 75Ω Line Driver, Drives Multiple CV Outputs plus TV Modulator Simultaneously, Video Clamps and Anti-clipping Circuits, 6.7MHz 4th-Order Butterworth Filters
ML6430	Genlocking Sync Separator/Generator	H32-7	Video Genlock for NTSC, PAL and VGA with 32, 44.1 or 48kHz Audio Clock
ML6431	Genlocking Sync Separator/Generator	H32-7	Video Genlock for NTSC, PAL and VGA with 32, 44.1 or 48kHz Audio Clock
ML6440	Multi-Standard 8-Bit Adaptive Digital Input Comb Filter	H44-14	NTSC & PAL, SmartComb Algorithm, 8-Bit Composite or Separate Y/C Inputs
ML6460	Multi-Standard Video Composite Encoder	S28	Macrovision® copy protection technology, Closed Caption VBI encoder, single clock input: 27MHz CCIR601, 24.54MHz Square Pixel
ML6461	NSSC Video Composite Encoder	S28	Closed Caption VBI encoder, single clock input: 27MHz CCIR601, 24.54MHz Square Pixel, onboard analog reconstruction filters



Battery Management

Boost Regulators

Part Number	Max Output Current at $V_{IN(MIN)}$ (mA)*	Package	Conversion Efficiency	Quiescent Current (μ A)	Input Voltage (V)	Output Voltage (V)	Architecture	Key Features
ML4751	25	S08	85	80	1 to $V_{OUT} - 0.2$	ADJ/3-5.5	PFM	
ML4761	50	S08	90	70	1 to $V_{OUT} - 0.2$	ADJ/2.5-6	PFM	
ML4769	200	S08	85	85	1.8 to $V_{OUT} - 0.2$	ADJ/3-5.5	PFM	1A Peak Input Current, Shutdown, Load Disconnect
ML4770	300	S08	85	85	1.8 to $V_{OUT} - 0.2$	ADJ/3-5.5	PFM	Shutdown, Load Disconnect
ML4771	300	S08	90	50	1.8 to $V_{OUT} - 0.2$	ADJ/3-5.5	PFM	
ML4775	50	S08	90	80	1 to $V_{OUT} - 0.2$	ADJ/2.5-5.5	PFM	Shutdown, Load Disconnect
ML4790	15	S08	85	80	1 to 6	ADJ/2.5-5.5	PFM + LDO	5mV Output Ripple
ML4850	25	S08	85	80	1 to $V_{OUT} - 0.2$	2.2/2.5	PFM	Low Battery Detect
ML4851	45	S08	85	80	1 to $V_{OUT} - 0.2$	3.3/5	PFM	Low Battery Detect
ML4861	75	S08	90	70	1 to $V_{OUT} - 0.2$	3.3/5/6	PFM	Low Battery Detect
ML4865	50	S08	85	55	1.8 to 10	ADJ/12	PFM	Shutdown, Load Disconnect
ML4868	15	S08	90	70	1.5 to $V_{OUT} - 0.2$	3.3/5	PFM	Low Battery Detect
ML4870	300	S08	85	85	1.8 to $V_{OUT} - 0.2$	3.3/5	PFM	Shutdown, Load Disconnect
ML4871	400	S08	90	50	1.8 to $V_{OUT} - 0.2$	3.3/5	PFM	Low Battery Detect
ML4872	400	S08	90	50	1.8 to $V_{OUT} - 0.2$	3.3/5	PFM	Shutdown
ML4875	75	S08	90	80	1 to $V_{OUT} - 0.2$	3/3.3/5	PFM	Shutdown, Load Disconnect
ML4890	35	S08	85	80	1 to 6	3/3.3/5	PFM + LDO	5mV Output Ripple
ML4950	25	S08	85	80	1 to $V_{OUT} - 0.2$	ADJ/2-3	PFM	Low Battery Detect
ML4951	25	S08	85	80	1 to $V_{OUT} - 0.2$	ADJ/3-5.5	PFM	Low Battery Detect
ML4961	50	S08	90	70	1 to $V_{OUT} - 0.2$	ADJ/2.5-6	PFM	Low Battery Detect

*Output current capability will vary with output voltage. Refer to the individual product data sheet for more information.

DC to DC Converters

Part Number	Description	Package	Quiescent Current (μ A)	Input Voltage Range (V)	Output Voltage (V)	Output Current (mA)	Key Features
ML4862	Notebook/Laptop Controller	S32	1600	5.5 to 22	3.3, 5, 12, other	*	
ML4863	Flyback Controller	S08	130	3.15 to 15	3.3, 5, 12, other	*	Synchronous Flyback
ML4866	Buck Regulator	S08	350	3.5 to 6.5	3.3	450	Burst Mode
ML4873	Notebook/Laptop Controller	R28, S28	1400	5.5 to 24	3.3, 5, 12, other	*	Individual Shutdown Controls
ML4880	Notebook/Laptop Controller	S24	400	5.5 to 18	3.3, 5, 12, other	*	High Current 12V Output
ML4894	Buck Controller	S08	150	5.9 to 15	5	*	Shutdown
ML4895	Buck Controller	S08	150	5.9 to 15	ADJ/2.5-4	*	Shutdown
ML4896	Dual Buck Controller	S14	300	5.9 to 15	5, ADJ/2.5-4	*	Individual Shutdown Controls
ML4900	Pentium® Pro V_{CCP} Controller	S16N, T20	450	4.75 to 5.25	ADJ/2.1-3.5	*	4-bit DAC, Fast Transient Response
ML4901	Pentium Pro V_{CCP} Controller	S16N, T20	450	11.4 to 12.6	ADJ/2.1-3.5	*	4-bit DAC, Fast Transient Response
ML4902	Pentium II V_{CCP} Controller	T20	900	4.75 to 5.25	ADJ/1.8-3.5	*	5-bit DAC, Low Cost Current Sense
ML4903	Pentium II V_{CCP} Controller	T20	900	11.4 to 12.6	ADJ/1.8-3.5	*	5-bit DAC, Low Cost Current Sense

*Controller output currents will depend on the size of the external MOSFETs

LCD Display Backlight Controllers

Part Number	Description	Package	Key Features
ML4874	LCD Backlight Lamp Driver	R20, S16N	Controls Miniature Fluorescent Lamps (CCFL), Differential Drive for Increased Light Efficiency, Dimming, 95% Electrical Efficiency
ML4876	LCD Backlight Lamp Driver	R20	Controls Miniature Fluorescent Lamps (CCFL), Differential Drive for Increased Light Efficiency, Dimming, 95% Electrical Efficiency, Positive or Negative Contrast Voltage
ML4877	LCD Backlight Lamp Driver	R20	Controls Miniature Fluorescent Lamps (CCFL), Positive or Negative Dimming Control, Adjustable Lamp Out Detect, 95% Efficiency, Differential Drive for Increased Light Efficiency
ML4878	LCD Backlight Lamp Driver	S14	Controls Miniature Fluorescent Lamps (CCFL), Low Total Bill of Materials Cost, Differential Drive for Increased Light Efficiency



Power Supply

Power Factor Controllers

Part Number	Reference Accuracy	Package	PFC Topology	Power Factor (MHz)	Power Range (W)	Peak Output Voltage	Output Current (A)	Soft Start	OV Protect	UV Lockout	V _{IN} Feed Forward	Brownout Protection
ML4812	±1%	P16, Q20	Peak Current Boost	0.99	>50	$V_{OUT} > V_{IN}$	1	YES	YES	YES	YES	
ML4813	±1%	P16, S16W	Flyback	0.99	<250	$V_{OUT} > \text{or} < V_{IN}$	1	YES	YES	YES	YES	
ML4821	±2%	P18, S20	Avg. Current Boost	0.99	>500	$V_{OUT} > V_{IN}$	1	YES	YES	YES	YES	YES
ML4822	±1%	P14, S16W	Soft Switching Avg. Current Boost	0.99	>1000	$V_{OUT} > V_{IN}$	0.5	YES	YES	YES	YES	YES

High Frequency PWM Controllers

Part Number	Description	Package	Soft Start	UVLO	Mode	f _{MAX} (MHz)	Peak Output Current (A)	Sync Input	Current Limit
ML4817	High Frequency Single-Ended PWM	P16, S16W	YES	YES	Voltage/Current	1	2		YES
ML4823	High Frequency Current Mode PWM	P16, S16W, Q20	YES	YES	Current	1	2		YES
ML4825	High Frequency Current Mode PWM	P16, S16W, Q20	YES	YES	Current	1	2		YES

PFC/PWM Combo Controllers

Part Number	Max PFC/PWM Freq. (kHz)	Package	PWM/PFC Topology	PWM Output Driver	Output Current (A)	Soft Start	Current Limit	Tri-Fault Detect	V _{CC} OVP	Brownout Protection
ML4800	200/200	P16, S16N	Average Current Boost	Single Ended	0.5 (15Ω)	YES	YES	YES		YES
ML4801	200/400	P16, S16N	Average Current Boost	Single Ended	0.5 (15Ω)	YES	YES	YES		YES
ML4802	200/400	P16, S16N	Average Current Boost w/Green Mode	Single Ended	0.5 (15Ω)	YES	YES	YES		YES
ML4803-1	80/80	P08, S08, T08	Peak or Average Current Boost	Single Ended	1 (15Ω)	YES	YES	YES	YES	YES
ML4803-2	80/160	P08, S08, T08	Peak or Average Current Boost	Single Ended	1 (15Ω)	YES	YES	YES	YES	YES
ML4805	250/500	P18, S18	Voltage or Average Current Boost	Single Ended	0.5 (15Ω)	YES	YES	YES		YES
ML4819	500/500	P20, S20	Peak Current Boost	Single Ended	1		YES			
ML4824-1	500/500	P16, S16W	Average Current Boost	Single Ended	0.5	YES	YES			YES
ML4824-2	250/500	P16, S16W	Average Current Boost	Single Ended	0.5	YES	YES			YES
ML4826-1	500/500	P20, S20	Average Current Boost	Single Ended	0.5	YES	YES			YES
ML4826-2	250/500	P20, S20	Average Current Boost	Push Pull	0.5	YES	YES			YES
ML4827-1	500/500	P16, S16N	Average Current Boost, 50% DC PWM	Single Ended	0.5	YES	YES	YES		YES
ML4827-2	500/500	P16, S16N	Average Current Boost, 70% DC PWM	Single Ended	0.5	YES	YES	YES		YES
ML4841	250/500	P16, S16W	Average Current Boost with Variable Feedforward	Single Ended	0.5	YES	YES			YES

Resonant and Phase Modulation Controllers

Part Number	Description	Package	Switch Mode	UVLO	Control Type	Fault Detect	Application	f _{MAX} (MHz)	Peak Output Current (A)
ML4815	ZVS Resonant Converter	P16, Q20	ZVS	YES	Constant Off-Time	YES	DC-DC	2	2
ML4816	Multimode Resonant Converter	P20, S20	Multimode	YES	Constant On/Off	YES	Offline/DC-DC	2.5	1.5
ML4818	Phase Modulation/Soft Switch Controller	P24N, S24	ZVS	YES	Phase Mod.	YES	Offline/DC-DC	0.5	1.5
ML4828	BiCMOS Phase Modulation Controller	P20, S20	ZVS	YES	Phase Mod.	YES	Offline/DC-DC	1	1



Bus Products

PACMan™ Adaptive Clock Generators

Part Number	Description	Package	Clock Outputs	f_{CLK} Range (MHz)	Maximum Round Trip Delay (ns)	Maximum t_{SKEW} at Load (ps)	Clock Source	Feedback Method
ML6500	PACMan™ Clock Generator & Deskewer	Q44	8	10-80	10	500	Internal/External	Parallel (two trace)
ML6508	PACMan™ Clock Deskewer	Q44	8	10-80	10	500	External	Parallel (two trace)
ML6510	PACMan™ Clock Deskewer	Q44	8	10-80 or 130	10	500	External	Series (single trace)

SCSI Terminators

Part Number	Description	Package	Number of Lines	Capacitance (pF)	Key Features
ML6509	Active SCSI Terminator	S16W, T20	9	<5	Low Power Mode for Laptop Internal Termination
ML6518	Hot Insertable Active SCSI Terminator	H32-7, S28	18	<5	Low Insertion Current for Hot Pluggable Applications
ML6599	Hot Insertable Active SCSI Terminator	S16W, T20	9	<5	Low Insertion Current for Hot Pluggable Applications

Universal Active Termination

Part Number	Description	Package	Sink/Source Current (mA)	Key Features
ML6550	Bus Termination Regulator	S08	600	Generates Termination Voltage for MDRAM, SDRAM, SGRAM, LV-TTL, and SSTL
ML6552	Bus Termination Regulator	S08	1000	Generates Termination Voltage for SDRAM, SGRAM, Rambus™, GTL+, SSTL, and SLDRAM

High Speed Buffers/Transceivers

Part Number	Description	Package	t_{PLH} , t_{PHL} (max) (ns)	Input Current (mA)	Ground Bounce (mV)	Key Features
ML65F16241	2.7v to 3.6V 16-Bit Buffer/Line Driver	R48, T48	<2	0.3	<400	LV-TTL compatible control inputs, 300ps skew
ML65F16244	2.7v to 3.6V 16-Bit Buffer/Line Driver	R48, T48	<2	0.3	<400	LV-TTL compatible control inputs, 300ps skew
ML65F16245	2.7v to 3.6V 16-Bit Bidirectional Transceiver	R48, T48	<2	0.3	<400	LV-TTL compatible control inputs, 300ps skew
ML65F16444	2.7v to 3.6V 16-Bit Buffer/Line Driver	R48, T48	<2	0.3	<400	LV-TTL compatible control inputs, 300ps skew
ML6516241	5V/3V 16-Bit Buffer/Line Driver	R48, T48	<2.5	0.3	<400	LV-TTL compatible control inputs, 500ps skew
ML6516244	5V/3V 16-Bit Buffer/Line Driver	R48, T48	<2.5	0.3	<400	LV-TTL compatible control inputs, 500ps skew
ML6516245	5V/3V 16-Bit Bidirectional Transceiver	R48, T48	<2.5	0.3	<400	LV-TTL compatible control inputs, 500ps skew
ML6516444	5V/3V 16-Bit Buffer/Line Driver	R48, T48	<2.5	0.3	<400	LV-TTL compatible control inputs, 500ps skew
ML65244	Dual Quad Buffer	K20, S20	<1.5	3.5	<400	TTL compatible control inputs
ML65L244	Dual Quad Buffer	K20, S20	<2	1.1	<400	TTL compatible control inputs
ML65T244	3.3V Dual Quad Buffer	K20, S20	<2	0.8	<400	TTL compatible control inputs
ML65245	Octal Transceiver	K20, S20	<1.5	3.5	<400	TTL compatible control inputs
ML65L245	Octal Transceiver	K20, S20	<2	1.1	<400	TTL compatible control inputs
ML65T245	3.3V Octal Transceiver	K20, S20	<2	0.8	<400	TTL compatible control inputs
ML65541	Octal Buffer	K20, S20	<1.5	3.5	<400	TTL compatible control inputs
ML65L541	Octal Buffer	K20, S20	<2	1.1	<400	TTL compatible control inputs
ML65T541	3.3V Octal Buffer	K20, S20	<2	0.8	<400	TTL compatible control inputs



Electronic Ballast Controllers

Part Number	Package	Dimming Range	Lamps	Key Features
ML4830	P20, S20	10:1	T8, T5 (linear)	Dimming, Power Factor Correction, PWM and FM Modes
ML4831	P18	10:1	T8 (linear) T5 (linear)	Low Cost, Dimming, Power Factor Correction, FM Mode, Rapid or Instant Start Lamps Controls Wide Input Range (90-305V _{RMS}) PFC, Two-frequency Operation for High Q Lamp Networks Operating High Resistance Lamps
ML4832	P18, S18	10:1	T8 (linear) T5 (linear)	Low Cost, Dimming, Power Factor Correction, FM Mode, Rapid or Instant Start Lamps Controls Wide Input Range (90-305V _{RMS}) PFC, Two-frequency Operation
ML4833	P18, S18	10:1	T8 (linear) T5 (linear) High Impedance Lamps	Low Cost, Dimming/Non-Dimming, PFC Input Control Range (90-250V _{RMS}), Programmable Start, Two-frequency Operation, Non-latching Power Reduction Pin for GFI Applications
ML4835	S20	20:1	T4 (CFL) IEC T8 (linear) T5 (linear) IEC T12 (linear)	Low Cost, Wide Dimming Range, PFC Input Control Range (90-250V _{RMS}), Higher PFC Efficiency from Lower Frequency Operation, Three-frequency Operation for Low Q Lamp Networks Operating Low Resistance Lamps, Power Monitoring and Latch-off Pin for End-of-Life (EOL) Protection



Motor Control

Part Number	Description	Package	Key Features
ML4421	AC Motor Controller	P28N, S28	Provides PWM Sine Wave Drive for Single and Two Phase AC Motors, Slip Control
ML4423	AC Motor Controller	P28N, S28	Provides PWM Sine Wave Drive for Single, Two and Three Phase AC Motors
ML4425	BLDC Sensorless Motor Controller	H32-7, P28N, S28	Onboard Speed Controller, PWM Driver, Voltage Reference, Back-EMF Sensing
ML4426	BLDC Sensorless Motor Controller with Reverse	H32-7, P28N, S28	Onboard Speed Controller, PWM Driver, Voltage Reference, Back-EMF Sensing
ML4428	BLDC Sensorless Motor Controller with Reverse	P28N, S28	Fast Start with Inductance Sensing Circuit, Onboard Speed Control



Telecom

Gain/Attenuators

Part Number	Description	Package	Gain Range (dB)	Resolution (dB Steps)	Noise at Max Gain (dBnc)	Harmonic Distortion (dB)	μController Interface
ML2003	Logarithmic Gain/Attenuator	P18, Q20	-24 to +24	0.1	0	-60	Serial, Hard Wire
ML2004	Logarithmic Gain/Attenuator	P14	-24 to +24	0.1	0	-60	Serial
ML2008	Logarithmic Gain/Attenuator	P18, Q20	-24 to +24	0.1	0	-60	8-bit μP
ML2009	Logarithmic Gain/Attenuator	P18, Q20	-24 to +24	0.1	0	-60	16-bit μP

Equalizers

Part Number	Description	Package	Frequency Response Adjustable	Idle Channel Noise (dBnc)	Harmonic Distortion (dB)	μController Interface
ML2020	Telephone Line Equalizer (60Hz Rejection)	P16, S18	Slope, Height, Bandwidth	8	-48	Serial
ML2021	Telephone Line Equalizer (Group Delay Tuned)	P16, S18	Slope, Height, Bandwidth	8	-48	Serial

Tone Detectors

Part Number	Description	Package	Detect Frequency (kHz)	Dynamic Range Detect (dBm)	Frequency Template (Hz)
ML2031	Tone Detector (Clock Outputs)	P08	1 to 4	-34 to +6	Detect ±10, No Detect ±36
ML2032	Tone Detector (Uncommitted Op Amp)	P08	1 to 4	-34 to +6	Detect ±10, No Detect ±36

Programmable Sine Wave Generators

Part Number	Description	Package	Frequency Range (kHz)	Min Resolution (Hz)	Gain Error (dB)	Harmonic Distortion (dB)	μController Interface
ML2035	Programmable Sine Wave Generator	P08	DC to 25	±0.75	±0.1	-45	Serial
ML2036	Programmable Sine Wave Generator	P14, S16W	DC to 50	±0.75	±0.1	-45	Serial
ML2037	Programmable Sine Wave Generator	P16, S16W	DC to 500	±3.8	±0.15	-45	Serial
ML2038	Programmable Sine Wave Generator	P28, S28	DC to 500	±3.8	±0.15	-45	Parallel
ML2039	Programmable Sine Wave Generator	P08	DC to 500	±3.8	±0.15	-45	Serial

Switched Capacitor Filters

Part Number	Description	Package	Clock to Bandwidth (kHz)	f ₀ Accuracy (%)	f ₀ × Q (MHz)
ML2110	Universal Dual Filter	P20, S20	30	±0.3%	≤2
ML2111	Universal High Frequency Dual Filter	P20, S20	150	±0.4%	≤5



Data Conversion

A/D Converters

Part Number	Description	Package	Resolution (bits)	Non-Linearity (max LSB)	Dynamic Performance, Signal to Noise Ratio	Conversion Time (μ s)	Number of Channels	μ Controller Interface
ML2221B	A/D Converter with S/H	P16	12 + Sign	$\pm 3/4$	8.5kHz, ± 5.0 V Sine, S/N 72dB	44.0	1	Serial, S.P.I.
ML2221C	A/D Converter with S/H	P16	12 + Sign	± 1	8.5kHz, ± 5.0 V Sine, S/N 72dB	44.0	1	Serial, S.P.I.
ML2223B	A/D Converter with S/H	P16, S20	12 + Sign	$\pm 3/4$	8.5kHz, ± 5.0 V Sine, S/N 72dB	44.0	1	Serial, RS-232
ML2223C	A/D Converter with S/H	P16, S20	12 + Sign	± 1	8.5kHz, ± 5.0 V Sine, S/N 72dB	44.0	1	Serial, RS-232
ML2252B	2-Channel 8-Bit A/D	P20, Q20	8	$\pm 1/2$	51kHz, ± 5.0 V Sine, S/N 47dB	6.6	2	μ P Comp, 8 Bit
ML2252C	2-Channel 8-Bit A/D	P20, Q20	8	± 1	51kHz, ± 5.0 V Sine, S/N 47dB	6.6	2	μ P Comp, 8 Bit
ML2258B	8-Channel 8-Bit A/D	P28N, Q28	8	$\pm 1/2$	51kHz, ± 5.0 V Sine, S/N 47dB	6.6	8	μ P Comp, 8 Bit
ML2258C	8-Channel 8-Bit A/D	P28N, Q28	8	± 1	51kHz, ± 5.0 V Sine, S/N 47dB	6.6	8	μ P Comp, 8 Bit
ML2259B	8-Channel 8-Bit A/D	P28W, Q28	8	$\pm 1/2$	51kHz, ± 5.0 V Sine, S/N 47dB	6.6	8	μ P Comp, 8 Bit
ML2259C	8-Channel 8-Bit A/D	P28W, Q28	8	± 1	51kHz, ± 5.0 V Sine, S/N 47dB	6.6	8	μ P Comp, 8 Bit
ML2261B	High Speed A/D with S/H	P20, Q20	8	$\pm 1/2$	500kHz, ± 5.0 V Sine, S/N 48dB	0.67	1	μ P Comp, 8 Bit
ML2261C	High Speed A/D with S/H	P20, Q20	8	± 1	500kHz, ± 5.0 V Sine, S/N 48dB	0.67	1	μ P Comp, 8 Bit
ML2264C	4-Ch. High Speed A/D with S/H	P24N, R24, S24	8	± 1	500kHz, ± 5.0 V Sine, S/N 48dB	0.68	4	μ P Comp, 8 Bit
ML2271C	High Speed 10-Bit A/D with S/H	P20, S20	10	± 1	500kHz, ± 5.0 V Sine, S/N 60dB	1.5	1	μ P Comp, 8 Bit
ML2280B	Sign 8-Bit A/D	P08, S08	8	$\pm 1/2$	51kHz, ± 5.0 V Sine, S/N 47dB	6.6	1	Serial I/O
ML2280C	Sign 8-Bit A/D	P08, S08	8	± 1	51kHz, ± 5.0 V Sine, S/N 47dB	6.6	1	Serial I/O
ML2281B	8-Bit A/D (ADC0833)	P08, S08	8	$\pm 1/2$	51kHz, ± 5.0 V Sine, S/N 47dB	6.6	1	Serial I/O
ML2281C	8-Bit A/D (ADC0833)	P08, S08	8	± 1	51kHz, ± 5.0 V Sine, S/N 47dB	6.6	1	Serial I/O
ML2282B	8-Bit A/D (ADC0832)	P08, S08	8	$\pm 1/2$	51kHz, ± 5.0 V Sine, S/N 47dB	6.6	2	Serial I/O
ML2282C	8-Bit A/D (ADC0832)	P08, S08	8	± 1	51kHz, ± 5.0 V Sine, S/N 47dB	6.6	2	Serial I/O
ML2283B	8-Bit A/D (ADC0833)	P14, S14	8	$\pm 1/2$	51kHz, ± 5.0 V Sine, S/N 47dB	6.6	4	Serial I/O
ML2283C	8-Bit A/D (ADC0833)	P14, S14	8	± 1	51kHz, ± 5.0 V Sine, S/N 47dB	6.6	4	Serial I/O
ML2284B	8-Bit A/D (ADC0834)	P14, S14	8	$\pm 1/2$	51kHz, ± 5.0 V Sine, S/N 47dB	6.6	4	Serial I/O
ML2284C	8-Bit A/D (ADC0834)	P14, S14	8	± 1	51kHz, ± 5.0 V Sine, S/N 47dB	6.6	4	Serial I/O
ML2288B	8-Bit A/D (ADC0838)	P20, Q20	8	$\pm 1/2$	51kHz, ± 5.0 V Sine, S/N 47dB	6.6	8	Serial I/O
ML2288C	8-Bit A/D (ADC0838)	P20, Q20	8	± 1	51kHz, ± 5.0 V Sine, S/N 47dB	6.6	8	Serial I/O
ML2375	(see D/A Converters)							
ML2377	(see D/A Converters)							

D/A Converters

Part Number	Description	Package	Resolution (bits)	Non-Linearity (max LSB)	Settling Time (μ s max)	Power Supplies (V)	Output Ref. (V)	Voltage Range	μ Controller Interface
ML2330	Dual 8 Bit D/A Converter	S08	8	± 1	10	Single 3, 3.3 or 5	Internal	Unipolar	Serial I/O
ML2340C-5	8 Bit D/A Converter	P18, S18	8	$\pm 1/2$	5	Single 5 or 12, Dual ± 5	2.25 or 4.5	Rail-to-Rail	μ P Comp, 8 Bits
ML2340C-12	8 Bit D/A Converter	P18, S18	8	$\pm 1/2$	5	Single 5 or 12, Dual ± 5	2.25 or 4.5	Rail-to-Rail	μ P Comp, 8 Bits
ML2341C-5	8 Bit D/A Converter	P20, Q20, S20	8	$\pm 1/2$	5	Single 5 or 12, Dual ± 5	2.25 or 4.5	Rail-to-Rail	μ P Comp, 8 Bits
ML2341C-12	8 Bit D/A Converter	P20, Q20, S20	8	$\pm 1/2$	5	Single 5 or 12, Dual ± 5	2.25 or 4.5	Rail-to-Rail	μ P Comp, 8 Bits
ML2350C-5	8 Bit D/A Converter	P18, S18	8	$\pm 1/2$	5	Single 5 or 12, Dual ± 5	2.50 or 5.00	Rail-to-Rail	μ P Comp, 8 Bits
ML2350C-12	8 Bit D/A Converter	P18, S18	8	$\pm 1/2$	5	Single 5 or 12, Dual ± 5	2.50 or 5.00	Rail-to-Rail	μ P Comp, 8 Bits
ML2351C-5	8 Bit D/A Converter	P20, Q20, S20	8	$\pm 1/2$	5	Single 5 or 12, Dual ± 5	2.50 or 5.00	Rail-to-Rail	μ P Comp, 8 Bits
ML2351C-12	8 Bit D/A Converter	P20, Q20, S20	8	$\pm 1/2$	5	Single 5 or 12, Dual ± 5	2.50 or 5.00	Rail-to-Rail	μ P Comp, 8 Bits
ML2375	Analog I/O Peripheral, 4 Channel	P28W, Q28, R28	10 Bit A/D and D/A, 8 Bit D/A	± 3 ± 1	2	Single 5	1.7 to 2.6	Bipolar Rail-to-Rail	μ P Comp, 16 Bits
ML2377	Analog I/O Peripheral, 8 Channel	H44-10, Q44	10 Bit A/D and D/A, 8 Bit D/A	± 3 ± 1	2	Single 5	1.7 to 2.6	Bipolar Rail-to-Rail	μ P Comp, 16 Bits



Mass Storage

Signal Processing Filters

Part Number	Description	Package	Key Features
ML6024	16 Mbps Tape Filter/Equalizer	R20	Parasitic Insensitive g_m/C Filter, Programmable f_c 2 - 9MHz, 10dB boost
ML6025	24Mbps HDD Filter/Equalizer	R20	Parasitic Insensitive g_m/C Filter, Programmable f_c 3- 13MHz, 10dB boost
ML6026	36Mbps HDD Filter/Equalizer	R20	Parasitic Insensitive g_m/C Filter, Programmable f_c 4 - 20MHz, 10dB boost
ML6042	Tape Drive Data Channel Processor	S32	Complete Read/Write Data Channel for QIC40/80/3010/3020 Tape Drives

Spindle Motor Control

Part Number	Description	Package	Key Features
ML4411	Sensorless Spindle Motor Control	S28	Linear/PWM, P-Channel Drivers, Power Fail Monitor, Integrated Sensing and Braking
ML4412	Sensorless Spindle Control	S28	200mW, Linear/External PWM, FET Drivers, Integrated Sensing and Braking, MPU Startup
ML4420	Sensorless Spindle Control	S28	200mW, μ P Controller PWM, FET Drivers, Integrated Sensing and Braking, MPU Startup