

National is committed to serving the needs of the global space community by manufacturing the highest quality analog and mixed signal products. National's Hi-Rel organization understands that space customers face new opportunities for creativity, innovation, and cost effectiveness. New platforms designed for longer lifecycles must be brought to market faster and more cost effectively. National's Space product portfolio is certified and qualified to government performance specifications MIL-PRF-38535 and MIL-STD-883 including support for legacy requirements such as the JM38510 flows. Most space parts are also radiation-tested and guaranteed.

Data Conversion

Generic Part Number	Orderable Part Number	SMD or Slash Sheet	Description	Package	Leads
Giga Sample Data Converters (Sampling Rate > 1 GSPS)					
ADC10D1000QML	ADC10D1000CMLS		Space Qualified Low Power, 10-Bit, Dual 1.0 GSPS or Single 2.0 GSPS A/D Converter from the PowerWise® Family	CCGA	376
ADC08D1520QML	ADC08D1520WGFQV	5962F0721401VZC	Low Power, 8-Bit, Dual 1.5 GSPS or Single 3.0 GSPS A/D Converter from the PowerWise® Family	CQGP	128
High Speed Data Converters (Sampling Rate > 1 MSPS)					
ADC14155QML	ADC14155W-MLS		Space Qualified 14-Bit, 155 MSPS, 1.1 GHz Bandwidth Analog to Digital Converter	CQFP	48
Precision Data Converters (Sampling Rate 50 KSPS to 1 MSPS)					
ADC128S102QML	ADC128S102WGRQV	5962R0722701VZA	8-Channel, 12-Bit, 50 KSPS to 1 MSPS, A/D Converter from the PowerWise® Family	Ceramic SOIC	16
DAC121S101QML	DAC121S101WGRQV	5962R0722601VZA	12-Bit Micro Power Digital-to-Analog Converter with Rail-to-Rail Output from the PowerWise® Family	Ceramic SOIC	10

High Performance and High Precision Amplifiers

Generic Part Number	Orderable Part Number	SMD	Description	Package	Leads
LMP2012QML	LMP2012WGLQMLV	5962L0620601VZA	Dual, High Precision, Rail-to-Rail Output Operational Amplifier	Ceramic SOIC	10
LM6172	LM6172AMJFQMLV	5962F9560401VPA	Dual High Speed, Low Power, Low Distortion Voltage Feedback Amplifier	CERDIP	8
	LM6172AMWGFQMLV	5962F9560401VXA	Dual High Speed, Low Power, Low Distortion Voltage Feedback Amplifier	Ceramic SOIC	16
LM7171	LM7171AMJFQMLV	5962F9553601VPA	Very High Speed, High Output Current, Voltage Feedback Amplifier	CERDIP	8
	LM7171AMWFQMLV	5962F9553601VHA	Very High Speed, High Output Current, Voltage Feedback Amplifier	CERPACK	10
	LM7171AMWGFQMLV	5962F9553601VXA	Very High Speed, High Output Current, Voltage Feedback Amplifier	Ceramic SOIC	10
LMH6628	LMH6628J-QMLV	5962-0254501VHA	Dual Wideband, Low Noise, Voltage Feedback Op Amp	CERDIP	8
	LMH6628WGFQMLV	5962F0254501VZA	Dual Wideband, Low Noise, Voltage Feedback Op Amp	Ceramic SOIC	10

High Performance and High Precision Amplifiers (contd)					
Generic Part Number	Orderable Part Number	SMD	Description	Package	Leads
LMH6715	LMH6715JFQM LV	5962F0254701 VPA	Dual Wideband Video Op Amp	CERDIP	8
LMH6702	LMH6702JFQM LV	5962F0254601 VPA	1.7 Ghx, Ultra Low Distortion, Wideband Op Amp	CERDIP	8
	LMH6702J- QMLV	5962- 0254601VPA	1.7 Ghx, Ultra Low Distortion, Wideband Op Amp	CERDIP	8
	LMH6702WGF QMLV	5962F0254601 VZA	1.7 Ghx, Ultra Low Distortion, Wideband Op Amp	Ceramic SOIC	10
	LMH6702WG- QMLV	5962- 0254601VZA	1.7 Ghx, Ultra Low Distortion, Wideband Op Amp	Ceramic SOIC	10
LMH6715	LMH6715JFQM LV	5962F0254701 VPA	Dual Wideband Video Op Amp	CERDIP	8

Interface RS232/485/422/423					
Generic Part Number	Orderable Part Number	SMD or Slash Sheet	Description	Package	Leads
DS16F95	DS16F95WFQM LV	5962F8961501 VHA	EIA/485/EIA-422A Differential Bus Transceiver	Cerpack	10
DS26F31M	DS26F31MWFQ MLV	5962F7802302 VFA	Quad High Speed Differential Line Driver	Cerpack	16
	DS26F31MJFQ MLV	5962F7802302 VEA	Quad High Speed Differential Line Driver	Cerdip	16
DS26F32M	DS26F32MWR QMLV	5962R7802005 VFA	Quad High Speed Differential Line Receiver	Cerpack	16
	DS26F32MJRQ MLV	5962- 7802005VEA	Quad High Speed Differential Line Receiver	Cerdip	16
DS26LS31M	DS26LS31MJ- QMLV	5962- 7802301VEA	Quad High Speed Differential Line Driver	Cerdip	16
DS96F174M	DS96F174MJ- QMLV	5962- 9076502VEA	EIA-485/EIA-422 Quad Differential Driver	Cerdip	16
DS96F175M	DS96F175MJ- QMLV	5962- 9076601VEA	RS-485/RS-422 Quad Differential Receiver	Cerdip	16

Low Voltage Differential Signal (LVDS)					
Generic Part Number	Orderable Part Number	SMD or Slash Sheet	Description	Package	Leads
DS90C031	DS90C031WRQMLV	5962R9583301VFA	LVDS Quad CMOS Differential Line Driver	Cerpack	16
	DS90C031WGRQMLV	5962R9583301VZA	LVDS Quad CMOS Differential Line Driver	Ceramic SOIC	16
	DS90C031W-QMLV	5962-9583301VFA	LVDS Quad CMOS Differential Line Driver	Cerpack	16
DS90C032	DS90C032WLQMLV	5962L9583401VFA	LVDS Quad CMOS Differential Line Receiver	Cerpack	16
	DS90C032WGLQMLV	5962L9583401VZA	LVDS Quad CMOS Differential Line Receiver	Ceramic SOIC	16
	DS90C032W-QMLV	5962-9583401VFA	LVDS Quad CMOS Differential Line Receiver	Cerpack	16
DS90LV031	DS90LV031AWGMLS		3V LVDS Quad CMOS Differential Line Driver	Ceramic SOIC	16
DS90LV032	DS90LV032AWGMLS		3V LVDS Quad CMOS Differential Line Receiver	Ceramic SOIC	16

Voltage Reference and Regulators					
Generic Part Number	Orderable Part Number	SMD or Slash Sheet	Description	Package	Leads
LM137	JL137SXA	JM38510/11803SXA	3-Terminal Adjustable Negative Regulator	TO-39	3
	JL137SYA	JM38510/11804SYA	3-Terminal Adjustable Negative Regulator	TO-3	2
	LM137HPQMLV	5962P9951701VXA	3-Terminal Adjustable Negative Regulator	TO-39	3
LM723	JL723SCA	JM38510/10201SCA	Voltage Regulator	CERDIP	14
	JL723SIA	JM38510/10201SIA	Voltage Regulator	TO-100	10
LM113	LM113-1H-QMLV	5962-9684302VXA	Precision Reference	TO-46	2
	LM113-1WG-QMLV	5962-9684302VZA	Precision Reference	Ceramic SOIC	10
	LM113WG-QMLV	5962-9684301VZA	Precision Reference	Ceramic SOIC	10

Voltage Reference and Regulators (contd)

Generic Part Number	Orderable Part Number	SMD or Slash Sheet	Description	Package	Leads
LM117H	LM117HRLQMLV	5962R9951705VXA	3-Terminal Adjustable Regulator ELDRS free	TO-39	3
	LM117HRQMLV	5962R9951703VXA	3-Terminal Adjustable Regulator	TO-39	3
	LM117WGRLQMLV	5962R9951705VZA	3-Terminal Adjustable Regulator ELDRS free	Ceramic SOIC	16
	LM117WGRQMLV	5962R9951703VZA	3-Terminal Adjustable Regulator	Ceramic SOIC	16
	LM117H-MLS		3-Terminal Adjustable Regulator	TO-39	3
LM117HV	LM117HVHRLQMLV	5962R0722961VXA	3-Terminal High Voltage Adjustable Regulator Low dose rate qualified	TO-39	3
	LM117HVHRQMLV	5962R0722901VXA	3-Terminal High Voltage Adjustable Regulator	TO-39	3
	LM117HVWGRQMLV	5962R0722961VZA	3-Terminal High Voltage Adjustable Regulator Low dose rate qualified	Ceramic SOIC	16
	LM117HVWGRQMLV	5962R0722901VZA	3-Terminal High Voltage Adjustable Regulator	Ceramic SOIC	16
LM117K	LM117KRQMLV	5962R9951704VYA	3-Terminal Adjustable Regulator	TO-3	2
	JL117SYA	JM38510/11704SYA	3-Terminal Adjustable Regulator	TO-3	2
LM136-2.5	LM136AH-2.5RLQV	5962R0050102VXA	Reference Diode ELDRS free	TO-46	3
	LM136AH-2.5RQV	5962R0050101VXA	Reference Diode	TO-46	3
LM185-2.5	LM185BYH-2.5-QV	5962-8759406VXA	Micropower voltage reference diode	TO-46	2
LM185-1.2	LM185H-1.2-QV	5962-8759401VXA	Micropower voltage reference diode	TO-46	2
	LM185WG-1.2-QV	5962-8759401VYA	Micropower voltage reference diode	Ceramic SOIC	10
LM2941	LM2941WG-QMLV	5962-9166701VYA	1A Low Dropout Adjustable Regulator	Ceramic SOIC	16
LP2953	LP2953AMJ-QMLV	5962-9233601VEA	Adjustable Micropower Low-Dropout Voltage Regulator	CERDIP	16
	LP2953AMWG-QMLV	5962-9233601VXA	Adjustable Micropower Low-Dropout Voltage Regulator	Ceramic SOIC	16
LP2951	JL2951S2A	5962-3870501S2A	Series of Adjustable Micropower Voltage Regulators	LCC	20
LM140	JL140-5SYA	JM38510/10706SYA	Series 3-Terminal Positive Regulator	TO-3	2

Standard Operational Amplifiers & Comparators					
Generic Part Number	Orderable Part Number	SMD - Slash Sheet	Description	Package	Leads
LM148	JL148SCA	JM38510/1100 1SCA	Series Quad 741 Op Amp	CERDIP	14
LF198	JL198SGA	JM38510/1250 1SGA	Monolithic Sample and Hold Circuit	TO-99	8
	LF198WG- QMLV	5962- 8760801VZA	Monolithic Sample and Hold Circuit	Ceramic SOIC	10
LF411	LF411MWG- MLS		Low Offset, Low Drift, JFET Input Operational Amplifier	Ceramic SOIC	10
LM101A	LM101AHLQML V	5962L9951501 VGA	Operational Amplifier	TO-99	8
	LM101AJLQML V	5962L9951501 VPA	Operational Amplifier	CERDIP	8
	LM101AWLQML V	5962L9951501 VHA	Operational Amplifier	CERPACK	10
LM111	LM111HLQMLV	5962L0052401 VGA	Voltage Comparator	TO-99	8
	LM111HRLQML V	5962R0052402 VGA	Voltage Comparator ELDRS free	TO-99	8
	LM111J- 8LQMLV	5962L0052401 VPA	Voltage Comparator	CERDIP	8
	LM111J- 8RLQMLV	5962R0052402 VPA	Voltage Comparator ELDRS free	CERDIP	8
	LM111WGLQM LV	5962L0052401 VZA	Voltage Comparator	Ceramic SOIC	10
	LM111WGRLQ MLV	5962R0052402 VZA	Voltage Comparator ELDRS free	Ceramic SOIC	10
	LM111WLQMLV	5962L0052401 VHA	Voltage Comparator	CERPACK	10
	LM111WRLQML V	5962R0052402 VHA	Voltage Comparator ELDRS free	CERPACK	10

Standard Operational Amplifiers & Comparators (contd)

Generic Part Number	Orderable Part Number	SMD - Slash Sheet	Description	Package	Leads
LM119	LM119HRQMLV	5962R9679801 VIA	High Speed Dual Comparator	TO-100	10
	LM119H-QMLV	5962- 9679801VIA	High Speed Dual Comparator	TO-100	10
	LM119J-QMLV	5962- 9679801VCA	High Speed Dual Comparator	CERDIP	14
	LM119JRQMLV	5962R9679801 VCA	High Speed Dual Comparator	CERDIP	14
	LM119WGRQM LV	5962R9679801 VXA	High Speed Dual Comparator	Ceramic SOIC	10
	LM119WRQML V	5962R9679801 VHA	High Speed Dual Comparator	CERPACK	10
	LM119W-QMLV	5962- 9679801VHA	High Speed Dual Comparator	CERPACK	10
LM124	LM124AJRLQM LV	5962R9950402 VCA	Low Power Quad Operational Amplifier ELDRS free	CERDIP	14
	LM124AJRQML V	5962R9950401 VCA	Low Power Quad Operational Amplifier	CERDIP	14
	JL124ASCA	JM38510/1100 6SCA	Low Power Quad Operational Amplifier	CERDIP	14
	JL124SCA	JM38510/1100 5SCA	Low Power Quad Operational Amplifier	CERDIP	14
	LM124AWGRL QMLV	5962R9950402 VZA	Low Power Quad Operational Amplifier ELDRS free	Ceramic SOIC	14
	LM124AWGRQ MLV	5962R9950401 VZA	Low Power Quad Operational Amplifier	Ceramic SOIC	14
	LM124AWRLQ MLV	5962R9950402 VDA	Low Power Quad Operational Amplifier ELDRS free	CERPACK	14
	LM124AWRQM LV	5962R9950401 VDA	Low Power Quad Operational Amplifier	CERPACK	14
JL124ASDA	JM38510/1100 6SDA	Low Power Quad Operational Amplifier	CERPACK	14	

Standard Operational Amplifiers & Comparators (contd)

Generic Part Number	Orderable Part Number	SMD - Slash Sheet	Description	Package	Leads
LM139	LM139AJRLQM LV	5962R9673802 VCA	Low Power, Low OffsetVoltage Quad Comparator ELDRS free	CERDIP	14
	LM139AJRQML V	5962R9673801 VCA	Low Power, Low OffsetVoltage Quad Comparator	CERDIP	14
	LM139AJ-QMLV	5962-9673801VCA	Low Power, Low OffsetVoltage Quad Comparator	CERDIP	14
	JL139SCA	JM38510/1120 1SCA	Low Power, Low OffsetVoltage Quad Comparator	CERDIP	14
	LM139AWGRL QMLV	5962R9673802 VXA	Low Power, Low OffsetVoltage Quad Comparator ELDRS free	Ceramic SOIC	14
	LM139AWGRQ MLV	5962R9673801 VXA	Low Power, Low OffsetVoltage Quad Comparator	Ceramic SOIC	14
	LM139AWRLQ MLV	5962R9673802 VDA	Low Power, Low OffsetVoltage Quad Comparator ELDRS free	CERPACK	14
	LM139AWRQM LV	5962R9673801 VDA	Low Power, Low OffsetVoltage Quad Comparator	CERPACK	14
	LM139AW-QMLV	5962-9673801VDA	Low Power, Low OffsetVoltage Quad Comparator	CERPACK	14
	JL139SDA	JM38510/1120 1SDA	Low Power, Low OffsetVoltage Quad Comparator	CERPACK	14
	LM139AWG-QMLV	5962-9673801VXA	Low Power, Low OffsetVoltage Quad Comparator	Ceramic SOIC	14
LM158	LM158AHLRLQM LV	5962R8771003 VVA	Low Power Dual Operational Amplifier ELDRS free	TO-99	8
	LM158AHRQML V	5962R8771002 VVA	Low Power Dual Operational Amplifier	TO-99	8
	LM158AJRLQM LV	5962R8771003 VPA	Low Power Dual Operational Amplifier ELDRS free	CERDIP	8
	LM158AJRQML V	5962R8771002 VPA	Low Power Dual Operational Amplifier	CERDIP	8
	LM158AJ-QMLV	5962-8771002VPA	Low Power Dual Operational Amplifier	CERDIP	8
	LM158AWGRL QMLV	5962R8771003 VXA	Low Power Dual Operational Amplifier ELDRS free	Ceramic SOIC	10
	LM158AWGRQ MLV	5962R8771002 VXA	Low Power Dual Operational Amplifier	Ceramic SOIC	10

Standard Operational Amplifiers & Comparators (contd)

Generic Part Number	Orderable Part Number	SMD - Slash Sheet	Description	Package	Leads
LM193A	LM193AHLQMLV	5962R9452603VGA	Low Power, Low Offset Voltage, Dual Comparator ELDRS Free	TO-99	8
	LM193AHRQMLV	5962R9452602VGA	Low Power, Low Offset Voltage, Dual Comparator	TO-99	8
	LM193AH-QMLV	5962-9452602VGA	Low Power, Low Offset Voltage, Dual Comparator	TO-99	8
	LM193AJRLQMLV	5962R9452603VPA	Low Power, Low Offset Voltage, Dual Comparator ELDRS Free	CERDIP	8
	LM193AJRQMLV	5962R9452602VPA	Low Power, Low Offset Voltage, Dual Comparator	CERDIP	8
	LM193AJ-QMLV	5962-9452602VPA	Low Power, Low Offset Voltage, Dual Comparator	CERDIP	8
LM108A	LM108AHRQMLV	5962R9863702VGA	Operational Amplifier	TO-99	8
	JL108ASGA	JM38510/10104SGA	Operational Amplifier	TO-99	8
	LM108AWGRQMLV	5962R9863702VZA	Operational Amplifier	Ceramic SOIC	10
	LM108AWRQMLV	5962R9863702VHA	Operational Amplifier	CERPACK	10