

Renesas Intersil Test Flow and Qualification

Intersil space products are, where technically feasible, available in four product grades. These range from fully space-qualified, RadHard hermetic components to RadTolerant plastic versions designed for NewSpace applications. Plastic-packaged devices offer significant cost advantages, particularly at higher order quantities.

RH Hermetic <small>(QML-V ; QML-V Equivalent)</small>	RH Plastic <small>(QML-P ; QML-P Equivalent)</small>	RT Hermetic <small>(NASA EEE-INST-002)</small>	RT Plastic <small>(Rad Tolerant Space Plastic)</small>
<ul style="list-style-type: none"> Highest Reliability Most Robust Packaging Materials Most Rigorous Test & Screen 	<ul style="list-style-type: none"> Very High Reliability Packaging Materials Cost Savings Very Rigorous Test & Screen 	<ul style="list-style-type: none"> Very High Reliability Most Robust Packaging Materials Cost Savings on Test & Screen 	<ul style="list-style-type: none"> Rad Tolerant Space Qualified Packaging Materials Cost Savings Large Savings on Test & Screen
RLAT TID = 75-300 krad(Si)	RLAT TID = 75-100 krad(Si)	TID GNT = 30 krad(Si)	RLAT TID = 30 krad(Si) / 50krad(Si) *
SEE = LET 86 (MeV*cm ² /mg)	SEE = LET 86 (MeV*cm ² /mg)	SEE = LET 86 (MeV*cm ² /mg)	SEE = LET 43 (MeV*cm ² /mg)
100% Burn-In & Reverse Bias Burn-In w Deltas & PDA Calculation w Pre-Mid-Post Burn-In Elec Test	100% Burn-In & Reverse Bias Burn-In w Deltas & PDA Calculation w Pre-Mid-Post Burn-In Elec Test	100% Burn-In 10% PDA Calculation Not Performed	Not Performed Not Offered Not Performed
Tri-Temp Test: -55°C , 25°C, 125°C	Tri-Temp Test: -55°C , 25°C, 125°C	Tri-Temp Test: -55°C , 25°C, 125°C	Room Temp 25°C Test Only
Serialized Units w Data Packet	Serialized Units w Data Packet	Not Offered	TID Data Pack w 30/50krad (Si) RLAT

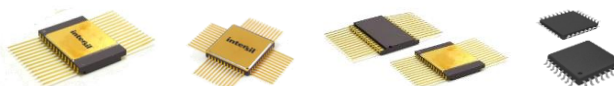
Analog ICs (Excerpt)

XXX - Available
xxx - Samples Available



Current Sense Amplifiers

Part Number	Supply Voltage (V)	Common Mode Voltage (V)	Transconductance (typ) (μA/mV)	Voltage Offset (typ) (μV)	Quality Classes
ISL7x100	2.7 to 40	-0.3 to 40	2	10	RHH RHP RTP



Multiplexers (Excerpt)

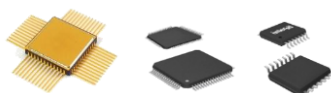
Part Number	Configuration	Supply Voltage (V)	Positive Supply current (max) (mA)	Negative Supply current (max) (mA)	Transition Time (max) (ns)	Quality Classes
ISL71x30	Single 16:1	+3 to +5.5	0.3	-0.3	70	RHH RTP
ISL71831	Single 32:1	+3 to +5.5	0.3	-0.3	70	RHH
ISL7x840	Single 16:1	±10.8 to ±16.5	0.35	-0.35	800	RHH
ISL7x841	Single 32:1	±10.8 to ±16.5	0.4	-0.4	800	RHH



Operational Amplifiers (Excerpt)

Part Number	Channels (#)	Supply Voltage (V)	Bandwidth (MHz)	Slew Rate (V/μs)	I _s per Amp (mA)	Noise V _N (nV/√Hz)	Offset Voltage (max) (μV)	I _{OUT} (mA)	Rail-to-rail Input/Output	PSRR (dB)	CMRR (dB)	AVOL (dB)	Quality Classes
ISL7xx44	4	2.7 to 40	19	60	2.4	11.3	400	10	Yes	123	92	118	RHH RTP
ISL70417	4	4.5 to 40	1.5	0.5	0.44	8	110	43	No	120	120	129	RHH
ISL7x218	2	3 to 30	4	1.2	1.4	5.6	290	10	No	100	97	115	RHH RTP

Ready to use Power Supply

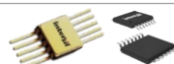


XXX - Available
XXX - Samples Available

Point of Load Regulators (Excerpt)

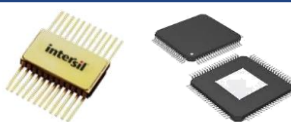
Part Number	Supply Voltage (V)	V _{OUT} (V)	I _{OUT} (max) (A)	Switching Freq (kHz)	Control Type	Characteristics	Quality Classes
ISL73006	3 to 18	0.6 to 16	1	500	Current Mode	Small Form Factor	RHH RHP RTP
ISL73007	3 to 18	0.6 to 16	3	300 to 1000	Current Mode	Small Form Factor	RHH RHP RTP
ISL7x001	3 to 5.5	0.6 to 4.675	6	1000	Current Mode	Red. Control Loop	RHH RHP RTP
ISL7x002	3 to 6.2	0.6 to 4.675	22	500 / 1000	Current Mode	Small Form Factor	RHH RHP RTH RTP

Linear Regulators (Excerpt)



Part Number	Supply Voltage (V)	V _{OUT} (V)	I _{OUT} (max) (A)	VDO @	Application to Power	Characteristics	Quality Classes
ISL75054	2.7 to 30	0.5 to 29.5	2	387	ADC & RF	Ultra Low Noise	RHH RHP RTP
ISL75055	0.75 to 6	0.5 to 5.5	±3	149	DDR / GP-LDO	Ultra Low Noise	RHH RHP RTP

Design Your Power Supply



XXX - Available
XXX - Samples Available

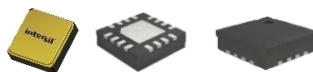
Switching Controllers (Excerpt)

Part Number	Supply Voltage (V)	Switching Freq (kHz)	V _{REF} (V)	Topology	Control Mode	# of Phases	Quality Classes
ISL73846	4.5 to 19	20 to 2000	0.6	Boost, Flyback, Forward, Half & Full Bridge, Push-Pull	Voltage, Peak Current Mode	2	RHH RHP RTP
ISL73847	4.5 to 19	250 to 1500	0.6	Sync. Buck	Peak Current Mode	2	RHH RHP RTP
ISL7884x ISL7104x	9 to 13.2	2 to 1000	5	Buck, Boost, Flyback, Forward	Voltage, Peak Current Mode	1	RHH RTP

MOSFET Drivers (Excerpt)

Part Number	Driver Type	Bus Voltage (max) (V)	# of Drivers	Output Type	I _{OUT} (max) (A)	Input V _{VCC} (V)	Low Side Rise/Fall Time (ns)	High Side Rise/Fall Time (ns)	Quality Classes
ISL74422	Low Side	-	1	Non-Inv	±9	7 to 18	105, 90	-	RHH
IS-2100	Half Bridge	130	1	Sync.	±1.5	12 to 20	40, 40	40, 40	RHH

GaN FET Drivers (Excerpt)



Part Number	Driver Type	Max bus Voltage (V)	# of Drivers	Output Type	Regulated Gate Drive (V)	I _{OUT} (max) (A)	Input V _{VCC} (V)	Low Side Rise/Fall Time (ns)	High Side Rise/Fall Time (ns)	Quality Classes
ISL71441 ISL73041	Half Bridge	12	2	Sync.	4.5 to 5.5	2, 4 (HS) 4, 8 (LS)	4.75 to 13.2	34, 30	25, 25	RHH RHP RTP
ISL7x040	Low Side	-	1	Inv / Noninv	4.5	1.5, 2.8	4.5 to 13.2	90, 60	-	RHH RTP