RADIATION HARD AMPLIFIERS

SINGLE AMPLIFIERS

Part type	RH DICE Inside™	Description	SCD or SMD# reference	Contact	Typical GBW (MHz)	Max Vos @ 25 ºC (µV)	Max Ios @ 25 ºC (nA)	Package style	TID rad(Si)	ELDRS rad(Si)	SEE MeV	Neutron N/cm²	SPICE model	WCCA Note(8)
LF198H		Precision Sample And Hold Amplifier	JM38510/12501SGA	LTC	0.1	3000	-	TO-5	Note(3)					
LM101AH		Operational Amplifier	JM38510/10103SGA	LTC	0.1	2000	10	TO-5						
LM101AJ8		Operational Amplifier	JM38510/10103SPA	LTC	0.1	2000	10	DIP-8						
LM101AW		Operational Amplifier	JM38510/10103SHA	LTC	0.1	2000	10	FP-10						
MSK0041RH	RH101ADICE	General Purpose Class C Op Amp (0.5A peak output)		MSK	0.1	3000	100	TO-8 (12)	100K					
MSK106RH	RH101ADICE	General Purpose Class C Op Amp (2A peak output)	5962R1122801	MSK	0.1	3000	100	MFP-20	100K					
RH101ADICE		Operational Amplifier	05-08-5154 REV D	LTC	0.1	2000	10	DICE	200K					
RH101AH		Operational Amplifier	05-08-5015 REV L	LTC	0.1	2000	10	TO-5	200K					
RH101AJ8		Operational Amplifier	05-08-5015 REV L	LTC	0.1	2000	10	DIP-8	200K					
RH101AW		Operational Amplifier	05-08-5015 REV L	LTC	0.1	2000	10	FP-10	200K			1E12		
RH07DICE		Precision Operational Amplifier		LTC	0.4	100	3	DICE	200K					
RH07H		Precision Operational Amplifier	05-08-5010 REV K	LTC	0.4	75	2.8	TO-5	200K			1E12		
RH07J8		Precision Operational Amplifier	05-08-5010 REV K	LTC	0.4	75	2.8	DIP-8	200K					
RH07W		Precision Operational Amplifier	05-08-5010 REV K	LTC	0.4	75	2.8	FP-10	200K					
LM108AH		General Purpose Operational Amplifier	JM38510/10104SGA	LTC	0.5	500	0.2	TO-5						
LM108AJ		General Purpose Operational Amplifier	JM38510/10104SCA	LTC	0.5	500	0.2	DIP-14						
LM108AJ8		General Purpose Operational Amplifier	JM38510/10104SPA	LTC	0.5	500	0.2	DIP-8						
LM108AW		General Purpose Operational Amplifier	JM38510/10104SHA	LTC	0.5	500	0.2	FP-10				3E11		
RH108ADICE		General Purpose Operational Amplifier	05-08-5111 REV H	LTC	0.5	500	0.2	DICE	80K	50K				
RH108AH		General Purpose Operational Amplifier	05-08-5022 REV N	LTC	0.5	500	0.2	TO-5	80K	50K				
RH108AJ8		General Purpose Operational Amplifier	05-08-5022 REV N	LTC	0.5	500	0.2	DIP-8	80K	50K				
RH108AW		General Purpose Operational Amplifier	05-08-5022 REV N	LTC	0.5	500	0.2	FP-10	80K	50K				
OP07AH		Precision Operational Amplifier	JM38510/13501SGA	LTC	0.6	25	2	TO-5						
OP07AJ		Precision Operational Amplifier	JM38510/13501SPA	LTC	0.6	25	2	DIP-8						
OP07H		Precision Operational Amplifier	JM38510/13502SGA	LTC	0.6	75	2.8	TO-5						
OP07J		Precision Operational Amplifier	JM38510/13502SPA	LTC	0.6	75	2.8	DIP-8						
MSK196RH	RH6105MILDICE	Rail To Rail Current Sense Amplifier		MSK	1.0	300	350	FP-10	100K					
RH6105MILDICE		Rail To Rail Current Sense Amplifier		LTC	1.0	300	350	DICE						
LF155AJ8		JFET Operational Amplifier (Low Supply Current)	JM38510/11404SPA	LTC	2.5	2000	0.01	DIP-8						
LF155H		JFET Operational Amplifier (Low Supply Current)	JM38510/11401SGA	LTC	2.5	3500	0.02	TO-5						
LF155J8		JFET Operational Amplifier (Low Supply Current)	JM38510/11401SPA	LTC	2.5	3500	0.02	DIP-8						
LF156AH		JFET Operational Amplifier (High Speed)	JM38510/11405SGA	LTC	5.0	2000	0.01	TO-5						
LF156AJ8		JFET Operational Amplifier (High Speed)	JM38510/11405SPA	LTC	5.0	2000	0.01	DIP-8						
LF156H		JFET Operational Amplifier (High Speed)	JM38510/11402SPA	LTC	5.0	3500	0.02	TO-5						
LF156J8		JFET Operational Amplifier (High Speed)	JM38510/11402SGA	LTC	5.0	3500	0.02	DIP-8						
RH27AEW		Precision Operational Amplifier , 35µV Offset	05-08-5029 REV V	LTC	5.0	35	35	FP-10	200K	50K				
RH27CDICE		Precision 5MHz Operational Amplifier , 150µV Offset	05-08-5114 REV G	LTC	5.0	150	85	DICE	200K	50K				
RH27CH		Precision Operational Amplifier , 100µV Offset	05-08-5029 REV V	LTC	5.0	100	75	TO-5	200K	50K				
RH27CJ8		Precision Operational Amplifier , 100µV Offset	05-08-5029 REV V	LTC	5.0	100	75	DIP-8	200K	50K				
RH27CW		Precision Operational Amplifier , 100µV Offset	05-08-5029 REV V	LTC	5.0	100	75	FP-10	200K	50K		1E12		
RH27EH		Precision Operational Amplifier , 55µV Offset	05-08-5029 REV V	LTC	5.0	55	35	TO-5	200K	50K				
RH27EJ8		Precision Operational Amplifier , 55µV Offset	05-08-5029 REV V	LTC	5.0	55	35	DIP-8	200K	50K				
RH1056AMH		Precision High Speed JFET Input Operational Amplifier	05-08-5019 REV T	LTC	6.5	300	0.01	TO-5	200K					

RH1056AMW		Precision High Speed JFET Input Operational Amplifier	05-08-5019 REV T	LTC	6.5	300	0.01	FP-10	200K			1E12		
RH1056DICE		Precision High Speed JFET Input Operational Amplifier	05-08-5212 REV C	LTC	6.5	500	0.05	DICE	200K					
LM118H		Precision/ High Speed Operational Amplifier	JM38510/10107SGA	LTC	15.0	4000	50	TO-5						
LM118J8		Precision/ High Speed Operational Amplifier	JM38510/10107SPA	LTC	15.0	4000	50	DIP-8						
RH118H		Precision/ High Speed Operational Amplifier	05-08-5025 REV N	LTC	15.0	4000	50	TO-5	200K					
RH118J8		Precision/ High Speed Operational Amplifier	05-08-5025 REV N	LTC	15.0	4000	50	DIP-8	200K					
RH118W		Precision/ High Speed Operational Amplifier	05-08-5025 REV N	LTC	15.0	4000	50	FP-10	200K	50K				
RH1128DICE		Ultralow Noise Precision Op Amp, Av ≥ 1	05-08-5238 REV C	LTC	20.0	300	150	DICE	200K					
RH1128MW		Ultralow Noise Precision Op Amp, Av ≥ 1	05-08-5218 REV A	LTC	20.0	80	150	FP-10	200K			1E12		
RH37BKKDICE		Precision 45MHz Operational Amplifier		LTC	45.0			DICE	200K					
RH37CH		Precision 45MHz Operational Amplifier	05-08-5030 REV N	LTC	45.0	100	75	TO-5	200K					
RH37CJ8		Precision 45MHz Operational Amplifier	05-08-5030 REV N	LTC	45.0	100	75	DIP-8	200K					
RH37CW		Precision 45MHz Operational Amplifier	05-08-5030 REV N	LTC	45.0	100	75	FP-10	200K					
RH1028MDICE		Ultralow Noise Prec. Op Amp, Av ≥ 2 or Av ≤ -1	05-08-5238 REV C	LTC	75.0	300	150	DICE	200K					
RH1028MW		Ultralow Noise Prec. Op Amp, Av ≥ 2 or Av ≤ -1	05-08-5217 REV A	LTC	75.0	80	150	FP-10	200K			1E12		
RH6200MDICE		165MHz, Rail-To-Rail I/O, 0.95nV/√Hz Low Noise, Op Amp	05-08-5250 REV B	LTC	165.0	2000	4000	DICE	200K					
RH6200MW		165MHz, Rail-To-Rail I/O, 0.95nV/√Hz Low Noise, Op Amp	05-08-5249 REV A	LTC	165.0	2000	4000	FP-10	200K			1E13		

DUAL AMPLIFIERS

Part type	RH DICE Inside™	Description	SCD or SMD# reference	Contact	Typical GBW (MHz)	Max Vos @ 25 ºC (µV)	Max Ios @ 25 ºC (nA)	Package style	TID rad(Si)	ELDRS rad(Si)	SEE MeV	Neutron N/cm^2	SPICE model	WCCA Note(8)
RH1078MH		Dual Micropower Precision Op Amp, 120uV Offset	05-08-5020 REV K	LTC	0.2	120	0.8	TO-5	100K	50K	Note(3)	3E11		
RH1078MJ8		Dual Micropower Precision Op Amp, 120uV Offset	05-08-5020 REV K	LTC	0.2	120	0.8	DIP-8	100K	50K	Note(3)	Planned		
RH1078MW		Dual Micropower Precision Op Amp, 120uV Offset	05-08-5020 REV K	LTC	0.2	120	0.8	FP-10	100K	50K	Note(3)	3E11		
RH1078MDICE		Dual Micropower Precision Op Amp, 120uV Offset	05-08-5209 REV D	LTC	0.2	120	0.8	DICE	100K	50K		Planned		
RH1013MH		Dual Precision Operational Amplifier, 300uV Offset	05-08-5013 REV L	LTC	0.5	300	10	TO-5	200K	Note(1)	Note(3)			
RH1013MJ8		Dual Precision Operational Amplifier, 300uV Offset	05-08-5013 REV L	LTC	0.5	300	10	DIP-8	200K	Note(1)	Note(3)			
RH1013MW		Dual Precision Operational Amplifier, 300uV Offset	05-08-5013 REV L	LTC	0.5	300	10	FP-10	200K	Note(1)	Note(3)			
RH1013DICE		Dual Precision Operational Amplifier, 300uV Offset	05-08-5112 REV F	LTC	0.5	300	10	DICE	200K	Note(1)				
RH1498MW		Dual 6V/µs Rail-To-Rail Input/Output Precision C-Load	05-08-5201 REV F	LTC	10.0	800	70	FP-10	200K	50K	Note(4)	1E12		
RH1498DICE		Dual 6V/µs Rail-To-Rail Input/Output Precision C-Load	05-08-5208 REV F	LTC	10.0	800	70	DICE	200K	50K	Note(4)			
MSK198RHL	RH1498DICE	Dual 6V/µs Rail-To-Rail Input/Output Precision C-Load		MSK	10.0	800	70	LCC-16	TBD					
RH1814DICE		Dual 3mA, 100MHz, 750V/µs Operational Amplifier	05-08-5220 REV D	LTC	100.0	1500	400	DICE	200K	50K				

QUAD AMPLIFIERS

Part type	RH DICE Inside™	Description	SCD or SMD# reference	Contact	Typical GBW (MHz)	Max Vos @ 25 ºC (µV)	Max Ios @ 25 ºC (nA)	Package style	TID rad(Si)	ELDRS rad(Si)	SEE MeV	Neutron N/cm^2	SPICE model	WCCA Note(8)
RH1014MJ		Quad Precision Operational Amplifier	05-08-5014 REV T	LTC	0.5	300	10	DIP-14	200K	50K		Planned		
RH1014MW		Quad Precision Operational Amplifier	05-08-5014 REV T	LTC	0.5	300	10	FP-14	200K	50K		1E12		
MSK496RH	4 x RH6105MILDICE	Quad Rail-To-Rail Current Sense Amplifier		MSK	1.0	300	350	FP-16	100K					
RH1499MW		Quad 6V/µs Rail-To-Rail Input/Output Precision C-Load	05-08-5199 REV E	LTC	10.0	800	70	FP-14	200K	50K		1E12		
RH1814MW		Quad 3mA, 100MHz, 750V/µs Operational Amplifier	05-08-5204 REV E	LTC	100.0	1500	400	FP-14	200K	50K		1E12		

RADIATION HARD COMPARATORS

SINGLE COMPARATORS

Part type	RH DICE Inside™	Description	SCD or SMD# reference	Contact	Typical tPD (nS)	Max Vos @ 25 ºC (mV)	Max Ios @ 25 ºC (nA)	Package style	TID rad(Si)	ELDRS rad(Si)	SEE MeV	Neutron N/cm^2	SPICE model	WCCA Note(8)
RH1016MW		UltraFast 10nS Precision Comparator	05-08-5222 REV 0	LTC	10	3	1000	FP-10	200K	50K		1E13		
RH1016DICE		UltraFast 10nS Precision Comparator	05-08-5242 REV A	LTC	10	3		DICE	200K	50K		Planned		
RH1011H		Precision Voltage Comparator	05-08-5012 REV M	LTC	150	1.5	4	TO-5	200K	50K		1E12		
RH1011J8		Precision Voltage Comparator	05-08-5012 REV M	LTC	150	1.5	4	DIP-8	200K	50K		Planned		
RH1011W		Precision Voltage Comparator	05-08-5012 REV M	LTC	150	1.5	4	FP-10	200K	50K		1E12		
RH1011DICE		Precision Voltage Comparator	05-08-5149 REV F	LTC	150	1.5	4	DICE	200K	50K		Planned		
LM111H8		Voltage Comparator, (Please use RH1011 for new designs	JM38510/10304SGA	LTC	200	3	10	TO-5						
RH111H		Voltage Comparator, (Please use RH1011 for new designs	05-08-5023 REV K	LTC	200	3	10	TO-5	200K					
RH111J8		Voltage Comparator, (Please use RH1011 for new designs	05-08-5023 REV K	LTC	200	3	10	DIP-8	200K					
RH111W		Voltage Comparator, (Please use RH1011 for new designs	05-08-5023 REV K	LTC	200	3	10	FP-10	200K					

DUAL COMPARATORS

Part type	RH DICE Inside™	Description	SCD or SMD# reference	Contact	Typical tPD (nS)	Max Vos @ 25 ºC (mV)	Max Ios @ 25 ºC (nA)	Package style	TID rad(Si)	ELDRS rad(Si)	SEE MeV	Neutron N/cm^2	SPICE model	WCCA Note(8)
LT119AH		Dual High Performance Comparator	JM38510/10307SIA	LTC	80	0.5	40	TO-5						
LT119AJ		Dual High Performance Comparator	JM38510/10307SCA	LTC	80	0.5	40	DIP-8						
LT119AW		Dual High Performance Comparator	JM38510/10307SHA	LTC	80	0.5	40	FP-10						
LM119H		Dual High Performance Comparator	JM38510/10306SIA	LTC	80	75	75	TO-5						
LM119J		Dual High Performance Comparator	JM38510/10306SCA	LTC	80	75	75	DIP-8						
LM119W		Dual High Performance Comparator	JM38510/10306SHA	LTC	80	75	75	FP-10						
RH119H		Dual High Performance Comparator	05-08-5026 REV U	LTC	80	4	75	TO-5	200K	50K	Note(3)	Planned		
RH119J8		Dual High Performance Comparator	05-08-5026 REV U	LTC	80	4	75	DIP-8	200K	50K	Note(3)	Planned		
RH119W		Dual High Performance Comparator	05-08-5026 REV U	LTC	80	4	75	FP-10	200K	50K	Note(3)	1E12		
RH119DICE		Dual High Performance Comparator	05-08-5145 REV H	LTC	80	4	75	DICE	200K	50K		Planned		

RADIATION HARD VOLTAGE REFERENCES

1.2V REFERENCES

Part type	RH DICE Inside™	Description	SCD or SMD# reference	Contact	Max PPM/ºC @ -55/125ºC	Initial Accuracy %	Typical PPM/√kHrs	Package style	TID rad(Si)	ELDRS rad(Si)	SEE MeV	Neutron N/cm^2	SPICE model	WCCA Note(8)
RH1034MH-1.2		Micropower Dual Reference, 1.2V and 7V Aux	05-08-5229 REV C	LTC	60	1.2	20	TO-46	200K	50K				
RH1034MW-1.2		Micropower Dual Reference, 1.2V and 7V Aux	05-08-5229 REV C	LTC	60	1.2	20	FP-10	200K	50K		1E12		

2.5V REFERENCES

Part type	RH DICE Inside™	Description	SCD or SMD# reference	Contact	Max PPM/ºC @ -55/125ºC	Initial Accuracy %	Typical PPM/kHr	Package style	TID rad(Si)	ELDRS rad(Si)	SEE MeV	Neutron N/cm^2	SPICE model	WCCA Note(8)
LT1009MH		Precision 2.5V Reference	JM38510/14802SXA	LTC	35	0.2	20	TO-46						
RH1009MH		Precision 2.5V Reference - SMD Version	5962R8961002VXC	LTC	35	0.2	20	TO-46	200K	50K	Note(3)	Planned	Model	
RH1009MH		Precision 2.5V Reference - SCD Version	05-08-5011 REV N	LTC	35	0.2	20	TO-46	200K	50K	Note(3)	Planned	Model	
RH1009MW		Precision 2.5V Reference - SMD Version	5962R8961002VHA	LTC	35	0.2	20	FP-10	200K	50K	Note(3)	1E12	Model	
RH1009MW		Precision 2.5V Reference - SCD Version	05-08-5011 REV N	LTC	35	0.2	20	FP-10	200K	50K	Note(3)	Planned	Model	
RH1009MDICE		Precision 2.5V Reference	05-08-5115 REV H	LTC	-	0.2	-	DICE	200K	50K		Planned	Model	

MSK109RH	RH1009MDICE	Precision 2.5V Reference		MSK	-	0.2	20	FP-10	100K						
MSK110RH	2 x RH1009MDICE	Dual Precision 2.5V Reference		MSK	-	0.2	20	FP-10	100K						

5V REFERENCES

Part type	RH DICE Inside™	Description	SCD or SMD# reference	Contact	Max PPM/ºC @ -55/125ºC	Initial Accuracy %	Typical PPM/kHr	Package style	TID rad(Si)	ELDRS rad(Si)	SEE MeV	Neutron N/cm^2	SPICE model	WCCA Note(8)
LT1021BMH-5		Precision 5V Reference	JM38510/12407SGA	LTC	5	1.0	-	TO-5						
RH1021BMH-5		Precision 5V Reference	05-08-5016 REV P	LTC	5	1.0	15	TO-5	200K	50K		Planned	Model	
RH1021CMH-5		Precision 5V Reference	05-08-5016 REV P	LTC	20	0.05	15	TO-5	200K	50K		Planned	Model	
RH1021CMW-5		Precision 5V Reference	05-08-5016 REV P	LTC	20	0.05	15	FP-10	200K	50K		1E12	Model	
RH1021DMH-5		Precision 5V Reference	05-08-5016 REV P	LTC	20	1.0	15	TO-5	200K	50K		Planned	Model	
RH1021C-5DICE		Precision 5V Reference	05-08-5117 REV J	LTC	-	0.05	-	DICE	200K	50K		Planned	Model	

6.9V REFERENCE

Part type	RH DICE Inside™	Description	SCD or SMD# reference	Contact	Max PPM/ºC @ -55/125ºC	Initial Accuracy %	Typical PPM/kHr	Package style	TID rad(Si)	ELDRS rad(Si)	SEE MeV	Neutron N/cm^2	SPICE model	WCCA Note(8)
RH129AH		Precision 6.9V Reference	05-08-5027 REV H	LTC	10	2.1	20	TO-46	200K			1E12		

7V REFERENCES

Part type	RH DICE Inside™	Description	SCD or SMD# reference	Contact	Max PPM/ºC @ -55/125ºC	Initial Accuracy %	Typical PPM/kHr	Package style	TID rad(Si)	ELDRS rad(Si)	SEE MeV	Neutron N/cm^2	SPICE model	WCCA Note(8)
LT1021BMH-7		Precision 7V Reference	JM38510/12408SGA	LTC	5	0.7	-	TO-5						
RH1021BMH-7		Precision 7V Reference	05-08-5017 REV H	LTC	5	0.7	7	TO-5	200K				Model	
RH1021DMH-7		Precision 7V Reference	05-08-5017 REV H	LTC	20	0.7	7	TO-5	200K				Model	

10V REFERENCES

Part type	RH DICE Inside™	Description	SCD or SMD# reference	Contact	Max PPM/ºC @ -55/125ºC	Initial Accuracy %	Typical PPM/kHr	Package style	TID rad(Si)	ELDRS rad(Si)	SEE MeV	Neutron N/cm^2	SPICE model	WCCA Note(8)
LT1021BMH-10		Precision 10V Reference	JM38510/12409SGA	LTC	5	0.5	-	TO-5						
RH1021BMH-10		Precision 10V Reference	05-08-5018 REV P	LTC	5	0.5	15	TO-5	200K				Model	
RH1021CMH-10		Precision 10V Reference	05-08-5018 REV P	LTC	20	0.05	15	TO-5	200K				Model	
RH1021CMW-10		Precision 10V Reference	05-08-5018 REV P	LTC	20	0.05	15	FP-10	200K				Model	
RH1021DM-10		Precision 10V Reference	05-08-5018 REV P	LTC	20	0.5	15	TO-5	200K				Model	
RH1021C-10DICE		Precision 10V Reference	05-08-5118 REV I	LTC	-	0.05	-	DICE	200K				Model	

RADIATION HARD VOLTAGE REGULATOR DRIVER

Part type	RH DICE Inside™	Description	SCD or SMD# reference	Contact	Reference Voltage	V_{OUT}	$V_{DROPOUT}$ Capability	Package style	TID rad(Si)	ELDRS rad(Si)	SEE MeV	Neutron N/cm^2	SPICE model	WCCA Note(8)
RH1573KDICE		LDO Regulator Driver, Up To 5A With External PNP	05-08-5223 REV B	LTC	1.265	Adjustable	<0.2V	Dice	200K	50K		1E12 in MJ8 pkg	Note(6)	

RADIATION HARD POSITIVE LINEAR REGULATORS

Part type	RH DICE Inside™	Description	SCD or SMD# reference	Contact	Pos. Reg. I_{OUT} (A)	V_{OUT}	$V_{DROPOUT}$ @ 25ºC	Package style	TID rad(Si)	ELDRS rad(Si)	SEE MeV	Neutron N/cm^2	SPICE model	WCCA Note(8)
LM117H		0.5A Positive Adjustable Regulator	JM38510/11703SXA	LTC	0.5	Adjustable	1.8V @ 0.5A	TO-39						
RH1086MH		0.5A Positive Adjustable Voltage LDO Regulator	05-08-5021 REV M	LTC	0.5	Adjustable	1.25V @ 0.5A	TO-39	200K		Note(3)	Planned	Model	WCCA
RH1086BHKDICE		0.5A Positive Adjustable Voltage LDO Regulator	05-08-5134 REV J	LTC	0.5	Adjustable	1.25V @ 0.5A	DICE	200K		Note(3)	Planned	Model	WCCA
RH117H		0.5A Positive Adjustable Regulator	05-08-5024 REV K	LTC	0.5	Adjustable	1.8V @ 0.5A	TO-39	100K	50K		Planned	Model	
RH117HDICE		0.5A Positive Adjustable Regulator	05-08-5116 REV G	LTC	0.5	Adjustable	1.8V @ 0.5A	DICE	100K	50K		Planned	Model	
MSK5978RH	RH3080MKDICE	0.7A Adjustable, LDO, Split Bias		MSK	0.7	Adjustable To Zero	0.5V @ 0.7A	MFP-10	300K	60K			Model	
RH3080MKDICE		0.9A Adjustable, Single Resistor LDO Regulator	05-08-5246 REV B	LTC	0.9	Adjustable To Zero	350mV @ 0.9A	DICE	200K	60K		Planned	Model	WCCA
MSK5977RH	RH3080MKDICE	0.9A Adjustable, LDO, Split Bias		MSK	0.9	Adjustable To Zero	0.32V @ 0.9A	TO-257	300K	60K				
MSK5976RH	RH3080MKDICE	1A Adjustable, LDO, Isolated Tab		MSK	1.0	Adjustable To Zero	1.4V @ 1A	TO-257		60K				
VRG8662	RH1086BKKDICE	1A Positive Adjustable Regulator	5962R0920701	AEROFLEX	1.0	Adjustable	1.25V @ 1A	SMD-0.5	100K	50K				
VRG8666	RH3080MKDICE	1A Adjustable, LDO, Split Bias	5962-1120502	AEROFLEX	1.0	Adjustable To Zero	300mV@1A	SMD-5 Pad	100K					
LM117K		1.5A Positive Adjustable Regulator	JM38510/11704SYA	LTC	1.5	Adjustable	2.2V @ 1.5A	TO3						
RH1086MK		1.5A Positive Adjustable Voltage LDO Regulator	05-08-5021 REV M	LTC	1.5	Adjustable	1.5V @ 1.5A	TO3	200K	50K	Note(3)	1E12	Model	WCCA
RH1086BKKDICE		1.5A Positive Adjustable Voltage LDO Regulator	05-08-5134 REV J	LTC	1.5	Adjustable	1.5V @ 1.5A	DICE	200K	50K	Note(3)	Planned	Model	WCCA
RH117K		1.5A Positive Adjustable Regulator	05-08-5024 REV K	LTC	1.5	Adjustable	2.2V @ 1.5A	TO3	100K	50K		1E12	Model	
RH117KDICE		1.5A Positive Adjustable Regulator	05-08-5116 REV G	LTC	1.5	Adjustable	2.2V @ 1.5A	DICE	100K	50K		Planned	Model	
MSK5970RH	RH1086BKKDICE	1.5A Positive Adjustable Voltage LDO Regulator	5962R0921101	MSK	1.5	Adjustable	1.3V @ 1.5A	TO-257	100K					
MSK5970RHL	RH1086BKKDICE	1.5A Positive Adjustable Voltage LDO Regulator	5962R0921101	MSK	1.5	Adjustable	1.3V @ 1.5A	SMD-1.0	100K					
MSK5972RH	RH117KDICE	1.5A Positive Adjustable Voltage LDO Regulator	5962R0921301	MSK	1.5	Adjustable	2.2V @ 1.5A	TO-257	100K					WCCA
MSK5972RHL	RH117KDICE	1.5A Positive Adjustable Voltage LDO Regulator	5962R0921301	MSK	1.5	Adjustable	2.2V @ 1.5A	SMD-1.0	100K					WCCA
VRG8660	RH117KDICE	1.5A Positive Adjustable Regulator	5962R0920601	AEROFLEX	1.5	Adjustable	2.2V @ 1.5A	SMD-0.5	100K	50K				
VRG8684	RH1084MK	3A Positive Adjustable Regulator	5962-0924501	AEROFLEX	3.0	Adjustable	1.3V @ 3.0A	SMD-0.5	100K					
RH1085MK		3A Positive Adjustable Voltage LDO regulator	05-08-5105 REV K	LTC	3.0	Adjustable	1.5V @ 3A	TO-3	200K	50K		1E12	Model	WCCA
RH1085MKDICE		3A Positive Adjustable Voltage LDO regulator	05-08-5140 REV H	LTC	3.0	Adjustable	1.5V @ 3A	DICE	200K	50K		Planned	Model	WCCA
MSK5823-1.8RH	RH1573KDICE	3A Ultralow Dropout Fixed Voltage Regulator	5962F0824601	MSK	3.0	1.8V	2.9 Min Vin	MFP-8	300K	100K		1E12		
MSK5823-2.5RH	RH1573KDICE	3A Ultralow Dropout Fixed Voltage Regulator	5962F0824602	MSK	3.0	2.5V	2.9 Min Vin	MFP-8	300K	100K		1E12		
MSK5824RH	RH1573KDICE	3A Ultralow Dropout Fixed Voltage Regulator	5962F0920801	MSK	3.0	Adjustable	0.3V @ 3A	MFP-8	300K	100K		1E12		
MSK5825-2.5RH	RH1573KDICE	3A Ultralow Dropout Fixed Voltage Regulator	5962F0920901	MSK	3.0	2.5V	0.3V @ 3A	MFP-8	300K	100K		1E12		
MSK5825-3.3RH	RH1573KDICE	3A Ultralow Dropout Fixed Voltage Regulator	5962F0920902	MSK	3.0	3.3V	0.3V @ 3A	MFP-8	300K	100K		1E12		
MSK5826RH	RH1573KDICE	3A Ultralow Dropout Fixed Voltage Regulator	5962F0921001	MSK	3.0	Adjustable	0.3V @ 3A	MFP-8	300K	100K		1E12		
MSK5971RH	RH1085MKDICE	3A Positive Adjustable Voltage LDO Regulator	5962R0921201	MSK	3.0	Adjustable	1.3V @ 3A	TO-257	100K					
MSK5971RHL	RH1085MKDICE	3A Positive Adjustable Voltage LDO Regulator	5962R0921201	MSK	3.0	Adjustable	1.3V @ 3A	SMD-1.0	100K					
MSK5800RH	RH1573KDICE	4A Ultralow Dropout Adjustable Regulator	5962F0921601	MSK	4.0	Adjustable	0.22V @ 1A	MFP-12	300K	100K			Model	
LM138K		5A Positive Adjustable Voltage Regulator	JM38510/11706SYA	LTC	5.0	Adjustable	2.5V @ 5A	TO-3						
RH1084MKDICE		5A Positive Adjustable Voltage LDO Regulator	05-08-5227 REV B	LTC	5.0	Adjustable	1.5V @ 5A	DICE	200K			1E12	Model	WCCA
MSK5810RH	RH1573KDICE	5A Ultralow Dropout Adjustable Regulator, Split Bias	5962F0921602	MSK	5.0	Adjustable	0.11V @ 1A	MFP-20	300K	100K		1E12	Model	
MSK5820-1.5RH	RH1573KDICE	5A Ultralow Dropout Fixed Voltage Regulator	5962F0921604	MSK	5.0	1.5V	2.9 Min Vin	TOPTAB-5	300K	100K		1E12	Model	WCCA
MSK5820-1.8RH	RH1573KDICE	5A Ultralow Dropout Fixed Voltage Regulator	5962F0921610	MSK	5.0	1.8V	2.9 Min Vin	TOPTAB-5	300K	100K		1E12	Model	
MSK5820-1.9RH	RH1573KDICE	5A Ultralow Dropout Fixed Voltage Regulator	5962F0921605	MSK	5.0	1.9V	2.9 Min Vin	TOPTAB-5	300K	100K		1E12	Model	
MSK5820-2.5RH	RH1573KDICE	5A Ultralow Dropout Fixed Voltage Regulator	5962F0921606	MSK	5.0	2.5V	2.9 Min Vin	TOPTAB-5	300K	100K		1E12	Model	
MSK5820-2.8RH	RH1573KDICE	5A Ultralow Dropout Fixed Voltage Regulator	5962F0921607	MSK	5.0	2.8V	0.22V @ 2.5A	TOPTAB-5	300K	100K		1E12	Model	
MSK5820-3.3RH	RH1573KDICE	5A Ultralow Dropout Fixed Voltage Regulator	5962F0921608	MSK	5.0	3.3V	0.22V @ 2.5A	TOPTAB-5	300K	100K		1E12	Model	
MSK5820-5.0RH	RH1573KDICE	5A Ultralow Dropout Fixed Voltage Regulator	5962F0921609	MSK	5.0	5.0V	0.22V @ 2.5A	TOPTAB-5	300K	100K		1E12	Model	
MSK5821RH	RH1573KDICE	5A Ultralow Dropout Fixed Voltage Regulator	5962F0921603	MSK	5.0	Adjustable	0.22V @ 2.5A	TOPTAB-5	300K	100K		1E12		

MSK5822-1.5RH	RH1573KDICE	5A Ultralow Dropout Fixed Voltage Regulator	5962F0923601	MSK	5.0	1.5V	0.35V @ 2.5A	TOPTAB-5	300K	100K		1E12		
MSK5822-1.9RH	RH1573KDICE	5A Ultralow Dropout Fixed Voltage Regulator	5962F0923602	MSK	5.0	1.9V	0.35V @ 2.5A	TOPTAB-5	300K	100K		1E12		
MSK5822-2.5RH	RH1573KDICE	5A Ultralow Dropout Fixed Voltage Regulator	5962F0923603	MSK	5.0	2.5V	0.35V @ 2.5A	TOPTAB-5	300K	100K		1E12		
MSK5822-2.8RH	RH1573KDICE	5A Ultralow Dropout Fixed Voltage Regulator	5962F0923604	MSK	5.0	2.8V	0.35V @ 2.5A	TOPTAB-5	300K	100K		1E12		
MSK5822-3.3RH	RH1573KDICE	5A Ultralow Dropout Fixed Voltage Regulator	5962F0923605	MSK	5.0	3.3V	0.35V @ 2.5A	TOPTAB-5	300K	100K		1E12		
MSK5822-5.0RH	RH1573KDICE	5A Ultralow Dropout Fixed Voltage Regulator	5962F0923606	MSK	5.0	5.0V	0.35V @ 2.5A	TOPTAB-5	300K	100K		1E12		
MSK5950RH	RH1009M+RH1573K	5A Ultralow Voltage Adjustable Regulator, Split Bias	5962F0921501	MSK	5.0	Adjustable To Zero	0.15V @ 1A	MFP-20	300K					
VRG8691	RH1009MDICE (5)	7.5A low Dropout Adjustable Regulator, Thru Hole	5962-0923701	AEROFLEX	7.5	Adjustable	0.8V @ 7.5A	PWRPACK-12	100K					
VRG8692	RH1009MDICE (5)	7.5A low Dropout Adjustable Regulator, Surf Mount	5962-0923701	AEROFLEX	7.5	Adjustable	0.8V @ 7.5A	PWRPACK-12	100K					

RADIATION HARD NEGATIVE LINEAR REGULATORS

Part type	RH DICE Inside™	Description	SCD or SMD# reference	Contact	Neg. Reg. I_{OUT} (A)	V_{OUT}	$V_{DROPOUT}$ @ 25ºC	Package style	TID rad(Si)	ELDRS rad(Si)	SEE MeV	Neutron N/cm^2	SPICE model	WCCA Note(8)
LM137H		0.5A Negative Adjustable Voltage Regulator	JM38510/11803SXA	LTC	0.5	Adjustable	1.8V @ 0.5A	TO-39						
RH137H		0.5A Negative Adjustable Voltage Regulator	05-08-5028 REV J	LTC	0.5	Adjustable	1.8V @ 0.5A	TO-39	200K	50K	Note(3)	Planned	Note(6)	
RH137HDICE		0.5A Negative Adjustable Voltage Regulator	05-08-5113 REV H	LTC	0.5	Adjustable	1.8V @ 0.5A	DICE	200K	50K		Planned	Note(6)	
RH137K		1.5A Negative Adjustable Voltage Regulator	05-08-5028 REV J	LTC	1.5	Adjustable	2.2V @ 1.5A	TO3	200K	50K		1E12	Note(6)	
RH137KDICE		1.5A Negative Adjustable Voltage Regulator	05-08-5113 REV H	LTC	1.5	Adjustable	2.2V @ 1.5A	DICE	200K	50K		Planned	Note(6)	
MSK5973RH	RH137KDICE	1.5A Negative Adjustable Voltage LDO Regulator	5962R0921401	MSK	1.5	Adjustable	2.2V @ 1.5A	TO-257	100K					
MSK5973RHL	RH137KDICE	1.5A Negative Adjustable Voltage LDO Regulator	5962R0921401	MSK	1.5	Adjustable	2.2V @ 1.5A	SMD-1.0	100K					
VRG8661	RH137KDICE	1.5A Negative Adjustable Regulator	5962R0920602	AEROFLEX	1.5	Adjustable	2.2V @ 1.5A	SMD-0.5	100K	50K				
MSK5940-5.0RH	RH1185AMKDICE	3A Negative Fixed Voltage LDO Regulator	5962-11230	MSK	3.0	-5.0V	0.7V @ 3.0A	TO-257	100K					
MSK5940-5.2RH	RH1185AMKDICE	3A Negative Fixed Voltage LDO Regulator	5962-11230	MSK	3.0	-5.2V	0.7V @ 3.0A	TO-257	100K					
MSK5940-10RH	RH1185AMKDICE	3A Negative Fixed Voltage LDO Regulator	5962-11230	MSK	3.0	-10V	0.7V @ 3.0A	TO-257	100K					
MSK5940-12RH	RH1185AMKDICE	3A Negative Fixed Voltage LDO Regulator	5962-11230	MSK	3.0	-12V	0.7V @ 3.0A	TO-257	100K					
MSK5940-15RH	RH1185AMKDICE	3A Negative Fixed Voltage LDO Regulator	5962-11230	MSK	3.0	-15V	0.7V @ 3.0A	TO-257	100K					
RH1185AMK		3A Negative LDO With Adjustable Current Limit	05-08-5206 REV B	LTC	3.0	Adjustable	1.0V @ 3.0A	TO3	200K			1E12	Note(6)	
RH1185AMKDICE		3A Negative LDO With Adjustable Current Limit	05-08-5232 REV C	LTC	3.0	Adjustable	1.05V @ 3.0A	DICE	200K				Note(6)	
VRG8663	RH1185AMKDICE	3A Negative Adjustable Regulator	5962R0920702	AEROFLEX	3.0	Adjustable	1.3V @ 3A	SMD-5 Pad	100K					

RADIATION HARD DUAL POSITIVE LINEAR REGULATORS

Part type	RH DICE Inside™	Description	SCD or SMD# reference	Contact	Pos. Reg. I_{OUT} (A)	V_{OUT}	$V_{DROPOUT}$ @ 25ºC	Package style	TID rad(Si)	ELDRS rad(Si)	SEE MeV	Neutron N/cm^2	SPICE model	WCCA Note(8)
VRG8657	Dual RH1086BKKDICE	1A Dual Positive Adjustable LDO Regulator, Thru Hole	5962R0920102	AEROFLEX	Dual 1.0	Adjustable	1.3V @ 1A	PWRPACK-6	100K	50K	60			
VRG8658	Dual RH1086BKKDICE	1A Dual Positive Adjustable LDO Regulator, Surf Mount	5962R0920102	AEROFLEX	Dual 1.0	Adjustable	1.3V @ 1A	PWRPACK-6	100K	50K	60			
VRG8607	Dual RH117KDICE	1.5A Dual Positive Adjustable Regulator, Thru Hole	5962R0521903	AEROFLEX	Dual 1.5	Adjustable	2.2V @ 1.5A	PWRPACK-6	100K	50K				
VRG8608	Dual RH117KDICE	1.5A Dual Positive Adjustable Regulator, Surf Mount	5962R0521903	AEROFLEX	Dual 1.5	Adjustable	2.2V @ 1.5A	PWRPACK-6	100K	50K				
VRG8687	Dual RH1084MK	3A Dual Positive Adjustable Regulator, Thru Hole	5962-1021302	AEROFLEX	Dual 3.0	Adjustable	1.0V @ 3A	PWRPACK-8	100K					
VRG8688	Dual RH1084MK	3A Dual Positive Adjustable Regulator, Surf Mount	5962-1021302	AEROFLEX	Dual 3.0	Adjustable	1.0V @ 3A	PWRPACK-8	100K					

RADIATION HARD DUAL NEGATIVE LINEAR REGULATORS

Part type	RH DICE Inside™	Description	SCD or SMD# reference	Contact	Neg. Reg. I_{OUT} (A)	V_{OUT}	$V_{DROPOUT}$ @ 25ºC	Package style	TID rad(Si)	ELDRS rad(Si)	SEE MeV	Neutron N/cm^2	SPICE model	WCCA Note(8)
VRG8609	Dual RH137KDICE	1.5A Dual Negative Adjustable Regulator, Thru Hole	5962R0521904	AEROFLEX	Dual 1.5	Adjustable	2.2V @ 1.5A	PWRPACK-6	100K	50K				
VRG8610	Dual RH137KDICE	1.5A Dual Negative Adjustable Regulator, Surf Mount	5962R0521904	AEROFLEX	Dual 1.5	Adjustable	2.2V @ 1.5A	PWRPACK-6	100K	50K				

RADIATION HARD DUAL POSITIVE & NEGATIVE LINEAR REGULATORS

Part type	RH DICE Inside™	Description	SCD or SMD# reference	Contact	Pos.+Neg. Reg. I_{OUT} (A)	V_{OUT}	$V_{DROPOUT}$ @ 25ºC	Package style	TID rad(Si)	ELDRS rad(Si)	SEE MeV	Neutron N/cm^2	SPICE model	WCCA Note(8)
VRG8651	RH1086BKK+RH1185AMK	1A/3A Dual Positive/Negative Adj. LDO Reg, Thru Hole	5962R0920101	AEROFLEX	1.0 + 3.0	Adjustable	1.3V @ 1A/-3A	PWRPACK-8	100K		60			
VRG8652	RH1086BKK+RH1185AMK	1A/3A Dual Positive/Negative Adj. LDO Reg, Surf Mount	5962R0920101	AEROFLEX	1.0 + 3.0	Adjustable	1.3V @ 1A/-3A	PWRPACK-8	100K		60			
VRG8601	RH117K+RH137K	1.5A Dual Positive/Negative Adj. Regulator, Thru Hole	5962R0521901	AEROFLEX	1.5 + 1.5	Adjustable	.2 & -2.2V @ 1.5	PWRPACK-6	100K	50K				
VRG8602	RH117K+RH137K	1.5A Dual Positive/Negative Adj. Regulator, Surf Mount	5962R0521901	AEROFLEX	1.5 + 1.5	Adjustable	.2 & -2.2V @ 1.5	PWRPACK-6	100K	50K				
VRG8653	RH1084MK+RH1185AMK	3A Dual Positive/Negative Adj. Regulator, Thru Hole	5962-1021301	AEROFLEX	3.0 + 3.0	Adjustable	1.0/-0.7V @ ±3A	PWRPACK-8	100K					
VRG8654	RH1084MK+RH1185AMK	3A Dual Positive/Negative Adj. Regulator, Surf Mount	5962-1021301	AEROFLEX	3.0 + 3.0	Adjustable	1.0/-0.7V @ ±3A	PWRPACK-8	100K					

RADIATION HARD SWITCHING REGULATORS & CONTROLLERS

Part type	RH DICE Inside™	Description	SCD or SMD# reference	Contact	Pos. Reg. I_{OUT} (A)	V_{IN} Range	V_{OUT} Range	Package style	TID rad(Si)	ELDRS rad(Si)	SEE MeV	Neutron N/cm^2	SPICE model	WCCA Note(8)
MSK5044RH	RH1959MILDICE	Switching Reg. Module,500kHz Fixed Frequency	5962R1123101	MSK	3.5	4.3V to 16.0V	1.21V to 5.0V	TO-254	100K					
MSK5048RH	RH1959MILDICE	Switching Reg. Module,500kHz With Ext Sync Opt	5962-11232	MSK	3.5	4.3V to 16.0V	1.21V to 5.0V	TO-254	100K					
MSK5052RH	RH1959MILDICE	Switching Reg. Module,500kHz With Ext Sync Opt		MSK	4.5	4.3V to 16.0V	1.21V to 0.86Vin	MFP-40	100K					
MSK5059RH	RH1959MILDICE	Switching Reg. Monolithic (RH1959 IC Only)	5962-11234	MSK	4.5	4.3V to 16.0V	1.21V to 0.86Vin	FP-16	100K	50K	Note(7)	Planned		
RH1959MILDICE		Switching Regulator Dice		LTC	4.5	4.0V to 16.0V	1.21V to 0.86Vin	DICE				Planned	Note(6)	
RH3845AMILDICE		High Voltage Switching Controller Dice		LTC	10.0	4.0V to 60V	1.23V to 36V	DICE			1E12 (in J20 pkg)			
MSK5055RH	RH3845AMILDICE	High Voltage Switching Controller (RH3845A IC only)		MSK	10.0	4.0V to 60V	1.23V to 36V	FP-16	TBD					

RADIATION HARD DATA CONVERTERS

Part type	RH DICE Inside™	Description	SCD or SMD# reference	Contact	Fs (ksps)	S/(N+D) Ratio @ 100kHz	Full Power Bandwidth (MHz)	Package style	TID rad(Si)	ELDRS rad(Si)	SEE MeV	Neutron N/cm^2	SPICE model	WCCA Note(8)
LTC1604AIG#90117		16-Bit, 333ksps Sampling ADC With Shutdown	Note(2)	LTC	333	89dB	5	SSOP-36	Note(3)		Note(3)			
RAD1419	R1419MILDICE	14-Bit, 800ksps Sampling ADC With Shutdown	RAD-1419ADC-01	AERO-RAD	800	81.5dB	20	FP-28	100K		55			

RADIATION HARD POWER CONTROL

Part type	RH DICE Inside™	Description	SCD or SMD# reference	Contact	Switch Current (A)	V_{IN} Range	V_{OUT} Range	Package style	TID rad(Si)	ELDRS rad(Si)	SEE MeV	Neutron N/cm^2	SPICE model	WCCA Note(8)
MSK6000RH	RH6105MILDICE x 2	Dual High Side Driver with Current Sense		MSK	5.0 + 5.0	12V-44V	5V-36V	FP-26						

Notes:

(1) Please refer to RH1014 ELDRS report (RH1014=2 x RH1013 die)
(2) Please refer to LTC1604AIG datasheet, contact LTC for further information
(3) Third party report
(4) Please refer to RH1499 SEU report (RH1499=2 x RH1498 die)
(5) Discrete transistor implementation with RH1009 reference inside
(6) SPICE models in development by AEi Systems
(7) Please contact LTC or MSK for Heavy Ion test report
(8) WCCA = Worst Case Circuit Analysis (contact AEi Systems for details)

Parametric values given in the tables are pre-irradiation at 25 ºC, in some cases they also apply over -55/125 ºC, please refer to datasheets.

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