REDW1994 Revision 0.1, Dec. 1/2005 Prepared by: David M. Hiemstra dave.hiemstra@mdacorpoartion.com

Paper No., Page No.	First Author	Part No.	Type	Manufacture	Data		Total Ionizing Dose				Single Event Effects							Displacement Damage		Facilities	Standard	Environment
					Terrestrial	Flight	Co60	ELDRS	Protons	Electrons	SEU	SET	SEFI	SEL	SEB	SEGR	Dose Rate	Protons	Neutrons			
4, pp. 1-6	N. Haddad		1 Mbit SRAM	Loral Federal Systems	√		√				√			√			√					
6, pp. 7-10	T. Houston		1 Mbit SRAM	Texas Instruments	√		√				√			√			√					
3, pp. 11-14	G. Hash		4kbit SRAM	Sandia National Labs	√		√										√					
11 pp. 15-19	W. Newman	HS-65643RH	64 kbit SRAM	Harris Semiconductor	√		√															
		HS-65647RH	64 kbit SRAM	Harris Semiconductor	√		√															
14, pp. 20-25	C. Poivey	28C10	1 Mbit EEPROM	SEEQ	√						√			√								
			MEM8129	Hybrid Memory	√						√			√								
9, pp. 26-29	S. Mulford	80386DX	32 bit Microporocessor	Intel	√		√															
		80387DX	32 bit Math Coprocessor	Intel	√		√															
16, pp. 30-36	A. Sharma	MQ80386-20B	32 bit Microporocessor	Intel	√		√															
13, pp. 37-40	K. Ohsono		CMOS 177k Gate Array	NEC Corporation	√		√															
12, pp. 41-54	D. Nichols	20N60	N channel Power MOSFET	Ixys	√										√							
		10N100	N channel Power MOSFET	Isyx	√										√	√						
		APT40M42	N channel Power MOSFET	Advanced Power Technology	√										√							
		1001R1AN	N channel Power MOSFET	Advanced Power Technology	√										√	√						
		IRF150	N channel Power MOSFET	General Electric	√										√							
		IRF250	N channel Power MOSFET	General Electric	√										√							
		IRFF320	N channel Power MOSFET	Unitrode	√										√							
		2N6660	N channel Power MOSFET	Siliconix	√										√							
		IRFF130	N channel Power MOSFET	Siliconix	√										√							
		IRF150	N channel Power MOSFET	Siliconix	√										√							
		IRF250	N channel Power MOSFET	Siliconix	√										√							
		IRFF230	N channel Power MOSFET	Siliconix	√											√						
		IRF350	N channel Power MOSFET	Siliconix	√										√							
		2N6802	N channel Power MOSFET	Siliconix	√										√							
		18N10	N channel Power MOSFET	Radio Corporation of America	√										√							
		IRF150	N channel Power MOSFET	Radio Corporation of America	√										√							
		12P10	P channel Power MOSFET	Radio Corporation of America	√										√							
		IRF9130	P channel Power MOSFET	Radio Corporation of America	√										√							
		30N15	N channel Power MOSFET	Radio Corporation of America	√										√							
		RFM12N18	N channel Power MOSFET	Radio Corporation of America	√										√							
		IRF230	N channel Power MOSFET	Radio Corporation of America	√										√							
		IRFF230	N channel Power MOSFET	Radio Corporation of America	√										√							
		IRF250	N channel Power MOSFET	Radio Corporation of America	√										√							
		25N20	N channel Power MOSFET	Radio Corporation of America	√										√							
		IRFM054	N channel Power MOSFET	International Rectifier	√										√							
		IRHM7054	N channel Power MOSFET	International Rectifier	√										√							
		IRF110	N channel Power MOSFET	International Rectifier	√										√							
		IRFF110	N channel Power MOSFET	International Rectifier	√										√							
		IRF120	N channel Power MOSFET	International Rectifier	√										√	√						
		IRFF120	N channel Power MOSFET	International Rectifier	√										√							
		IRH130	N channel Power MOSFET	International Rectifier	√											√						
		IRHF130	N channel Power MOSFET	International Rectifier	√											√						
		IRF130	N channel Power MOSFET	International Rectifier	√										√							
		IRFF130	N channel Power MOSFET	International Rectifier	√										√	√						
		IRF140	N channel Power MOSFET	International Rectifier	√										√							
		IRF150	N channel Power MOSFET	International Rectifier	√										√							
		IRH150	N channel Power MOSFET	International Rectifier	√										√							
		IRHF7110	N channel Power MOSFET	International Rectifier	√											√						
		IRHF7130	N channel Power MOSFET	International Rectifier	√											√						
		IRH7150	N channel Power MOSFET	International Rectifier	√										√	√						
		IRFG6110	N channel Power MOSFET	International Rectifier	√										√							
		2N6845	P channel Power MOSFET	International Rectifier	√											√						
		IRFF9122	P channel Power MOSFET	International Rectifier	√										√							
		2N6804	P channel Power MOSFET	International Rectifier	√											√						
		IRHF9130	P channel Power MOSFET	International Rectifier	√											√						
		IRF9140	P channel Power MOSFET	International Rectifier	√											√						
		IRF9150	P channel Power MOSFET	International Rectifier	√											√						
		IRH9150	P channel Power MOSFET	International Rectifier	√											√						
		IRF210	N channel Power MOSFET	International Rectifier	√										√							
		IRF220	N channel Power MOSFET	International Rectifier	√										√							
		IRFF220	N channel Power MOSFET	International Rectifier	√										√							
		IRF230	N channel Power MOSFET	International Rectifier	√										√							
		IRFF230	N channel Power MOSFET	International Rectifier	√										√							
		IRF240	N channel Power MOSFET	International Rectifier	√										√							
		IRF250	N channel Power MOSFET	International Rectifier	√										√							
		IRH7230	N channel Power MOSFET	International Rectifier	√											√						
		IRH7250	N channel Power MOSFET	International Rectifier	√											√						
		IRHM7250	N channel Power MOSFET	International Rectifier	√											√						
		IRHM8250	N channel Power MOSFET	International Rectifier	√											√						
		2N6851	P channel Power MOSFET	International Rectifier	√											√						
		IRF9230	P channel Power MOSFET	International Rectifier	√											√						
		IRFF9230	P channel Power MOSFET	International Rectifier	√											√						
		IRF9240	P channel Power MOSFET	International Rectifier	√											√						
		IRH254	N channel Power MOSFET	International Rectifier	√										√							
		IRF310	N channel Power MOSFET	International Rectifier	√										√							
		IRFF320	N channel Power MOSFET	International Rectifier	√										√							
		IRF330	N channel Power MOSFET	International Rectifier	√										√							
		IRFF330	N channel Power MOSFET	International Rectifier	√										√							
		IRF340	N channel Power MOSFET	International Rectifier	√										√							
		IRF350	N channel Power MOSFET	International Rectifier	√										√							
		IRH7360	N channel Power MOSFET	International Rectifier	√										√							
		IRHM7360	N channel Power MOSFET	International Rectifier	√											√						
		IRF360	N channel Power MOSFET	International Rectifier	√											√						
		IR420	N channel Power MOSFET	International Rectifier	√										√							
		IRF430	N channel Power MOSFET	International Rectifier	√										√							
		IRFF430	N channel Power MOSFET	International Rectifier	√										√							
		IRF440	N channel Power MOSFET	International Rectifier	√										√							
		IRFM450	N channel Power MOSFET	International Rectifier	√										√							
		IRF450	N channel Power MOSFET	International Rectifier	√										√							
		IRH450	N channel Power MOSFET	International Rectifier	√										√							
		IRH7450	N channel Power MOSFET	International Rectifier	√											√						
		IRHM7450	N channel Power MOSFET	International Rectifier	√											√						
		IRGAC50U	N channel Power MOSFET	International Rectifier	√										√							
		IRFAG30	N channel Power MOSFET	International Rectifier	√										√							
		IRF130	N channel Power MOSFET	Harris Semiconductor	√										√							
		FRM130	N channel Power MOSFET	Harris Semiconductor	√										√							
		2N6756	N channel Power MOSFET	Harris Semiconductor	√										√							
		FRM140D1	N channel Power MOSFET	Harris Semiconductor	√										√							
		FRM140	N channel Power MOSFET	Harris Semiconductor	√										√							
		FRK150R	N channel Power MOSFET	Harris Semiconductor	√										√							
		FRK160D	N channel Power MOSFET	Harris Semiconductor	√										√							
		FRK160	N channel Power MOSFET	Harris Semiconductor	√										√							
		RFL1P10	P channel Power MOSFET	Harris Semiconductor	√											√						
		2N6849	P channel Power MOSFET	Harris Semiconductor	√											√						
		FRM9140R	P channel Power MOSFET	Harris Semiconductor	√											√						
		FRK9150R	P channel Power MOSFET	Harris Semiconductor	√											√						
		IRF9150	P channel Power MOSFET	Harris Semiconductor	√											√						
		FRK9160	P channel Power MOSFET	Harris Semiconductor	√											√						
		FRK9160R	P channel Power MOSFET	Harris Semiconductor	√											√						
		FRM230R	N channel Power MOSFET	Harris Semiconductor	√										√							
		FRM230	N channel Power MOSFET	Harris Semiconductor	√										√							
		FRK230R	N channel Power MOSFET	Harris Semiconductor	√										√							
		2N6758	N channel Power MOSFET	Harris Semiconductor	√										√							
		2N6798	N channel Power MOSFET	Harris Semiconductor	√										√	√						
		FRM240D1	N channel Power MOSFET	Harris Semiconductor	√										√	√						
		FRK250R	N channel Power MOSFET	Harris Semiconductor	√											√						
		IRF9230	P channel Power MOSFET	Harris Semiconductor	√											√						
		FRM9240R	P channel Power MOSFET	Harris Semiconductor	√											√						
		FRM9250	P channel Power MOSFET	Harris Semiconductor	√											√						
		FRL234R	N channel Power MOSFET	Harris Semiconductor	√										√							
		FRM234	N channel Power MOSFET	Harris Semiconductor	√											√						
		FRK264D	N channel Power MOSFET	Harris Semiconductor	√											√						
		IRHM7360	N channel Power MOSFET	Harris Semiconductor	√										√							
		2N6800	N channel Power MOSFET	Harris Semiconductor	√										√							
		2N6794	N channel Power MOSFET	Harris Semiconductor	√										√							
		2N6802	N channel Power MOSFET	Harris Semiconductor	√										√							
		2N6762	N channel Power MOSFET	Harris Semiconductor	√										√							
		IR450	N channel Power MOSFET	Harris Semiconductor	√										√							
		FRL430D	N channel Power MOSFET	Harris Semiconductor	√										√							
		FRM450R	N channel Power MOSFET	Harris Semiconductor	√											√						
		EN460	N channel Power MOSFET	Harris Semiconductor	√											√						
		TA6768	N channel Power MOSFET	Harris Semiconductor	√											√						
		TA9783	N channel IGBT	Harris Semiconductor	√											√						
15, pp. 55-63	F. Sexton	AD7876	64 k EEPROM	Westinghouse	√						√			√								
		AD7876	12 bit ADC	Analog Devices	√						√			√								
		82C527	Serial Communications Controller	Intel	√						√			√								
7, pp. 64-71	K. LaBel	Mongoose	Microprocessor	LSII Logic	√						√			√								
		AD1671	12 bit ADC	Analog Devices	√						√			√								
		HS26C31	Differential Driver	Harris Semiconductor	√						√			√								
		HS26C32	Differential Receiver	Harris Semiconductor	√						√			√								
		HS2420	Sample and Hold	Harris Semiconductor	√						√			√								
		ODL200 TX	Fiber Optic Transmitter	AT&T	√						√			√								
		ODL200 REC	Fiber Optic Receiver	AT&T	√						√			√								
		Hot Rod TX	Transmitter	Gazelle	√						√			√								
		Hot Rod REC	Receiver	Gazelle	√						√			√								
		HM68512	4 Mbit SRAM	Hitachi	√						√			√								
		HM68128	1 Mbit SRAM	Hitachi	√						√			√								
		EL2243	Operational Amplifier	Elantec	√						√			√								
		HS508RH	Analog Multiplexer	Harris Semiconductor	√						√			√								
		AD676	16 bit ADC	Analog Devices	√						√			√								
		UT63M125	1553 Transceiver	UTMC	√						√			√								
		63125	1553 Transceiver	ILC Data Devices Corp.	√						√			√								
		AX3411	1553 Transceiver	Aeroflex	√						√			√								
		CT1487D	1553 Transceiver	Marconi	√						√			√								
		NHI1500	1553 Transceiver	National Hybrid	√						√			√								
		FC1553921	1553 Transceiver	STC	√						√			√								
		63147	1553 Transceiver	UTMC	√						√			√								
		CT2521	1553 Transceiver	Marconi	√						√			√								
		AX3453	1553 Transceiver	Aeroflex	√						√			√								
		NHI1529	1553 Transceiver	National Hybrid	√						√			√								
		AT22V10	PAL	Atmel	√						√			√								
		IDA07318	Laser Druver	Hewlett Packard	√						√			√								
		LM108	Operational Amplifier	National Semiconductor	√						√			√								
		LM139	Voltage Comaprator	National Semiconductor	√						√			√								
		TSC4429	Power MOSFET Driver	Teledyne	√						√			√								
		CP20420	FPGA	Crosspoint	√						√			√								
		88C20	Driver	National Semiconductor	√						√			√								
		88C30	Receiver	National Semiconductor	√						√			√								
		SPT7922	16 bit ADC	Signal Processing Tech.	√						√			√								
3, pp. 72-77	R. Ecoffet	LM108	Operational Amplifier	Motorola	√							√										
		LM111	Voltage Comaprator	Motorola	√							√										
		LM218H	Operational Amplifier	National Semicondcutor	√							√										
		LM211H	Volatge Comparator	National Semicondcutor	√							√										
17, pp. 78-85	D. Wilson	AD677	16 bit ADC	Analog Devices	√						√			√								
8, pp. 86-96	K. McCarty	CS5327	16 bit ADC	Crystal Semiconductor	√						√			√								
10, pp. 97-103	D. Myers	7845	Voltage Regulator	Lambda Advanced Analog	√		√															
		7846	Voltage Regulator	Lambda Advanced Analog	√		√															
		ART2815T	DC-DC Converter	Lambda Advanced Analog	√		√				√			√					√			
2, pp. 104-109	M. DeLaus	AD8001	Operational Amplifier	Analog Devices	√		√							√								
1, pp. 110-117	W. Combs		CBIC Linear Bipolar Process	AT&T	√		√															

Once the paper(s) with the response data required has been located it is the radiation effects engineer's responsibility to perform a detailed review to establish applicability.