Radiation Hardened Microelectronics & Computers

POWER DEVICE CORPORATION

PDC's microelectronics group has provided space-qualified radiation-tolerant and radiation-shielded products, including semiconductors and single board computers, to the space industry for more than two decades. Our products include radiation mitigated memory modules, and single-board computers that incorporate powerful commercial silicon for superior performance and high reliability in aerospace applications. We specialize in understanding the radiation performance of commercial semiconductors, qualifying selected components for use in space, integrating them with proprietary radiation mitigation technologies, and manufacturing and screening these products in our DLA approved facility.

Product Description	Part Number	Radiation Technology [2]							Package Style # Of Pins [2]		Specs		Status		Screening Level [2]
		EDAC	LPT	RH	RP	RT	TRP	XP	FP	QFP	Data Sheet	SMD	Active	Contact Factory	
Computers															
Single Board Computer, GR740 Based Spacewire, 32GB NAND, Space VPX, 3U	SCS3740R1	■		■	■				Standard 3U		■		■		FS, FB, E
Analog to Digital Converters															
ADC, 12 Bit, 41 MSPS	9042				■	■			28		■		■		K, H, I, E
ADC, 14 Bit 83 kSPS, Simgle Supply	7872A				■				16		■		■		S, B, I, E
ADC, 14 Bit, 10 MSPS	9240LP		■		■					44	■		■		K, H, I, E
ADC, 16 bit, 100 kSPS, Serial	7809C				■				24		■		■		S, B, I, E
ADC, 16 bit, 200 kSPS	976B				■				28		■		■		S, B, A, I, E
Digital to Analog Converters															
DAC, 12 Bit Serial	8143				■				16		■			■	S, B, I, E
DAC, 12 Bit, Buffered, Multiplying	7545B				■				20		■		■		S, B, I, E
DAC, 16 Bit, Low Power	7846B				■				28		■		■		S, B, I, E
Low Voltage 3.3V EEPROM (200ns or 250ns Access Time)															
EEPROM, 1 Mb (128Kb x 8) .480" Wide	28LV010				■	■			32		■		■		S, B, I, E
EEPROM, 1 Mb (128Kb x 8) .410" Wide	28LV011				■	■			32		■		■		S, B, I, E
EEPROM, 4 Mb (512Kb x 8)	79LV0408				■	■		■	40		■		■		K, H, I, E
EEPROM, 8 Mb (256Kb x 32)	79LV0832				■	■				96	■		■		K, H, I, E
EEPROM, 20 Mb (512Kb x 40) Dual-Cavity	79LV2040B				■	■			100		■		■		K, H, I, E
5.0V EEPROM (120ns, 150ns, or 200ns Access Time)															
EEPROM, 1 Mb (128Kb x 8) .480" Wide	28C010T				■	■			32		■	■	■		V, Q, S, B, E, I
EEPROM, 1 Mb (128Kb x 8) .410" Wide	28C011T				■	■			32		■	■	■		V, Q, S, B, E, I
EEPROM, 4 Mb (512Kb x 8)	79C0408				■	■		■	40		■		■		K, H, I, E
EEPROM, 8 Mb (256Kb x 32)	79C0832				■	■				96	■		■		K, H, I, E
EEPROM, 20 Mb (512Kb x 40) Dual-Cavity	79C2040B				■	■			100		■		■		K, H, I, E
Low Voltage 3.3V SDRAM															
SDRAM, 256 Mb (4Mb x 16 x 4)	48SD1616				■				72		■		■		K, H, I, E
SDRAM, 256 Mb (8Mb x 8 x 4)	48SD3208				■				72		■		■		K, H, I, E
SDRAM, 1 Gb (32 Mb x 32 x 4)	72SD3232B					■			72		■		■		K, H, I, E
SDRAM, 1.25 Gb (8Mb x 40 x 4)	97SD3240B				■					132	■		■		K, H, I, E
SDRAM, 1.5 Gb (8Mb x 48 x 4)	97SD3248B				■					132	■		■		K, H, I, E
Logic															
Buffer/Driver, 8 Bit	54BCT244				■				20		■			■	S, B, I, E
Transceiver, 8 Bit	54BCT245				■				20		■			■	S, B, I, E
Buffer,/Driver, 8 Bit, 3.3V	54LVTH244A				■				20		■			■	S, B, I, E
Transceiver, 8 Bit, 3.3V	54LVTH245A				■				20		■			■	S, B, I, E
Buffer/Driver, 16 Bit, 3.3V	54LVTH162244				■				48		■			■	S, B, I, E
Interface, D-Latch, 16 Bit, 3.3V	54LVTH162373				■				48		■			■	S, B, I, E

1. DDC is certified to QML-V, QML-Q, ISO9001 and AS9100. Please visit www.powerdevicecorp.com for Data Sheets, SMDs and Process Flows.
2. See legend on page 2.

For more information on PDC's Radiation Hardened Microelectronics Solutions, please visit: **www.powerdevicecorp.com/RadHard**

Product Description	Part Number	Radiation Technology [2]							Package Style # Of Pins [2]				Specs		Status		Screening Level [2]
		EDAC	LPT	RH	RP	RT	TRP	XP	FP	QFP	LCC	DIP	Data Sheet	SMD	Active	Contact Factory	
DDR2																	
DDR2, 2Gb (128M x 16-bits wide)	97D2H2G16					■				442			■		■		K, H, I, E
DDR2, 4 Gb (128M x 32-bits wide)	97D2H4G32					■				442			■		■		K, H, I, E
DDR2, 5 Gb (128M x 40-bits wide)	97D2H5G40					■				442			■		■		K, H, I, E
DDR2, 5 Gb (64M x 80-bits wide)	97D2H5G80					■				442			■		■		K, H, I, E
DDR2, 6 Gb (128M x 48-bits wide)	97D2H6G48					■				442			■		■		K, H, I, E
DDR2, 8 Gb (128M x 64-bits wide)	97D2H8G64					■				442			■		■		K, H, I, E
Flash																	
FLASH, NAND, 32 Mb (4Mb x 8)	29F0408				■				44				■			■	S, B, I, E
FLASH, NAND, 128 Mb (16Mb x 8)	69F1608				■				24				■			■	K, H, I, E
FLASH, NAND, 32 Gb x 8 – High Density	29F32G08				■	■			68				■		■		S, B, I, E
FLASH, NAND, 64 Gb x 16 – High Density	69F64G16				■	■			68				■		■		K, H, A, I, E
FLASH, NAND, 128 Gb x 16 – High Density	69F128G16				■	■			68				■		■		K, H, A, I, E
FLASH, NAND, 256 Gb x 16 – High Density	69F256G16				■	■			68				■		■		K, H, A, I, E
FLASH, NAND, 12 Gb x 24 – High Density	69F12G24				■	■			70				■		■		K, H, A, I, E
FLASH, NAND, 24 Gb x 24 – High Density	69F24G24				■	■			70				■		■		K, H, A, I, E
FLASH, NAND, 96 Gb x 24 – High Density	69F96G24				■	■			70				■		■		K, H, A, I, E
FLASH, NAND, 192 Gb x 24 – High Density	69F192G24				■	■			70				■		■		K, H, A, I, E
FLASH, NOR, 512 Mb (x 8 or x 16) – High Density	56F6408				■				56				■		■		S, B, A, I, E
Nuclear Event Detectors																	
Guaranteed Rad-Hard	HSN-1000			■					14			14	■		■		H
Guaranteed Rad-Hard w/Event Flag	HSN-3000			■					14			14	■		■		H
Multiplexers																	
8 Channel, Fault Protected	358				■				16				■		■		S, B, I, E
16 Channel	306				■				28				■		■		S, B, I, E
16 Channel, Fault Protected	338				■				16				■			■	S, B, I, E
Amplifier and Comparators																	
Comparator, High Speed	903				■				8				■			■	S, B, I, E
Operational Amplifier, Dual	OP220				■				8				■			■	S, B, I, E
Operational Amplifier, Dual, 4 MHz	OP284B				■				8		16		■			■	S, B, I, E
Operational Amplifier, Quad	OP400A				■				16				■		■		S, B, I, E

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2. Legend:

Radiation Technology Definitions

EDAC = Built In Error Detection and Correction
LPT = Latch up Protection Technology
RH = Rad Hard at the Die Level
RP = Rad-Pak® Package
RT = Radiation Tolerant up to 10, 25, or 40 Krad (Si)
TRP = Triple Redundant Processing
XP = Xray-Pak® Package

Package Style Definitions

FP = Flat Pack
DIP = Dual In Line Package
QFP = Quad Flat Package
LCC = Leadless Chip Carrier

Screening Level Definitions

V = QML V Per MIL-PRF-38535
Q = QML Q Per MIL-PRF-38535
S = PDC Microelectronics Class S
K = PDC Microelectronics Class K
B = PDC Microelectronics Class B
H = PDC Microelectronics Class H
A = PDC Microelectronics Class A
I = PDC Microelectronics Class I
E = PDC Microelectronics Class E

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