

NEWSPACE MARKET · COMPANY PROFILE



3D Plus (HEICO)

France · founded 1995 · 3d-plus.com

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WITH DATASHEETS

newspacemarket.com/companies/3d-plus-heico/

as of 20 August 2026

3D Plus (HEICO)

3D PLUS, founded in 1995 in Buc, near Versailles, France, is a world reference in space electronic components. By combining advanced electronic design with proprietary 3D interconnect technology enabling extreme miniaturization, the company's engineers have helped customers increase performance and competitiveness while achieving ambitious space missions. 3D PLUS electronic modules are entirely designed and manufactured in France and have flown on numerous milestone missions, including the first 2 Gb Space NAND Flash memory for NASA/JPL's New Horizons Pluto mission (2006), the Philae/Rosetta comet landing (2011, with ESA/CNES), China's Chang'E lunar missions (2018), and the Curiosity and Perseverance Mars rover landings (2012 and 2021, with NASA/JPL). As a high-tech company, 3D PLUS' development is built on unique know-how and patents underlying innovations in 3D electronic interconnection, miniaturization, thermal management, and protection against space radiation effects. The company established 3D PLUS USA in Silicon Valley, California in 2001, holds 18 years of ESA and CNES space qualification experience, and invests 17% of turnover in R&D — making it one of the world's leading manufacturers of space electronics modules. 3D PLUS has expanded through acquisitions, including Pyramid Semiconductor in Sunnyvale, California (2021) and TRAD Tests & Radiations in Labège, France (2022). The company continues to support flagship missions including JPL's Mars Sample Return program, NASA's Artemis lunar program, and ESA's CO2 Monitoring Mission (CO2M), while pursuing an ambitious CSR strategy centered on sustainable growth.

This profile is generated from the live NewSpace Market catalogue. Specifications are as published by the manufacturer; every product links to a page where a request for quotation reaches the company directly.

SERVICES

Services

Obsolescence Management and Long Term Supply

3D PLUS offers expertise in managing obsolescence of electronic components and ensuring long-term supply for critical projects.

Source Control Drawing (SCD) Provision for High Reliability Products

For high-reliability aerospace products, 3D PLUS provides a Source Control Drawing (SCD) for procurement.

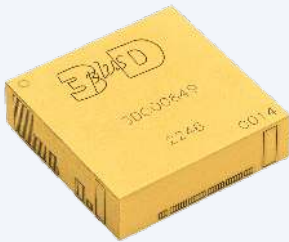
Stack Technology Flow Selection for Customer Designs

3D PLUS assists customers in selecting the most suitable stacking process from their portfolio to optimize product performance and value.

System-In-Package (SiP) Design, Manufacturing, and Test

3D PLUS offers a complete service for System-In-Package (SiP) solutions, from concept to final testing.

Product catalogue



3D PLUS (HEICO)

3D Stacked Space Memory Modules

Radiation-hardened 3D stacked memory modules for space — SRAM, FLASH, EEPROM in dense miniaturized packages qualified to ESA ESCC and MIL standards for satellite and deep space app

Memory Types	SRAM, NOR FLASH, EEPROM, DRAM
Technology	Radiation-hardened 3D vertical stacking
Qualification	ESA ESCC 9000, MIL-PRF-38535
Radiation Tolerance	TID, SEL, SEU qualified per product datasheet
Package	Hermetically sealed SMD / flatpack
Environments	LEO, MEO, GEO, deep space

price on request



3D PLUS (HEICO)

CASPEX 1.3Mpx SWIR Space Camera Head

Space-qualified 1.3-megapixel InGaAs SWIR camera head (3DCM880) with 1280x1024 resolution at 134 fps, global shutter, and FPGA-based processing in a 40x40x44 mm package. Ideal for

Resolution	1280 × 1024 pixels (1.3 Mpx)
Sensor Type	Global Shutter InGaAs CMOS (SWIR)
Maximum Frame Rate	134 fps
Read Noise	240 e ⁻
Dark Current	28 ke ⁻ /s at 25°C
Full Well Capacity	170,000 e ⁻
Operating Temperature	-55°C to +70°C

price on request



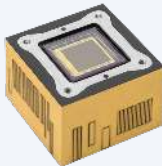
3D PLUS (HEICO)

CASPEX 12Mpx Space Camera Head

Space-qualified 12-megapixel CMOS camera head with 4096x3000 resolution, 68 frame/s, global shutter, and FPGA-based processing in a 40x40x39 mm package. Available in short and long

Resolution	4096 × 3000 pixels (12 Mpx)
Sensor Type	Global Shutter Visible CMOS
Maximum Frame Rate	68 frame/s at sensor interface
Read Noise	2 e ⁻
Dark Current	10 e ⁻ /s at 25°C
Full Well Capacity	11,000 e ⁻
Operating Temperature	-55°C to +70°C

price on request



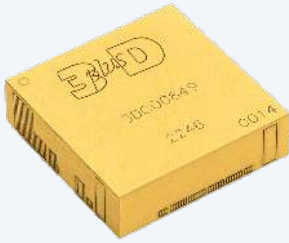
3D PLUS (HEICO)

CASPEX 4Mpx Space Camera Head

Space-qualified 4-megapixel CMOS camera head with FPGA-based reconfigurable architecture, global shutter, 2048x2048 resolution, and SpaceWire interface in a 35x35x23 mm package. Av

Resolution	2048 × 2048 pixels (4 Mpx)
Sensor Type	Global Shutter Visible CMOS
Maximum Frame Rate	Up to 16 frame/s at sensor interface
Read Noise	13 e ⁻
Dark Current	125 e ⁻ /s at 25°C
Full Well Capacity	13,500 e ⁻
Operating Temperature	-40°C to +70°C

price on request



3D PLUS (HEICO)

COMBO – Space-Grade Configuration Memory Boot Manager

Space-grade configuration memory boot manager (3DCO0849) for AMD XQR Versal FPGAs, integrating 16 Gb RT NAND Flash for multiple large bitstreams in a 32×32 mm BGA package with on-o

Part Number	3DCO0849 / 3DMC00849
Compatible FPGA	AMD XQR Versal
NAND Flash Capacity	16 Gb
Power Supply Voltages	1.2V, 2.5V, 3.3V
Temperature Range	-40°C to +105°C
Package	483 balls BGA, 1.27 mm pitch
Module Dimensions	32 × 32 mm ²

price on request



3D PLUS (HEICO)

Fusio RT Space Computer Core

Rad-hard-by-design SRAM-based FPGA computer core family with 4.4 million system gates, 128 Mbit TMR configuration memory, and optional NAND Flash and SDRAM in a single 32×32 mm BGA

FPGA Resources	550k ASIC gate equivalents (4,400,000 system gates)
User I/Os	263
I/O Speed	Up to 800 Mbps
Configuration Memory	128 Mbit TMR NOR Flash
NAND Flash (NAND/FULL)	64 Gb
SDRAM (SDRAM/FULL)	2 Gb
Package	483 balls BGA, 1.27 mm pitch

price on request



3D PLUS (HEICO)

High Density NAND Flash Memory for Space

Ultra-high-density TLC NAND Flash for space in p-SLC mode, offering 4 Tb and 8 Tb capacities via ONFI 4.2/NV-DDR3 at 600 MHz. BGA-packaged for onboard recorders and payload data st

Density Options	4 Tb, 8 Tb
Technology	TLC in p-SLC mode
Interface Standard	ONFI 4.2
Interface Type	NV-DDR3
Maximum Interface Speed	600 MHz
Program/Erase Cycles (p-SLC)	60,000 cycles
Data Retention (SLC mode)	5 years

price on request



3D PLUS (HEICO)

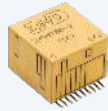
IRIS 4Mpx Space Camera System

Turn-key 4-megapixel space camera system combining CASPEX 4M camera head with space-grade optics and mechanical casing. SpaceWire interface, <400 g mass, and focal length option

Image Sensor	2048 × 2048 Visible CMOS
Resolution	4 Megapixels
Frame Rate (Burst)	Up to 5 fps
Frame Rate (Continuous)	Up to 2 fps
Interface	SpaceWire (2× MDM 9-pin)
Power Supply	4.5V to 9V
Operating Temperature	-40°C to +55°C

price on request

[datasheet](#)



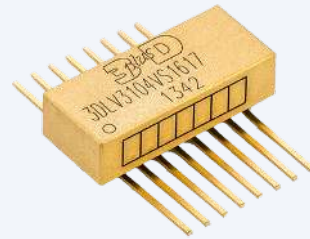
3D PLUS (HEICO)

Latch-Up Current Limiter (LCL)

Radiation-hardened latch-up current limiter (3DPM0168) for space, monitoring 0.8–5.5V supply lines up to 2A with 10 μ s switch-off on overcurrent or SEL event. SOP20 packaged with a

Part Number	3DPM0168
Voltage Range	0.8V to 5.5V
Maximum Current	2A
Switch-off Time	10 μ s maximum
Temperature Range	-40°C to +115°C
Package	SOP20
TID Tolerance	>50 krad(Si)

price on request



3D PLUS (HEICO)

LVDS Space Radiation Tolerant Interfaces

Radiation-tolerant LVDS line drivers, receivers, and transceivers for space with 4 or 8 channels in a single miniaturized SOP package, supporting >400 Mbps on 3.3V. Proven in mi

Switching Rate	>400 Mbps (200 MHz)
Power Supply	3.3V
TID Tolerance	>100 krad(Si)
SEL LETth	>80 MeV.cm ² /mg
SEU Immunity	Immune
Standards	IEEE 1596.3 SCI, ANSI/TIA/EIA-644 LVDS
Mission Duration	15–18 years proven

price on request

[datasheet](#)



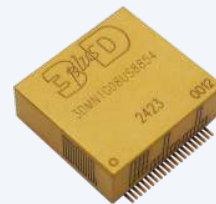
3D PLUS (HEICO)

LVT Space Radiation Hardened Interfaces

Radiation-hardened LVT dual 16-bit transceivers and level shifters for space, providing 32 channels in a single SOP82 package with cold sparing and bus hold, SEL/SEU immune, and TI

Channel Density	32 channels per package
Propagation Delay	1–4 ns
TID Tolerance	>100 krad(Si)
SEL Immunity	Immune
SEU Immunity	Immune
Cold Sparing	Yes
Bus Hold	Yes

price on request



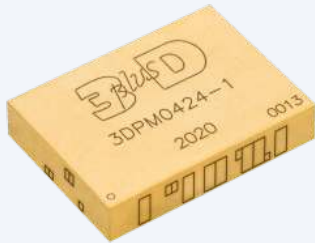
3D PLUS (HEICO)

MNEMOSYNE Space Non-Volatile Memory

SEE-immune non-volatile memory ASIC based on 22 nm STT-MRAM FDSOI technology with up to 1 Gb density, 100 krad(Si) TID tolerance, and immunity to SEL/SEU/SEFI/SET up to 85 MeV.cm²/

Technology	22 nm STT-MRAM FDSOI
Maximum Density	1 Gb
Supply Voltage Options	1.8V or 3.3V
Serial Interface	SPI, DSPI, QSPI, OSPI
Parallel Interface	EEPROM-compatible
Data Retention	20 years
P/E Endurance	100,000 cycles

price on request



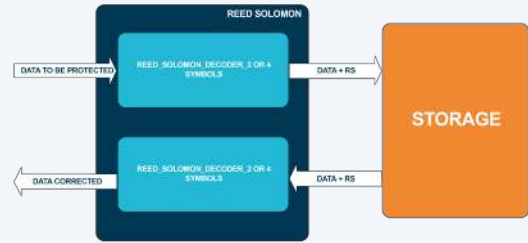
3D PLUS (HEICO)

Rad-Hard DDR Termination Regulator

Space-qualified radiation-hardened termination regulators for DDR2/3/4 memory buses (3DPM0237/0318/0385/0424), providing $\pm 1A$ or $\pm 2A$ with low noise and fast transient response. SOP2

3DPM0237 (DDR2) Input Voltage	1.6V to 2.8V
3DPM0237 Output Current	$\pm 1A$
3DPM0237 Package	SOP24
3DPM0318 (DDR2) Input Voltage	1.6V to 2.8V
3DPM0318 Output Current	$\pm 1A$
3DPM0318 Package	BGA127
3DPM0385 (DDR3) Input Voltage	1.2V to 1.65V

price on request



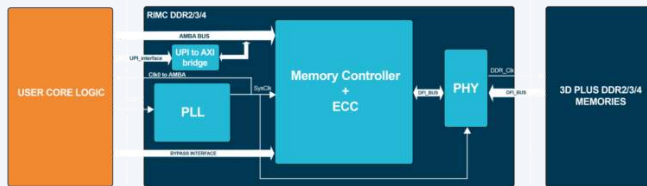
3D PLUS (HEICO)

Reed Solomon Space Radiation Mitigation IP Core

Encoding and decoding Reed-Solomon IP core for space data protection, operating on Galois field $GL(2^4)$ with configurable 1 or 2 symbol correction. Designed to protect data stored

Galois Field	$GL(2^4)$
Symbol Size	4 bits
Maximum Message Size	15 symbols (60 bits)
Symbol Correction Capacity	1 or 2 symbols (configurable)
Encoder Type	Combinatory entity (zero latency)
Decoder Output Delay	Configurable
Error Detection	Incorrigible error detection

price on request



3D PLUS (HEICO)

RIMC – Radiation Intelligent Memory Controller IP

Fully configurable DDR2/3/4 SDRAM memory controller IP core with SEU mitigation, SEFI protection, and AMBA-compliant user interface. Supports data widths from 8-bit to 144-bit and

Supported Memory Types	DDR2, DDR3, DDR4 SDRAM
Data Width Range	8-bit to 144-bit
Maximum Speed (DDR4)	1,200 MHz
PHY Interface (DDR2/3)	DFI 2.1
PHY Interface (DDR4)	DFI 3.1
ECC Options	Hamming or Reed-Solomon
User Interface	AMBA-compliant (AXI/AHB/APB)

price on request



3D PLUS (HEICO)

RTIMS Flash – Radiation Tolerant Intelligent Memory Stack

Plug-and-play radiation-tolerant NAND Flash with embedded Flash Memory Controller (FMC) and TMR/EDAC radiation protection. Available in 24 Gb, 48 Gb, and 64 Gb, enabling seamless i

Density Options	24 Gb, 48 Gb, 64 Gb
Memory Technology	SLC-based NAND Flash with embedded FMC
TID Tolerance	>50 krad(Si)
SEL LETth	>62.5 MeV.cm ² /mg
Program/Erase Cycles	100,000
Data Retention	10 years
SEU Protection	TMR or EDAC

price on request



3D PLUS (HEICO)

Space Point-of-Load (POL) DC/DC Converter

Space-qualified radiation-hardened point-of-load DC/DC converters in three variants (3DPM0211, 3DPM0289, 3DPM0602) covering 4.5–13.2V input and 0.8–5V adjustable output. 16-pin or

3DPM0211 Input Voltage	5V $\pm$ 10%
3DPM0211 Output Voltage	1.225V to 3.8V (adjustable)
3DPM0211 Package	14-pin Gull Wing SMD
3DPM0289 Input Voltage	4.5V to 12V
3DPM0289 Output Voltage	1V to 5V (adjustable)
3DPM0289 Package	16-pin Gull Wing SMD
3DPM0602 Input Voltage	4.6V to 13.2V

price on request



3D PLUS (HEICO)

Space Radiation Hardened Protection Switch

Radiation-hardened protection switch (3DPM0356) for space power distribution, monitoring supply lines up to 7A at 3–12V and switching off in 20 μ s on overcurrent detection. BGA48 p

Part Number	3DPM0356-1
Input Voltage Range	3V to 12V
Maximum Line Current	7A
Voltage Drop	90 mV at 7A
Switch-OFF Time	20 μ s maximum
Temperature Range	-40°C to +105°C
Package	BGA 48-pin, 1.27 mm pitch

price on request



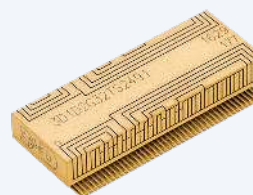
3D PLUS (HEICO)

Space Radiation Mitigation Majority Voter

3-input high-speed octal majority voter (3DRC3508ES2861) with built-in TMR for SEE mitigation in space. Operates 1.65–5.5V at up to 100 Mbps with 13 ns propagation delay and cold s

Part Number	3DRC3508ES2861
Supply Voltage Range	1.65V to 5.5V
Input Voltage	Up to 5.5V at any Vcc
Data Rate	Up to 100 Mbps
Propagation Delay	13 ns maximum at 3.3V
Temperature Range	-55°C to +125°C
Package	SOP54

price on request



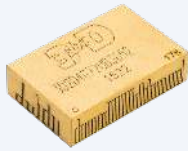
3D PLUS (HEICO)

Space Radiation Tolerant DDR SDRAM (DDR1)

Radiation-tolerant DDR1 SDRAM modules for space applications with densities from 2 Gb to 8 Gb at 400 MT/s. Available in SOP and BGA packages; note these are not recommended for new

Density Range	2 Gb to 8 Gb
Speed	Up to 400 MT/s
Operating Voltage	2.5 V
Data Bus Widths	x16b, x32b, x72b
Temperature Range	-40°C to +105°C
TID Tolerance	>50 krad(Si)
SEL LETth	>80 MeV.cm ² /mg

price on request



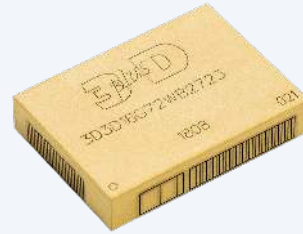
3D PLUS (HEICO)

Space Radiation Tolerant DDR2 SDRAM

Radiation-tolerant DDR2 SDRAM for space with densities from 1 Gb to 8 Gb at up to 667 MT/s on 1.8V. Features embedded decoupling capacitors and has flight heritage on the Mars 2020

Density Range	1 Gb to 8 Gb
Speed	Up to 667 MT/s
Operating Voltage	1.8 V
Data Bus Widths	x8b, x48b, x72b
Temperature Range	-40°C to +105°C
TID Tolerance	>100 krad(Si)
SEL LETth	>68 MeV.cm ² /mg

price on request



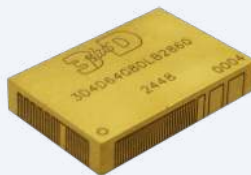
3D PLUS (HEICO)

Space Radiation Tolerant DDR3 SDRAM

Space-qualified DDR3 SDRAM with densities from 16 Gb to 24 Gb at up to 1333 MT/s on 1.35–1.5V. BGA-packaged with embedded decoupling capacitors for signal integrity in harsh orbita

Supply Voltage	1.5V (1.35V backward compatible)
Speed	Up to 1333 MT/s
Available Densities	16 Gb, 24 Gb
Organization Options	x16b, x48b, x72b
Temperature Range	-40°C to +105°C
TID Tolerance	>75 krad(Si)
SEL LETth	>60 MeV.cm ² /mg

price on request



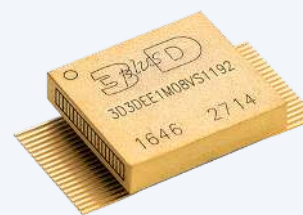
3D PLUS (HEICO)

Space Radiation Tolerant DDR4 SDRAM

Radiation-tolerant DDR4 SDRAM for space with densities from 16 Gb to 64 Gb at up to 2400 MT/s on 1.2V. BGA-packaged with embedded decoupling and termination resistors for high-speed

Capacity Range	16 Gb to 64 Gb
Organization	x48b, x72b, x80b
Vdd/Vddq	1.2 V
Vpp	2.5 V
Speed	Up to 2400 MT/s
Temperature Range	-55°C to +105°C
Package Type	BGA 259 or BGA 363

price on request



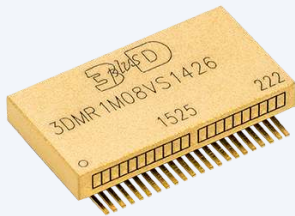
3D PLUS (HEICO)

Space Radiation Tolerant EEPROM

Radiation-tolerant EEPROM for space with on-board and in-orbit programming capability, densities from 1 Mb to 8 Mb, 10,000 write/erase cycles, and 10-year data retention. Available

Density Range	1 Mb to 8 Mb
Write/Erase Cycles	10,000 cycles
Data Retention	10 years
Access Time	250 ns
Supply Voltage	3.3V or 5.0V
Data Bus Widths	x8b, x32b, x40b
Temperature Range	-55°C to +125°C

price on request



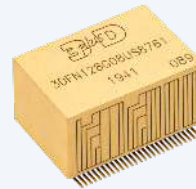
3D PLUS (HEICO)

Space Radiation Tolerant MRAM

Radiation-tolerant MRAM for space based on Everspin technology, offering SRAM-speed performance with inherent SEU immunity, unlimited endurance, and 20-year data retention. Densiti

Density Range	1 Mb to 64 Mb
Supply Voltage	3.3V
Access Time	40 ns
Data Bus Widths	x8b, x16b, x32b, x40b
Read/Write Endurance	Unlimited
Data Retention	20 years
Temperature Range	-55°C to +105°C

price on request



3D PLUS (HEICO)

Space Radiation Tolerant NAND Flash

Radiation-tolerant SLC NAND Flash for space with densities from 8 Gb to 128 Gb, 100,000 P/E cycles, and asynchronous/synchronous parallel interfaces. Designed for high-density data

Density Range	8 Gb to 128 Gb
Technology	Single Level Cell (SLC)
Interface	Asynchronous and synchronous parallel
Data Bus Widths	x8b or x16b
Program/Erase Cycles	100,000 cycles
Data Retention	>10 years
Temperature Range	-55°C to +125°C

price on request



3D PLUS (HEICO)

Space Radiation Tolerant NOR Flash

High-density radiation-tolerant NOR Flash memory for space on 3.3V with parallel interface, densities from 64 Mb to 2 Gb, zero bad blocks, and 20-year data retention. Flight-proven

Density Range	64 Mb to 2 Gb
Supply Voltage	3.3V
Interface	Asynchronous parallel (x8 or x16)
Access Time	90–110 ns
Data Retention	20 years
Bad Blocks	Zero bad block guarantee
Temperature Range	-55°C to +125°C

price on request



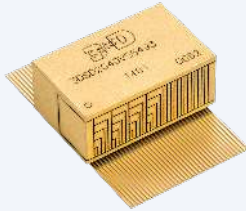
3D PLUS (HEICO)

Space Radiation Tolerant PROM

One-time programmable non-volatile PROM for space applications with up to 128 Mb density, 20-year data retention, and immunity to SEL and SEU up to 120 MeV.cm²/mg. Available with s

Memory Type	Non-volatile, One-Time Programmable (OTP)
Density Range	32 Mb to 128 Mb
Interface	Serial or 8-bit parallel
Clock Rate	20 MHz
Access Time	250 ns
Data Retention	20 years
Temperature Range	-55°C to +125°C

price on request



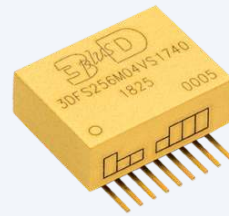
3D PLUS (HEICO)

Space Radiation Tolerant SDRAM

High-performance radiation-tolerant SDRAM for space applications, offering capacities from 512 Mb to 4 Gb at up to 133 MT/s. Proven flight heritage since 2003 across scientific, Ea

Capacity Range	512 Mb to 4 Gb
Operating Speed	Up to 133 MT/s
Data Bus Width	x8, x16, x32, x40, x64 bits
Operating Voltage	3.3 V
Operating Temperature	-40°C to +105°C
TID Tolerance	>50 krad(Si)
SEL LETh	>80 MeV.cm ² /mg

[price on request](#)



3D PLUS (HEICO)

Space Radiation Tolerant SPI NOR Flash

Radiation-tolerant SPI NOR Flash for space in QSPI (high speed, up to 133 MHz) and TMR (SEU-immune) variants, with densities from 128 Mb to 512 Mb on 3.3V. Flight heritage since 20

Density Range	128 Mb to 512 Mb
Operating Voltage	3.3V
QSPI Clock Speed	Up to 133 MHz
TMR Clock Speed	Up to 50 MHz
Data Retention	20 years
Program/Erase Cycles	100,000
Temperature Range	-55°C to +125°C (TMR 128Mb); -55°C to +105°C (others)

[price on request](#)



3D PLUS (HEICO)

Space Radiation Tolerant SRAM Memory

Radiation-tolerant SRAM memory modules for space applications, operating at 3.3V or 5.0V with densities from 4 Mb to 32 Mb and access times of 12 ns. Available in multiple bus widt

Operating Voltage	3.3 V or 5.0 V
Density Range	4 Mb to 32 Mb
Access Time	12 ns
Data Bus Widths	x8b, x16b, x32b, x40b
Temperature Range	-55°C to +125°C
TID Tolerance	>100 krad(Si)
SEL LETh	>110 MeV.cm ² /mg

[price on request](#)

[datasheet](#)

Contact 3D Plus (HEICO)

Open the company profile on NewSpace Market to see full specifications and datasheets, and to send a request for quotation that reaches the manufacturer directly.

<https://newspacemarket.com/companies/3d-plus-heico/>

<https://www.3d-plus.com/>

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