micross
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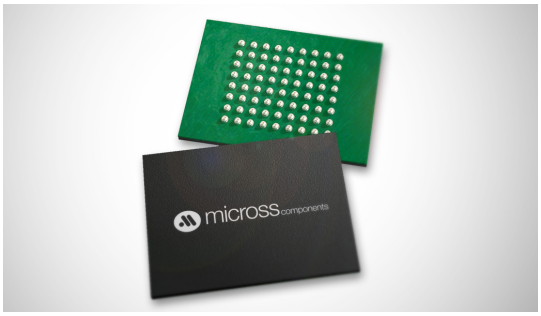
Retail+™
Product Line

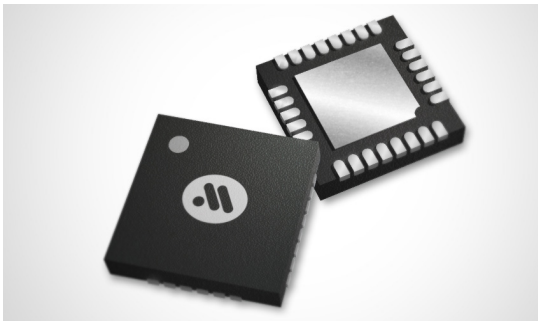
Retail+™ Reballed or Lead-Solder Exchanged and Screened

MICROSS PART NUMBER	DENSITY	DESCRIPTION
		FLASH Memory
MYXN25Q256A13ESFDG	256Mb	Serial NOR Flash
MYX1N512M1PBG	512Mb	Serial NOR Flash
MYX25QL01GB8E12BG	1Gb	Serial NOR Flash
MYX28F256J3F95ABG	256Mb	Parallel NOR Flash
MYX28F00AP33EFABG	1Gb	Parallel NOR Flash
MYX29W640GB70ZABG	64Mb	Parallel NOR Flash
MYX28GU01GAAA2EGCBG	1Gb	Parallel NOR Flash
MYX28GU512AAA2EGCBG	512Mb	Parallel NOR Flash
MYX28GU256AAA2EGCBG	256Mb	Parallel NOR Flash
MYX29GL01GS11DPIV2BG	1Gb	Parallel NOR Flash
MYX28F00AM29EWHBG	1Gb	Parallel NOR Flash
MYXFC64GJDDNBG	64GB	Parallel NAND Flash + Cnt'lr
MYXFC32GJDDQBG	32GB	Parallel NAND Flash + Cnt'lr
MYX8N512M1BA1PBG	512Mb	Octal Flash
		DDR Memory
MYX4DDR264M16HWBG	1Gb	DDR2 SDRAM
MYX4DDR2128M16PKBG	2Gb	DDR2 SDRAM
MYX4DDR364M16JTBG	1Gb	DDR3 SDRAM
MYX4DDR3L128M16JTBG	2Gb	DDR3L SDRAM
MYX4DDR4256M16GEBG	4Gb	DDR4 SDRAM
		FPGA
MYXXC7Z035		ZYNQ-7000 AP SoCs
		Processors
MYXE3845BG		Baytrail SoC
		Power Management IC
MYXPM6021BG		Baytrail PMIC
MYXPM9145QN		Baytrail PMIC
MYXLTM4644IY		Quad DC-DC 4A Reg Module
		Miscellaneous
MYXVSC3340(X and Y)JJ01		6.5Gbps 40x40 Async Crosspoint Switch

Micross Retail+ Product Line enables customers to use industry leading components that were not previously available for their hi-rel, long life applications. Micross purchases COTS components and enhances them for use in military, aerospace, transportation, industrial and medical applications.

Retail+ products are converted from RoHS Pb-free solder metallurgies to tin-lead (SnPb 63/37) based metallurgies. Pb-free BGA packages are reballed and Pb-free leaded and non-leaded packages go through a solder dip exchange using our established processes that brings them up to standards for use in hi-rel applications.





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Electrical Verification

Micross performs the following electrical verification at 25°C on every device (100%):

- I_{CC} Static - Power is applied and all inputs pins/balls are configured in a known state. Overall current consumption is measured.
- Leakage - Power is applied and all inputs are configured in a known state. Current consumption on each pin/ball is measured.
- Continuity - This test is performed on each I/O pin/ball. V_{DD} and V_{SS} are all grounded. ~100uA of current is sinked and sourced across the protection diodes of every I/O pin/ball to test for opens and shorts.

Product Validation

Micross performs the following product validation on every device (100%):

- Visual Inspection - per MIL-STD-883, Test Method 2009
- Automatic Optical Inspection (AOI)
  - Ball Diameter & Ball Height - The ball width (WI) gives the diameter of the ball. It is calculated as the average of the horizontal and vertical ball diameters. See Figure 1.
  - True Position (Ball Offset) - The X offset (XO) and the Y offset (YO) are measured. See Figure 2.
  - Array (Ball) Pitch - The array pitch is the distance between the centers of neighboring balls. For each ball, the system reports the distance to the nearest ball in horizontal or vertical direction (or in diagonal direction for staggered grids). See Figure 3.
  - Ball Coplanarity - Validate that all the balls lie in one plane. See Figure 4.

Micross performs the following additional product validation tests on each product family:

- XRF - Alloy verification
- Ball Shear - Per JESD22-B117; evaluates quality of ball attachment
- SonoScan - Package voiding
- X-Ray - Solder voiding
- Ionograph - Bulk ICE
- MSL - J-STD-20

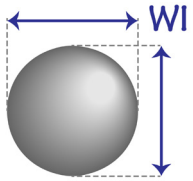

Figure 1
Ball Diameter & Ball Height

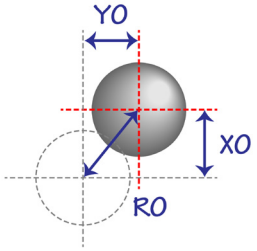

Figure 2
True Position (Ball Offset)

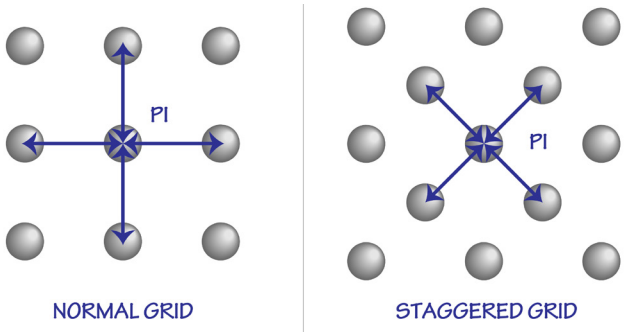

Figure 3
Array (Ball) Pitch

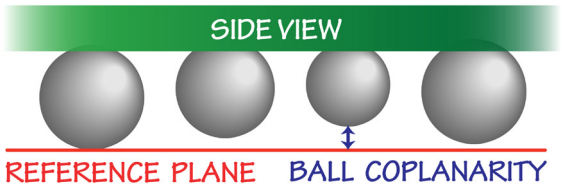

Figure 4
Ball Coplanarity

Options	
Temperature Range	C, CT or blank = Commercial (0°C to +70°C)
	IT = Industrial (-40°C to +85°C)
	ET = Enhanced (-40°C to +105°C)
	AT = Automotive (-40°C to +125°C)
	XT & M = Extended & Military (-55°C to +125°C)
Markings	L = Label (default)
	D = Orange Dot
Special	ZZZ = Three-digit special flow requirement
	MFC = LMCO Missile Fire & Command