product brief

NEW UHD-SDI SOLUTIONS

New UHD-SDI solutions are needed with the emergence of next generation broadcast television and D-Cinema applications including: UHDTV-1, 4K D-Cinema, UHDTV-2, high frame rate (HFR) and high dynamic range (HDR) production. UHD-SDI offers a simple, proven, uncompressed interface solution for the transport of high-quality multi-media content.

DEDICATED TO CUSTOMER SUCCESS

Our commitment to customer success is evident in everything we do. That's why we:

- Comprehensively test each component in production, assuring high yield on assembled boards.

- Offer complimentary design review and feedback on Semtech-based designs to shorten design cycles, reduce risks and optimize performance.

- Provide dedicated field and applications engineering support throughout the product's life-cycle.

UHD-TV Semiconductors

A WORLD OF SOLUTIONS

Semtech's Gennum Products Group extends its 20+ year leadership in SDI technology by being first to market with an array of advanced UHD-SDI solutions. Semtech's multi-rate device line-up enables customer roadmaps, facilitating the creation of differentiated and advanced UHD-SDI products. We offer the world's most advanced solutions designed specifically for real world broadcast challenges, including the latest innovations designed to help push the boundaries of performance, reach, power and signal integrity, while reducing time to market and design risks.

INDUSTRY-LEADING UHD-SDI PRODUCTS

We offer the most comprehensive end-to-end portfolio of UHD-SDI video solutions available, including our new family of long-reach, multi-rate 12G retiming equalizers and cable drivers, 6G high performance reclockers, low-power 3G equalizer and cable drivers, integrated adaptive cable equalizers and cable drivers, and innovative UHD-SDI gearbox solutions.

Adaptive Equalizers

	Part Number	Application	Data Rate (Mb/s)	Power (mW)	Outputs	Cable Length (m)	Cable Length Indication
NEW	GS12141*	Multi-rate, low power, long reach	1-11880	320	2	12G (70), 6G (90), 3G (180), HD (240), SD (300)	Yes
	GS3140	Multi-rate, low power, long reach	1-2970	83	1	3G (200), HD (280), SD (500)	Yes
	GS6042	Multi-rate, long reach	125 - 5940	180	1	6G (80), 3G (210), HD (300), SD (550)	No
	GS3440 / GS3441	Long Reach	125 - 2970	169 / 212	1 / 2	3G (210), HD (250), SD (500)	No / Yes
	GS2993 / GS2994	Long Reach	143 - 2970	165 / 165	2 / 1	3G (140), HD (200), SD (400)	Yes / No
	GS1674	HD/SD	143 - 1485	195	1	3G (NA), HD (220), SD (400)	No

Cable Drivers

	Part Number	Application	Data Rate (Mb/s)	Power (mW)	Input Trace EQ	Outputs	Max Output Swing (mV)
NEW	GS12181*	12Gb/s Dual output cable driver	1 - 11880	310**	Yes	2	1600
	GS6080 / GS6081	6Gb/s Single or Dual output cable driver	143 - 5940	135 / 210	Yes	2 / 4	1800
	GS2988 / GS2989	3Gb/s Single or Dual output	143 - 2970	110 / 180	Yes	2 / 4	1800

Reclockers

	Part Number	Application	Data Rate (Mb/s)	Input MUX	Input Trace EQ	Output De-emphasis	Package (mm)
NEW	GS6151	Multi-rate Reclocking with eye monitoring, low power, high density	270, 1485, 2970, 5940	2:1	Yes	Yes	4x4
	GS6152	Multi-rate Reclocking with eye monitoring, low power	270, 1485, 2970, 5940	4:1	Yes	Yes	6x6
	GS2985 / GS2986	3G/HD/SD Reclocking	270, 1485, 2970	4:1	Yes	Yes	9x9 / 6x6
	GS2965	3G/HD/SD Reclocking, high density	270, 1485, 2970	2:1	Yes	Yes	5x5

Configurable SDI Input/Output - Equalizer/Cable Driver

Part Number	Application	Data Rate (Mb/s)	Power (mW)	Outputs	Cable Reach	DVB-ASI
GS3490	Integrated EQ/CD	125 - 2970	EQ: 202 CD:215	EQ:1, CD:1	3G: 140, HD: 250, SD: 550	Yes

Gearbox

Part Number	SDI Rates	Error and Format detection	SMPTE 352M Handling	Input SKEW adjustment	Per Lane output delay adjustment	Temp Range	Pkg
GS12070*	HD, 3G, 6G, 12G, (270 Bypass)	YES	YES	YES	YES	-40 to +85	BGA196

Transmitters

Part Number	Data Rate (Mb/s)	Audio Embedded	Output Jitter (ps)	Video Processing	Parallel Bus Width	Power (mW)
GS2972 / GS2962	270, 1485, 2970	Yes / No	3G (40), HD (50), SD (200)	Yes	10 or 20	400 / 350
GS1672 / GS1662	270, 1485	Yes / No	HD (50), SD (200)	Yes	10 or 20	350 / 330

Receivers

Part Number	Data Rate (Mb/s)	Equalizer	Audio Embedded	Video Processing	Audio Clock Generator	Power (mW)
GS2971A / GS2961A	270, 1465, 2970	Yes	Yes / No	Yes	Yes / No	525 / 500
GS2970A	270, 1485, 2970	No	Yes	Yes	Yes	350
GS2960A	270, 1465, 2970	No	No	Yes	No	320
GS1661A / GS1660A	270, 1465	Yes / No	No	Yes	No	460 / 250

Crosspoint

Part Number	Data Rate (Gb/s)	Inputs	Outputs	Power (W)	Input Trace EQ	Output De-emphasis
GX3290 / GX3190	3.5	290 / 146	290	34 / 25	Yes	Yes
GX3246 / GX3202	3.5	290 / 202	146/ 202	18 / 24	Yes	Yes
GX3146	3.5	146	146	18	Yes	Yes

Part specifications are preliminary and subject to change
*** Power specifications includes power consumed by integrated retimer*

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