Содержание

FPGA Gowin 3
IP Cores 3
Common 3
GW1N 4
GW1NR 6
GW1NSR 6
GW2A 7
GW2AN 7

FPGA Gowin

IP Cores

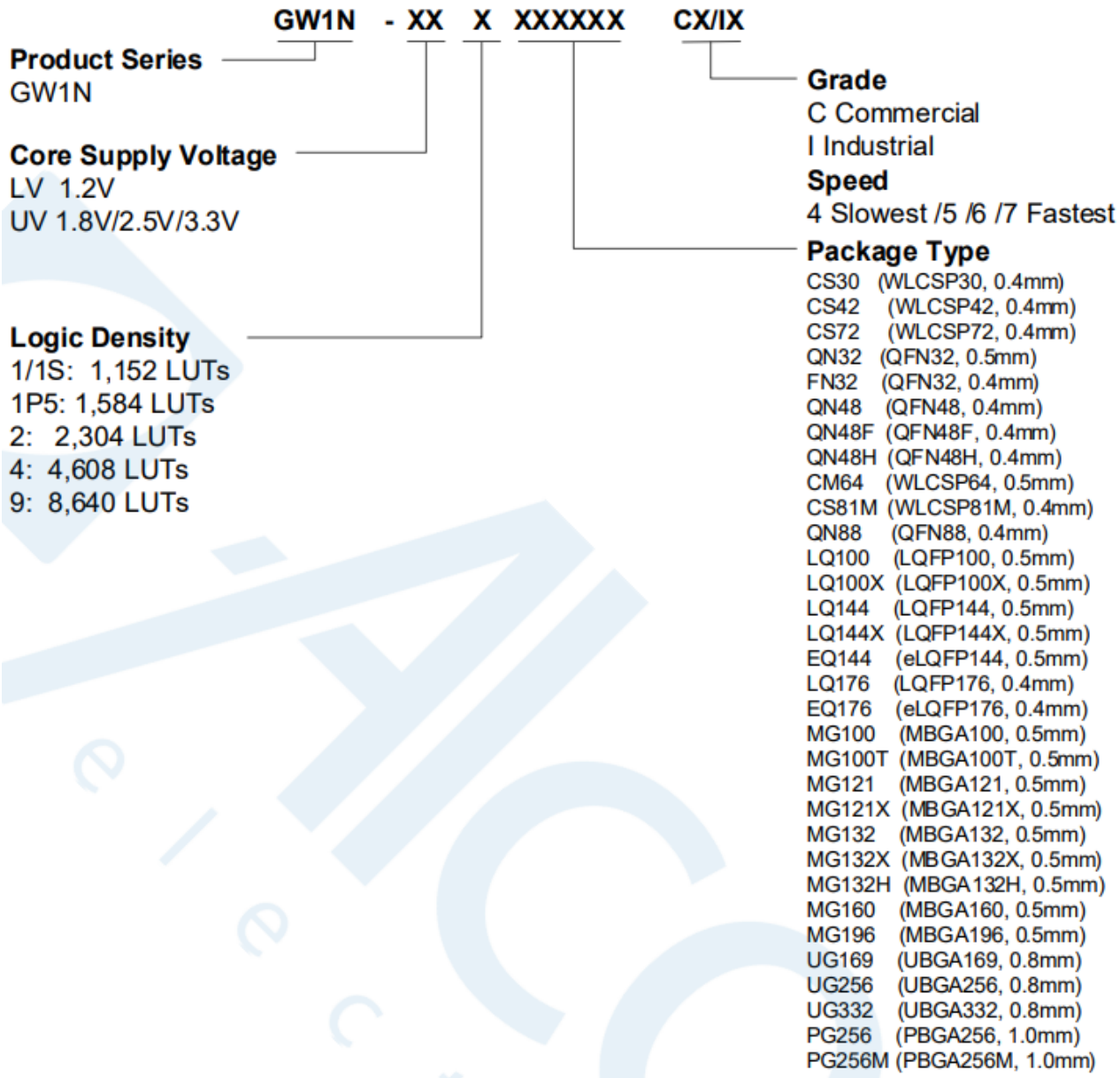
link	ext	description	manufacturer	version	date	lang
IPUG538-1.0E_Gowin Triple Speed Ethernet MAC User Guide.pdf	pdf	**IPUG538** Gowin Triple Speed Ethernet MAC User Guide IPUG538-1.0E, 2/20/2019	Gowin	v1.0E	2019.02.20	EN
IPUG525E_2020_12_15_PSRAM.pdf	pdf	**IPUG525** Gowin PSRAM Memory Interface IP User Guide IPUG525-1.3.1E,12/15/2020	Gowin	v1.3.1E	2020.12.15	EN
IPUG944E_2020_12_15_HyperRam.pdf	pdf	**IPUG944** Gowin HyperRAM Memory Interface IP User Guide IPUG944-1.0.1E, 12/15/2020	Gowin	v1.0.1E	2020.12.15	EN
IPUG945E_2023_02_22_SPI_NOR_FLASH.pdf	pdf	**IPUG945** Gowin SPI Nor Flash Interface IP User Guide IPUG945-1.3E,02/22/2023	Gowin	v1.3E	2023.02.22	EN
IPUG931E_2022_12_16_EMPU_GW1NS-4C.pdf	pdf	**IPUG931** Gowin_EMPU(GW1NS-4C) Software Programming Reference Manual IPUG931-1.3E, 12/16/2022	Gowin	v1.3E	2022.12.16	EN

Common

UG289E_2023_04_20_GPIO.pdf	pdf	**UG289** Gowin Programmable IO (GPIO) User Guide UG289-2.1.3E, 04/20/2023	Gowin	v2.1.3E	2023.04.20	EN
UG289E.pdf	pdf	**UG289** Gowin Programmable IO (GPIO) User Guide UG289-2.0E, 01/24/2022	Gowin	v2.0E	2022.01.24	EN
UG290E.pdf	pdf	**UG290** Gowin FPGA Products Programming and Configuration Guide UG290-2.6.7E, 03/13/2023	Gowin	v2.6.7E	2023.03.13	EN
UG290E.pdf	pdf	**UG290** Gowin FPGA Products Programming and Configuration Guide UG290-2.5.1E, 05/10/2022	Gowin	v2.4.1E	2022.05.10	EN

UG285E_2023_01_05_BSRAM_SSRAM.pdf	pdf	**UG285** Gowin BSRAM & SSRAM User Guide UG285-1.3.5E, 01/05/2023	Gowin	v1.3.5E	2023.01.05	EN
UG295E_2023_02_22_USER_FLASH.pdf	pdf	**UG295** Gowin User Flash User Guide UG295-1.4.3E, 02/22/2023	Gowin	v1.4.3E	2023.02.22	EN
UG287E_2023_01_05_DSP.pdf	pdf	**UG287** Gowin Digital Signal Processing (DSP) User Guide UG287-1.3.3E, 01/05/2023	Gowin	v1.3.3E	2023.01.05	EN
UG286E_2022_11_01_CLOCK.pdf	pdf	**UG286** Gowin Clock User Guide UG286-1.9.6E, 11/01/2022	Gowin	v1.9.6E	2022.11.01	EN
SUG935E_2023_03_31_CONSTR.pdf	pdf	**SUG935** Gowin Design Physical Constraints User Guide SUG935-1.3.3E, 03/31/2023	Gowin	v1.3.3E	2023.03.31	EN

GW1N



IT link	p\n	LE	case	size	pitch	core	txrx count	txrx sg	txrx speed	temp range	fpga sg	PCIe	Mem cntrl
IT	GW1N-LV4PG256MC5	4608	BGA-256	17×17	1	1.2V	-	-	-	0...85	5 (4 is slowest)	-	-

link	ext	description	manufacturer	version	date	lang
DS100-2.6.2E_GW1N-series-of-FPGA-Products-Data-Sheet.pdf	pdf	**DS100** GW1N series of FPGA Products Data Sheet DS100-2.6.2E, 07/16/2021 V. 09/21	Gowin	v2.6.2E	2021.07.16	EN
GW1N_series_of_FPGA_Products_Data_Sheet-1830682.pdf	pdf	**DS100** GW1N series of FPGA Products Data Sheet DS100-1.8E, 07/08/2019	Gowin	v1.8E	2019.08.07	EN

link	ext	description	manufacturer	version	date	lang
UG103E.pdf	pdf	**UG103** GW1N series of FPGA Products Package & Pinout User Guide UG103-2.6E, 01/20/2022	Gowin	v2.6E	2022.01.20	EN
UG107E.pdf	pdf	**UG107** GW1N series FPGA Products GW1N-1 Pinout UG107-1.1E	Gowin	v1.1E	2020.02.24	EN
UG105E.pdf	pdf	**UG105** GW1N Series of FPGA Products GW1N-4 Pinout UG105-1.8.1E	Gowin	v1.8.1E	2022.06.10	EN

GW1NR

DS117-2.9.8E	DS117-2.9.8E	02/23/2023	GW1NR series of FPGA Products Data Sheet

GW1NSR

DS861-1.6E	DS861-1.6E	03/30/2023	GW1NSR Series of FPGA Products Datasheet
DS861-1.1E	DS861-1.1E	01/03/2019	GW1NSR series of FPGA Products Datasheet
UG823-1.5E	UG823-1.5E	10/18/2022	GW1NSR series of FPGA Products Package & Pinout User Guide
UG864-1.1.2E	UG864-1.1.2E	05/04/2023	UG864, GW1NSR-4 Pinout
UG865-1.1.2E	UG865-1.1.2E	05/04/2023	UG865, GW1NSR-4C Pinout



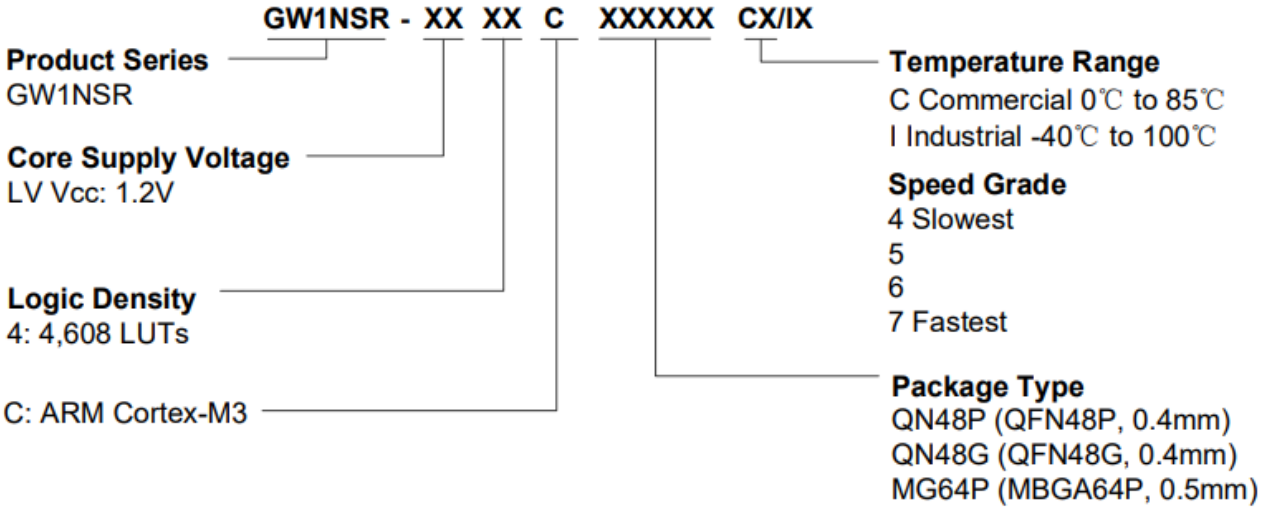
The SoC with the package suffix of ”G”, such as **QN48G**, is embedded with NOR FLASH.

Table 2-3 Memory Information

Device	Package	Memory	Capacity	Bit Width
GW1NSR-4	MG64P	PSRAM	64Mb	16 bits
GW1NSR-4C	MG64P	PSRAM	64Mb	16 bits
	QN48P	HyperRAM		8 bits
	QN48G	NOR Flash	32Mb	1 bit

IT link	p\n	LE	case	size	pitch	core	txrx count	txrx sg	txrx speed	temp range	fpga sg	PCIe	Mem cntrl	CPU
IT	GW1NSR-LV4CQN48PC7/I6	4608	QFN-48	6×6	0.4	1.2V	-	-	-	?	C7/I6	-	-	Cortex-M3

Figure 5-4 GW1NSR-4C Part Naming – Production



https://github.com/verilog-indeed/gowin_fpga_tutorials/tree/main/gowin_empu

GW2A

DS102-2.6E	DS102-2.6E	03/16/2023	GW2A series of FPGA Products Data Sheet

GW2AN

DS971-1.07E	DS971-1.07E	02/24/2023	GW2AN-18X and GW2AN-9X Data Sheet