GX850 Specifications for NTSC Area

Category	Item			Specification
TYPE	Type			Digital Single Lens Mirrorless camera
	Recording media			microSD Memory Card, microSDHC Memory Card, microSDXC Memory Card (Compatible with UHS-I standard SDHC / SDXC Memory Cards)
	Image sensor size			17.3 x 13.0 mm (in 4:3 aspect ratio)
	Lens mount			Micro Four Thirds mount
IMAGE SENSOR	Type			Live MOS Sensor
	Total pixels			16.84 megapixels
	Camera effective pixels			16.00 megapixels
	Color filter			Primary color filter
	Dust reduction system			Supersonic wave filter
RECORDING SYSTEM	Recording file format	Still image		JPEG (DCF, Exif 2.3), RAW, MPO (When attaching 3D lens in Micro Four Thirds system standard)
		Motion picture		AVCHD (Audio format: Dolby Audio 2ch), MP4 (Audio format: AAC 2ch)
	Aspect ratio			4:3, 3:2, 16:9, 1:1
	Image quality			RAW, RAW+Fine, RAW+Standard, Fine, Standard
				MPO+Fine / MPO+Standard (with 3D lens in Micro Four Thirds system standard)
	Color space			sRGB, AdobeRGB
	File size (Pixels)	Still image		[4:3] 4592x3448(L) / 3232x2424(M) / 2272x1704(S) / 1824x1368 (When attaching 3D lens in Micro Four Third system standard)
				[3:2] 4592x3064(L) / 3232x2160(M) / 2272x1520(S) / 1824x1216 (When attaching 3D lens in Micro Four Third system standard)
				[16:9] 4592x2584(L) / 3840x2160(M) / 1920x1080(S) / 1824x1024 (When attaching 3D lens in Micro Four Third system standard)
				[1:1] 3424x3424(L) / 2416x2416(M) / 1712x1712(S) / 1712x1712 (When attaching 3D lens in Micro Four Third system standard)
		Motion picture*	MP4*	[4K] 3840x2160 — 4K/30p: 100Mbps; 4K/24p: 100Mbps
				[Full HD] 1920x1080 — FHD/60p: 28Mbps; FHD/30p: 20Mbps
				[HD] 1280x720 — HD/30p: 10Mbps
			AVCHD*	[Full HD] 1920x1080 — FHD/60p: 28Mbps, 60p recording; FHD/60i: 17Mbps, 60i recording; FHD/30p: 24Mbps, 60i recording (sensor output is 30fps); FHD/24p: 24Mbps, 24p recording
	Continuous recordable time (Motion picture)			AVCHD [FHD/60i]: Approx. 60 min with H-FS12032 / H-PS14042
				MP4 [4K/30p]: Approx. 40 min with H-FS12032 / H-PS14042
	Actual recordable time (Motion picture)			AVCHD [FHD/60i]: Approx. 30 min with H-FS12032 / H-PS14042
				MP4 [4K/30p]: Approx. 20 min with H-FS12032 / H-PS14042
Wi-Fi FUNCTION	Wi-Fi			IEEE 802.11b/g/n, 2412 MHz - 2462 MHz (1-11 ch), Wi-Fi / WPA / WPA2, Infrastructure mode
	NFC			No
	QR code connection			Yes
	Password-less connection			Yes (ON / OFF selectable)
FOCUS	Type			Contrast AF system
	DFD technology			Yes
	Post Focus			Yes
	Focus Stacking			Yes
	Focus mode			AFS (Single) / AFF (Flexible) / AFC (Continuous) / MF
	AF mode			Face/Eye Detection / Tracking / 49-Area / Custom Multi / 1-Area / Pinpoint
				(Full area touch is available)
	AF detective range			EV -4 - 18 (ISO100 equivalent)
	Starlight AF			Yes
	AF assist lamp			Yes
	AF lock			Set the Fn button in custom menu to AF lock
	Others			AF-ON (One Shot AF), Shutter AF, Half Press Release, Quick AF, Continuous AF (during motion picture recording), AF+MF, MF Assist, Touch MF Assist, Focus Peaking, Touch AF/AE Function, Touch Shutter
EXPOSURE CONTROL	Light metering system			1728-zone multi-pattern sensing system
	Light metering mode			Multiple / Center Weighted / Spot
	Metering range			EV 0 - 18 (F2.0 lens, ISO100 equivalent)
	Exposure mode			Program AE, Aperture Priority AE, Shutter Priority AE, Manual
	ISO sensitivity (Standard output sensitivity)			Auto / Intelligent ISO / 100 (Extended) / 200 / 400 / 800 / 1600 / 3200 / 6400 / 12800 / 25600 (Changeable to 1/3 EV step)
				(Up to ISO3200 in motion picture recording)
	Exposure compensation			1/3 EV step ±5EV (±3EV for motion picture)
	AE lock			Set the Fn button in custom menu to AE lock
WHITE BALANCE	White balance			Auto / Daylight / Cloudy / Shade / Incandescent / Flash / White Set 1, 2, 3, 4 / Color temperature setting
	White balance adjustment			Blue/Amber bias, Magenta/Green bias
	Color temperature setting			2500 - 10000K in 100K
SHUTTER	Type			Single curtain focal plane shutter / Electronic shutter
	Shutter speed			Still image: Time (Max. 60 second), 1/16,000 - 60 (Shutter type Auto)
				Motion picture: 1/16,000 - 1/25
	Self timer			10sec, 3 images / 2sec / 10sec
SCENE GUIDE	Still image			Portrait (mode dial) / Child (mode dial) / Silky Skin / Backlit Softness / Relaxing Tone / Distinct Scenery / Bright Blue Sky / Romantic Sunset Glow / Vivid Sunset Glow / Glistening Water / Clear Nightscape / Cool Night Sky / Warm Glowing Nightscape / Artistic Nightscape / Glittering Illuminations / Handheld Night Shot / Clear Night Portrait / Soft Image of a Flower / Appetizing Food / Cute Dessert / Freeze Animal Motion / Clear Sports Shot / Monochrome
	Motion picture			Portrait (mode dial) / Child (mode dial) / Silky Skin / Backlit Softness / Relaxing Tone / Distinct Scenery / Bright Blue Sky / Romantic Sunset Glow / Vivid Sunset Glow / Clear Nightscape / Cool Night Sky / Warm Glowing Nightscape / Artistic Nightscape / Handheld Night Shot / Clear Night Portrait / Appetizing Food / Cute Dessert / Freeze Animal Motion / Clear Sports Shot / Monochrome
BRACKET	AE bracket			3, 5, 7 images in 1/3, 2/3 or 1 EV step, max. ±3 EV, single/burst
	White balance bracket			3 exposures in blue/amber axis or in magenta/green axis
PANORAMA SHOT				Yes (Standard / Wide / Self Shot Mode)
BURST SHOOTING	Burst speed			[Mechanical shutter]
				AFS: H: 5.8 frames/sec, M: 4 frames/sec (with Live View), L: 2 frames/sec (with Live View)
				AFC: H: 5 frames/sec (in 1-area-focusing AF mode), M: 5 frames/sec (with Live View), L: 2 frames/sec (with Live View)
				[Electronic shutter]
				AFS: H: 10 frames/sec, M: 4 frames/sec (with Live View), L: 2 frames/sec (with Live View)
				AFC: H: 6 frames/sec, M: 6 frames/sec (with Live View), L: 2 frames/sec (with Live View)
	Number of recordable images			More than 15 images (when there are RAW files with the particular speed)
				More than 100 images (when there are no RAW files)
				(Depending on memory card type, aspect, picture size and compression)
4K PHOTO MODE	4K Photo mode*			4K Burst: 30 frames/sec
				4K Burst (S/S): 30 frames/sec
				4K Pre-Burst: 30 frames/sec, approx. 2 seconds
	Exif information			Yes
	Marking function			Yes (in 4K Burst (S/S) mode)
TIME LAPSE SHOT				Yes
STOP MOTION ANIMATION				Yes
FLASH	Flash type			TTL Built-in-Flash, GN5.6 equivalent (ISO200 ･m) / GN4.0 equivalent (ISO100 ･m), Built-in Pop-up (Reference)
	Flash mode			Auto*, Auto/Red-eye Reduction*, Forced On, Forced On/Red-eye Reduction, Slow Sync., Slow Sync./Red-eye Reduction, Forced Off * For iA, iA+ only.
	Synchronization speed			Less than 1/50 second
	Flash output adjustment			1/3EV step ±2EV
	Flash synchronization			1st Curtain Sync., 2nd Curtain Sync.
SILENT MODE				Yes
REAR MONITOR	Type			TFT LCD monitor with static touch control, Tiltable monitor
	Monitor size			3.0-inch (7.5cm) / 3:2 aspect / Wide viewing angle
	Pixels			Approx. 1,040k dots
	Field of view			Approx. 100%
	Monitor adjustment			Brightness, Contrast, Saturation, Red-Green, Blue-Yellow
LIVE VIEW	Digital zoom			2x, 4x
	Extra Tele Conversion			Still image: Max. 2x
				Motion picture: 2.4x (FHD), 3.6x (HD)
	Other functions			Level Gauge, Real-time Histogram, Guide Lines (3 patterns), Center Marker, Highlight display (Still image / motion picture), Zebra Pattern (Still image / motion picture)
DIRECTION DETECTION FUNCTION				Yes
SELF SHOT	Self Shot Mode			Yes (Single, Self timer: 1, 2, 3 or 4 images, 4K PHOTO, Panorama)
	Shutter			Shutter Button, Touch, Face Shutter, Buddy Shutter
	Effect			Soft Skin: 10 levels, Filter Select: Expressive / Retro / High Key / Monochrome / Toy Effect, Background Control: Defocus / Clear, Sliming Mode: 10 levels
FUNCTION BUTTON	Fn1, Fn2, Fn3, Fn4, Fn5, Fn6, Fn7, Fn8			4K Photo Mode / Post Focus / Wi-Fi / Q.MENU / AF/AE LOCK / AF-ON / Preview / One Push AE / Touch AE / Level Gauge / Zoom Control / Cursor Button Lock / Photo Style / Filter Select / Aspect Ratio / Picture Size / Quality / Sensitivity / Metering Mode / Bracket / Focus Mode / i. Dynamic / i. Resolution / HDR / Shutter Type / Flash Mode / Flash Adjust. / Ex. Tele Conv. / Digital Zoom / Stabilizer / Snap Movie / Motion Pic. Set / Picture Mode / Silent Mode / Peaking / Histogram / Guide Line / Zebra Pattern / Monochrome Live View / Rec Area / Step Zoom / Zoom Speed / Touch Screen / Restore to Default
PHOTO STYLE	Still image and motion picture			Standard / Vivid / Natural / Monochrome / L. Monochrome / Scenery / Portrait / Custom
CREATIVE CONTROL	Still image			Expressive / Retro / Old Days / High Key / Low Key / Sepia / Monochrome / Dynamic Monochrome / Rough Monochrome / Silky Monochrome / Impressive Art / High Dynamic / Cross Process / Toy Effect / Toy Pop / Bleach Bypass / Miniature Effect / Soft Focus / Fantasy / Star Filter / One Point Color / Sunshine
	Motion picture			Expressive / Retro / Old Days / High Key / Low Key / Sepia / Monochrome / Dynamic Monochrome / Impressive Art / High Dynamic / Cross Process / Toy Effect / Toy Pop / Bleach Bypass / Miniature Effect / Fantasy / One Point Color
MOTION PICTURE FUNCTION	Flicker reduction			[1/50] / [1/60] / [1/100] / [1/120] / OFF
PLAYBACK	Playback function			30-thumbnail display, 12-thumbnail display, Calendar display, Zoomed playback (Max. 16x), Slideshow (All / Picture Only / Video Only, duration & effect is selectable), Playback Mode (Normal / Picture Only / Video Only), Location Logging, RAW Processing, 4K PHOTO Bulk Saving, Light Composition, Clear Retouch, Title Edit, Text Stamp, Video Divide, Time Lapse Video, Stop Motion Video, Resize, Cropping, Rotate, Rotation Display, Favorite, DPOF Print Set, Protect, Face Recognition Edit, Picture Sort, Creating Still Pictures from a Motion Picture
IMAGE PROTECTION / ERASE	Protection			Single / Multi
	Erase			Single / Multi / All / Except Favorite
PRINT	Direct print			PictBridge compatible
INTERFACE	USB			USB 2.0 Micro-B
	HDMI**			microHDMI TypeD / VIERA Link
				Video: Auto / 4K / 1080p / 1080i / 720p / 480p
				Audio: Stereo
	Audio video output			No
	Microphone			Stereo, Wind Noise Canceller: OFF / Standard / High
	Speaker			Monaural
LANGUAGE	OSD language			Please refer to "OSD" Sheet
POWER	Battery			Li-ion Battery Pack (7.2V, 680mAh, 4.9Wh) (included)
				USB power charging
	Battery life (CIPA standard)			Approx. 210 images with H-FS12032
				Approx. 200 images with H-PS14042
DIMENSIONS / WEIGHT	Dimensions (W x H x D)			106.5 x 64.6 x 33.3 mm / 4.2 x 2.55 x 1.32 inch (excluding protrusions)
	Weight			Approx. 269g / 0.60 lb (microSD card, Battery, Body)
				Approx. 239g / 0.53 lb (Body only)
				Approx. 336g / 0.75 lb (microSD card, Battery, H-FS12032 lens included)
				Approx. 364g / 0.81 lb (microSD card, Battery, H-PS14042 lens included)
OPERATING ENVIRONMENT	Operating temperature			0°C to 40°C (32°F to 104°F)
	Operating humidity			10%RH to 80%RH
STANDARD ACCESSORIES	Software			・The software to edit and playback images on computer is not bundled with this camera. To do this, PHOTOfunSTUDIO is available for download at Panasonic website using computer connected to the Internet. http://panasonic.jp/support/global/cs/soft/download/d_pfs99pe.html (For Windows)
				・The software to process RAW file on computer is not bundled with this camera. To do this, SILKYPIX Developer Studio is available for download at Ichikawa Soft Laboratory's website using computer connected to the Internet. http://www.isl.co.jp/SILKYPIX/english/p/ (For Windows / Mac)
	Standard accessories			DC-GF9K / GX850K / GF9X Kit — Battery Pack, AC Adaptor, AC Cable, USB Connection Cable, Shoulder Strap, Lens Cap
				・The DC-GF9/GX850 Operating Instructions for advanced features is available for downloaded at Panasonic LUMIX Customer Support Site using PC, smartphone or tablet connected to the Internet.

* About motion picture recording / 4K PHOTO recording
- Use a card with SD Speed Class with "Class 4" or higher when recording motion pictures.
- Use a card with SD Speed Class with "UHS-I UHS Speed Class 3 (U3)" when recording motion pictures with [MP4] in [4K] or [4K PHOTO].
  (SD speed class is the speed standard regarding continuous writing.)
- Recording stops when the continuous recording time exceeds 20 minutes in [FHD/60p] [FHD/60i].
- Recording stops when the continuous recording time exceeds 5 minutes with [MP4] in [4K].
- MP4 motion pictures with [MP4] in [4K]:
  - When using an microSDHC memory card: You can continue recording without interruption even if the file size exceeds 4 GB, but the motion picture file will be divided and recorded/played back separately.
  - When using an microSDXC memory card: You can record a motion picture in a single file.
- MP4 motion pictures with [MP4] in [FHD] [HD]:
  - You can continue recording without interruption even if the file size exceeds 4 GB, but the motion picture file will be divided and recorded/played back separately.
- When the ambient temperature is high or continuous recording is performed, the camera may stop the recording to protect itself. Wait until the camera cools down.

** For [4K] video output, use an HDMI cable that has the HDMI logo on it, and that is described as"4K compatible".