

Globaltop GNSS Module Family

Product Identification		Family		Ivory Family		FireFly Family		LadyBird Family		Titan Family			
		Name		Ivory 3	Ivory 4	FireFly 1	FireFly 1b	LadyBird 1	LadyBird 3	Titan 2	Titan 2B	Titan 3	
		       		<i>Recommended</i>	<i>Recommended</i>	<i>Recommended</i>	<i>Recommended</i>	<i>Recommended</i>	<i>Recommended</i>	<i>Recommended</i>	<i>Recommended</i>		
				       									
				Part Number	GMM-U2P	FGPMMOSL3C	GMM-G3	GMM-G3(B)	FGPMMOPA6H	FGPMMOPA6C	GMS-G6	GMS-B6	GMS-G9
				Chipset	MT3339	MT3339	MT3333	MT3333	MT3339	MT3339	MT3333	MT3333	MT3333
System	GPS	GPS	GPS + Glonass	GPS + Beidou	GPS	GPS	GPS + Glonass	GPS + Beidou	GPS + Glonass				
Physical Characteristics		Size (mm)	12.7 x 9 x 2.1	11.5 x 13 x 2.1	11.5 x 13 x 2.1	11.5 x 13 x 2.1	16 x 16 x 4.7	16 x 16 x 6.2	16 x 16 x 6.8	16 x 16 x 6.8	19.5 x 19.5 x 7.2		
		Weight (grams)	1	2	1	1	4	6	6	6	8		
		Pins	18 Pins LCC	16 Pins LCC	16 Pins LCC	16 Pins LCC	20 Pins LCC	13 Pins LCC	20 Pins LCC	20 Pins LCC	12 Pins LCC		
		Built-in Antenna	-	-	-	-	Patch 15x15x2.5	Patch 15x15x4	Patch 15x15x4	Patch 15x15x4	Patch 18.5x18.5x4		
		Operation Temperature (°C)	- 40 to + 85	- 40 to + 85	- 40 to + 85	- 40 to + 85	- 40 to + 85	- 40 to + 85	- 40 to + 85	- 40 to + 85	- 40 to + 85		
Channels		Acquisition	22	22	33	33	22	22	33	33	33		
		Tracking	66	66	99	99	66	66	99	99	99		
Sensitivity (dBm)		Acquisition	-148	-148	-148	-148	-148	-148	-148	-148	-148		
		Tracking	-165	-165	-165	-165	-165	-165	-165	-165	-165		
TTFF (seconds)		Cold Start	35 (15 with AGPS)	35 (15 with AGPS)	35 (15 with AGPS)	35 (15 with AGPS)	35 (15 with AGPS)	35 (15 with AGPS)	35 (15 with AGPS)	35 (15 with AGPS)	35 (15 with AGPS)		
		Warm Start	33 (5 with AGPS)	33 (5 with AGPS)	33 (5 with AGPS)	33 (5 with AGPS)	33 (5 with AGPS)	33 (5 with AGPS)	33 (5 with AGPS)	33 (5 with AGPS)	33 (5 with AGPS)		
		Hot Start	1	1	1	1	1	1	1	1	1		
Positioning Accuracy (CEP 50)		Without Aid	< 3.0m	< 3.0m	< 3.0m	< 3.0m	< 3.0m	< 3.0m	< 3.0m	< 3.0m	< 3.0m		
		DGPS	< 2.5m	< 2.5m	< 2.5m	< 2.5m	< 2.5m	< 2.5m	< 2.5m	< 2.5m	< 2.5m		
Power Consumption (mA)		Acquisition	19	25	35	36	25	25	29	29	35		
		Tracking	15	20	29	30	20	20	20	23	29		
Power Supply (v)		Input Voltage	3.0~4.3	3.0~4.3	3.0~4.3	3.0~4.3	3.0~4.3	3.0~4.3	3.0~4.3	3.0~4.3	3.0~4.3		
		Backup Voltage	2.0~4.3	2.0~4.3	2.0~4.3	2.0~4.3	2.0~4.3	2.0~4.3	2.0~4.3	2.0~4.3	2.0~4.3		
Interfaces		UART	✓	✓	✓	✓	✓	✓	✓	✓	✓		
		I²C	-	-	-	-	-	-	-	-	-		
		RTCM	✓	✓	✓	✓	✓	-	✓	✓	✓		
		External Antenna Input	✓	✓	✓	✓	✓	-	-	-	-		
		RF Detection, Current Protection	-	-	-	-	✓	-	-	-	-		
		Reset Input	✓	✓	✓	✓	✓	-	✓	✓	✓		
		1PPS Output	✓	✓	✓	✓	✓	✓	✓	✓	✓		
		3D Fix output	✓	✓	✓	✓	✓	✓	✓	✓	✓		
		Enable Input	-	-	-	-	-	-	-	-	✓		
Product Features		DGPS SBAS	EGNOS, WAAS, MSAS, GAGAN	EGNOS, WAAS, MSAS, GAGAN	EGNOS, WAAS, MSAS, GAGAN	EGNOS, WAAS, MSAS, GAGAN	EGNOS, WAAS, MSAS, GAGAN	EGNOS, WAAS, MSAS, GAGAN	EGNOS, WAAS, MSAS, GAGAN	EGNOS, WAAS, MSAS, GAGAN	EGNOS, WAAS, MSAS, GAGAN		
		Offline AGPS	✓	✓	✓	✓	✓	✓	✓	✓	✓		
		Embedded Logger	✓	✓	✓	✓	✓	✓	✓	✓	✓		
		Anti-Jamming	✓	✓	✓	✓	✓	✓	✓	✓	✓		
		Protocols	NMEA, RTCM, MKT	NMEA, RTCM, MKT	NMEA, RTCM, MKT	NMEA, RTCM, MKT	NMEA, RTCM, MKT	NMEA, MKT	NMEA, RTCM, MKT	NMEA, RTCM, MKT	NMEA, RTCM, MKT		
		Update Rate (default:1 Hz) Always Locate (Advance Power Periodic Mode),	up to 10 Hz	up to 10 Hz	up to 10 Hz	up to 10 Hz	up to 10 Hz	up to 10 Hz	up to 10 Hz	up to 10 Hz	up to 10 Hz		
Certifications		CE/FCC E911 ROHS/REACH	CE/FCC E911 ROHS/REACH	CE/FCC E911 ROHS/REACH	CE/FCC E911 ROHS/REACH	CE/FCC E911 ROHS/REACH	CE/FCC E911 ROHS/REACH	CE/FCC E911 ROHS/REACH	CE/FCC E911 ROHS/REACH	CE/FCC E911 ROHS/REACH			