

CMR3000

3-axis Low Power Gyro for
Consumer Electronics



Murata Electronics Oy

*Innovator
in Electronics*

CMR3000

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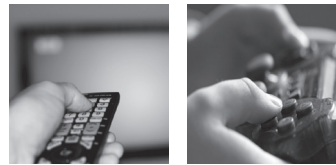
Key features (CMR3000-D1)

- 2.5 V-3.6 V supply voltage
- 1.6 V-3.6 V digital I/O voltage
- Low 5 mA current consumption
- ± 2000 °/s measurement range
- 20 Hz and 80 Hz user selectable bandwidths
- SPI and I²C digital interface
- Size 3.1x4.1x0.83 mm³
- Proven capacitive 3D-MEMS technology
- High shock durability
- RoHS compliant/lead free soldering

Applications

Thanks to the very low power consumption CMR3000 is particularly suitable for battery operated devices, such as

- Gaming input devices
- Computer peripherals and remote controllers
- Mobile phones



CMR3000-D1 gyroscope characteristics

Parameter	Condition	Typical supply range 2.5-3.0 V			Extended supply range 3.0-3.6 V			Units
		Min	Nom	Max	Min	Nom	Max	
Vdd		2.5	2.8	3.0	-	3.3	-	V
Digital I/O Vdd	Vdd ≥ Digital I/O Vdd	1.6	1.8/2.8	3.0	-	3.3	-	V
Operating temperature		-40	-	85	-40	-	85	°C
Current consumption	Measurement	-	5		-	5	-	mA
	Stand-by	-	1.3		-	1.3	-	mA
	Power down	-	1		-	<10	-	nA
Measurement range	FS=2000 °/s	-2000	-	2000	-		-	°/s
Offset calibration error		-200	-	200		±200		°/s
Offset temperature error	-40 ... +85 °C		±1			±1		°/s/°C
Sensitivity		-	1.33	-	-	1.33	-	Count/°/s
Sensitivity calibration error		-7	-	+7	-	±7	-	%
Sensitivity temperature error	-40 ... +85 °C	-	0.02			0.02		%/°C
Non-linearity	-1000<Q<1000 °/s	-	1		-	1	-	% FS
Output data rate, ODR			2000		-	2000	-	Hz
Bandwidth			20			20		Hz
			80			80		Hz
Integrated noise stdev	20 Hz BW	-	0.9		-	0.9	-	°/s
Turn on time		-	250		-	250	-	ms
I ² C clock rate		-	-	400	-	-	400	kHz
SPI clock rate		-	-	500	-	-	500	kHz

FOR MORE INFORMATION, PLEASE REFER TO THE PRODUCT DATASHEETS AVAILABLE ONLINE AT WWW.MURATAMEMS.FI