

Line Card KMA family

Datasheet	KMA 200	KMA199E	KMA199	KMA210
	Final	Final	Final	objective
Description	Single sensor 2 Analog outputs SPI output	Single sensor 1 Analog output	Single sensor 1 Analog output	Single sensor 1 Analog output
number of dies	1 MR + 1 ASIC	1 MR + 1 ASIC +2 protection diodes	1 MR + 1 ASIC +2 protection diodes	1 MR + 1 ASIC +2 capacitors

Package



Operating conditions

max. temperature	+160 °C	+160 °C	+160 °C	+160 °C
ext magnetic field strength	> 35 kA/m	> 35 kA/m	> 35 kA/m	> 35 kA/m
Supply voltage	4.5 V...5.5 V	4.5 V...5.5 V	4.5 V...5.5 V	4.5 V...5.5 V
Supply current	12 mA max (plus signal current)	10 mA max (plus signal current)	10 mA max (plus signal current)	10,5 mA max (plus signal current)

Electr. Protection

DC Overvoltage	+26,5 V	+ 6 V	+ 6 V	+ 16 V
Reverse polarity	- 16,5 V	-0.3 V or any current limited voltage	-0.3 V or any current limited voltage	-0.3 V or any current limited voltage
EMC	(reference)	significantly improved	significantly improved	improved with integrated Caps
ESD protection of external pins	4 kV HBM 100 pF/1,5 kOhm	8 kV HBM 100 pF/1,5 kOhm	8 kV HBM 100 pF/1,5 kOhm	8kV HMM 150 pF/330 Ohm

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Accuracy

Angular Error	+ $\pm$ 1,65° -40 ... +160°C	not specified	1,35 -40 ... +160 °C	1,35 -40 ... +160 °C
Linearity error	not specified	1,55 -40 ... +160 °C	+/- 1,0° -40 ... +140 °C	+/- 1,0° -40 ... +140 °C
Temperature drift	+/- 0,64° -25...+125°C	+/-0,8 -40 ... +160 °C	+/-0,65 -40 ... +140 °C	+/-0,65 -40 ... +140 °C
Angle resolution	0,05°	0,04°	0,04°	0,04°
Microlinearity	+/- 0,1°	+/- 0,1°	+/- 0,1°	+/- 0,1°

Diagnostic behaviour

Diagnosis	full set of diagonis features	Magnet lost	Magnet lost	Magnet lost
Lost ground diagnostic	partly (only with pull-up-resistor)	yes > 5 kOhm	yes > 5 kOhm	yes > 5 kOhm
Lost supply diagnostic	yes (5...6k)	yes > 5 kOhm	yes > 5 kOhm	yes > 5 kOhm

E) EEPROM features

CRC	yes	yes	yes	yes
Availability in case of single bit failure	no diagnosis, output switched off)	yes, redundant	yes, redundant	yes, redundant

- neutral
- better
- different behaviour