SINOMAGS 希磁科技

SENSITEC
MAGNETORESISTIVE SENSORS

CURRENT SENSOR Application

EV / Automotive
电流传感器应用
——新能源车

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SINOMAGS
希 磁 科 技

Founded in 2013, Sinomags is dedicated to the development and production of magnetic sensors. we have four subsidiary companies in Germany, Wuxi, Ningbo, and Bengbu.

The company's R&D team consists of more than 250 R&D personnel with a number of experts in the field of magnetism and power electronics as the core, covering the design development and production of the whole industrial chain from xMR wafers to sensor modules.

1200/250 employees

1200 employees, ***250*** R&D staff

500 Mpcs

Wafer capacity ***500*** million pcs/year

100 Mpcs

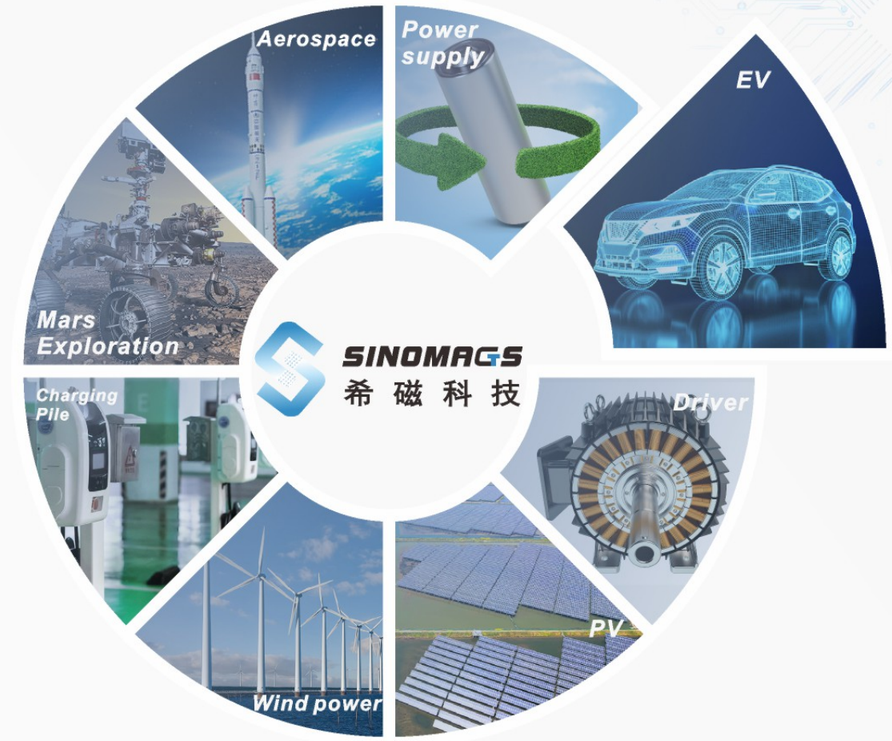
2022 ***current sensor*** production capacity exceeds ***100*** million

250 Mpcs

Cumulative ***current sensor*** shipments of approximately ***250*** million units

- **Wuxi**
  R&D
- **Bengbu**
  Production for Current Sensor
- **Ningbo**
  R&D & Production for Current Sensor
- **Mainz**
  Waferfab for magnetic sensor
- **Wetzlar**
  R&D Center for magnetic sensor

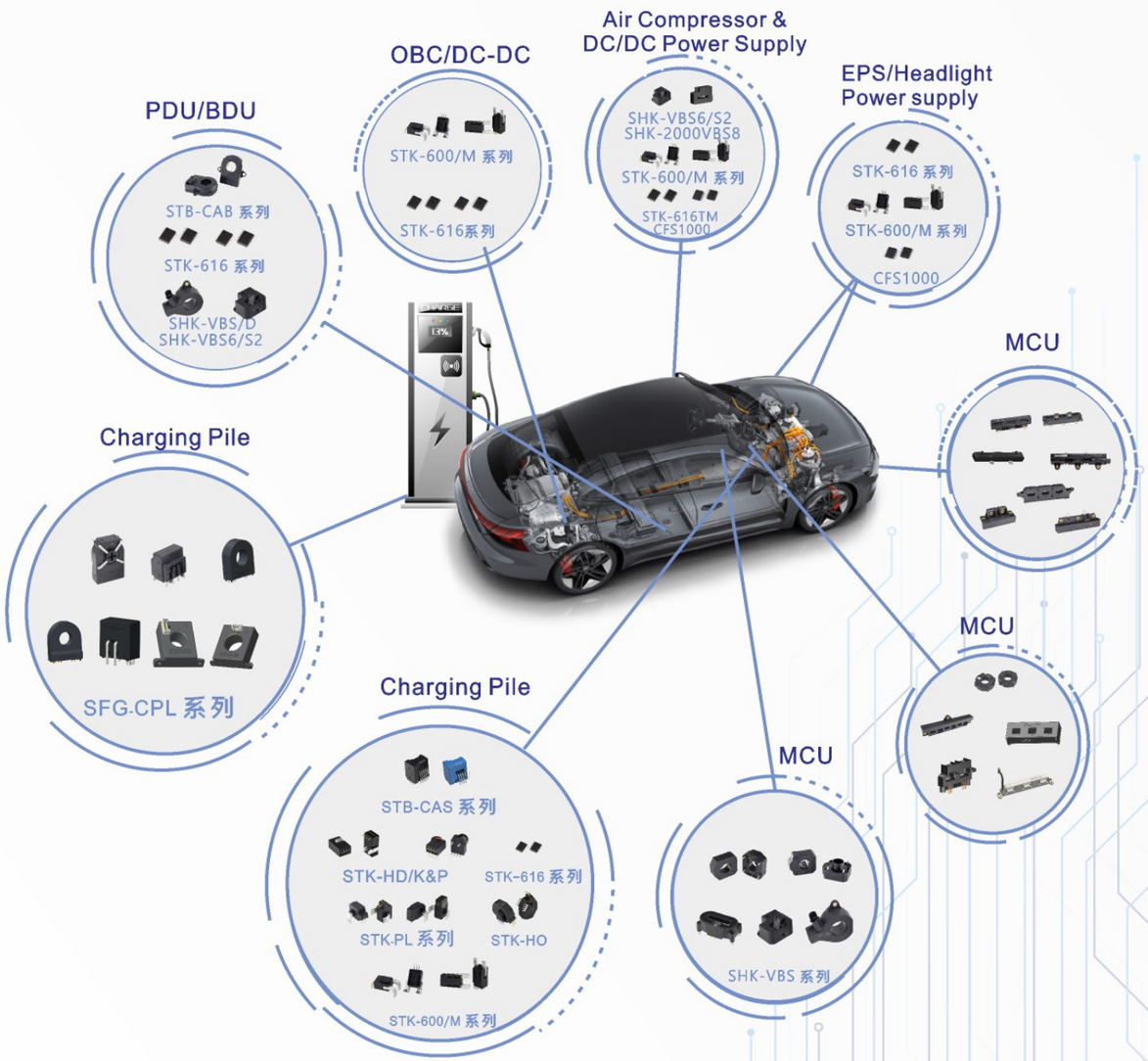
CURRENT SENSOR APPLICATION



EV / Automotive Application

◎ Features

- AEC-Q100 Qualified
- ISO26262
- Wide range of current detection
- Excellent EMC performance



Application: OBC, DC/DC

STK-616KM

STK-616TM

STK-600/M/M

STK-600/M

STK-600/M

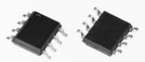
STK-600/M/M

◎Absolute parameter & Electrical parameters

Product	Out		Vcc (V)	U_{ESD} (kV)	Ud (kV)	I_pn (A)	I_pm (A)	f_band (kHz)	t_r (μs)	Acc. (%FS)	Application
	Voltage	Current									
STK-600/M-M	□		3.3, 5	4	4	50 , 100	50～250	120	4.6	3.5	OBC, DC/DC
STK-600/M	□		3.3, 5	4	4	50 , 100	50～400	120	4.6	3.5	
STK-616TML	□		3.3, 5	4	3.6	20	20～65	600	0.85	3.5	
STK-616KML	□		3.3, 5	4	3.6	20	40～65	600	0.9	3	
STK-616TMF	□		3.3, 5	4	3.6	20	20～65	1500	0.3	3.5	
STK-616KMF	□		3.3, 5	4	3.6	20	40～65	1500	0.2	3	

Application: EPS

STK-600/M-MPFF


STK-616YM

◎Absolute parameter & Electrical parameters

Product	Out			Vcc (V)	U_{ESD} (kV)	Ud (kV)	I_pn (A)	I_pm (A)	f_band (kHZ)	t_r (μs)	Acc (%FS)	Application
	Voltage	Digital	Current									
STK-600/M-M	□			5, 3.3	4	4	50,100	50～250	120	4.6	3.5	EPS
STK-616YML	□			5, 3.3	4	2	20	20～50	400	1	3.5	

Application : MCU

SHK-VBS/D

SHK-VBS2/D

SHK-VBS3

SHK-VBS3/S2

SHK-VBS3/S4

SHK-VBS3/S5

SHK-VBS5/S2

SHK-VBS6-S2

SHK-VBS8

SHK-VBS/TE

SHK-VBS/TF

SHK-VBS/TG

SHK-VBS-TH

STK-VBS/T3

STK-VBS/T4

SHK-VBS/T5

SHK-VBS/T6

SHK-VBS/T7

SHK-VBS/T8

SHK-VBS/T9

Absolute parameter & Electrical parameters

Product	Out		Vcc (V)	U_{ESD} (kV)	Ud (kV)	I_pn (A)	I_pm (A)	f_band (kHz)	t_r (μs)	Acc. (%FS)	Application
	Voltage	Current									
SHK-VBS/D-A	☐		5	8	2.5	75～1000	75～1000	10	18	0. 15	MCU
SHK-VBS/D-B	☐		5	8	2.5	75～750	75～750	10	18	0.15	
SHK-VBS/D-C	☐		5	8	2.5	75～500	75～500	10	18	0.15	
SHK-VBS/D-D	☐		5	8	2.5	30～350	30～350	10	18	0. 15	
SHK-VBS/D-E	☐		5	8	2.5	40～400	40～400	10	18	0. 15	
SHK-VBS2/D	☐		5	4	4	545	1090	NC	3.5	3.5	
SHK-VBS3/S2	☐		5	4	4	400～900	400～900	100	3.5	3. 5	
SHK-VBS3/S4	☐		5	4	4	400～900	400～900	100	3.5	3. 5	
SHK-VBS3/S5	☐		5	4	4	400～900	400～900	100	3.5	3	
SHK-VBS5/S2	☐		5	4	4	100～900	100～900	100	3.5	2.5	
SHK-VBS6-S2	☐		5	4	4	100～1500	100～1500	40	2	1	
SHK-VBS8	☐		5	8	2.5	2000	2000	40	2	1	
SHK-VBS/TE	☐		5	4	2	200	300	40	4	NA	
SHK-VBS/TF	☐		5	4	5.4	300	200	100	3.5	2.5	
SHK-VBS/TG	☐		15	2	2.5	50～150	150～450	60	7	3	
SHK-VBS/TH	☐		5	8	3	660	660	40	2	NA	

Product	Out		Vcc (V)	U_{ESD} (kV)	Ud (kV)	I_pn (A)	I_pm (A)	f_band (kHz)	t_r (μs)	Acc. (%FS)	Application
	Voltage	Current									
SHK-VBS/T3	☐		5	4	4	545	1090	100	1	2.5	MCU
SHK-VBS/T4	☐		5	4	4	545	1090	100	18	2.5	
SHK-VBS/T5	☐		5	4	4	300	300	40	18	1	
SHK-VBS/T6	☐		5	4	4	800～1200	800～1200	40	18	2	
SHK-VBS/T7	☐		5	4	4	600	300, 600	40	3.5	1	
SHK-VBS/T8	☐		5	4	4	300～1200	300～1200	40	3.5	1	
SHK-VBS/T9	☐		5	4	4	900	900	40	3.5	1	

Application: Air Compressor & DC/DC Power supply

SHK-VBS2/D

SHK-VBS3/S2

STK-600/M-MPFF

STK-600/M-MSFF

STK-600/M-PFF

STK-600/M-PSF

STK-616TM,KM

STK-616BM,EM,DM

Absolute parameter & Electrical parameters

Product	Out			Vcc (V)	U_{ESD} (kV)	Ud (kV)	I_pn (A)	I_pm (A)	f_band (kHz)	t_r (μs)	Acc (%FS)	Application
	Voltage	Digital	Current									
SHK-VBS2/D	☐			5	4	4	545	1090	NC	3.5	3	Air Compressor & DC/DC Power supply
SHK-VBS3/S2	☐			5	4	4	400～900	400～900	100	3.5	3.5	
STK-600/M-M	☐			5, 3.3	4	4	50, 100	50～250	120	4.6	3.5	
STK-600/M	☐			5, 3.3	4	4	50, 100	50～400	120	4.6	3.5	
STK-616KML	☐			5, 3.3	4	3.6	20	40～65	600	0.9	3	
STK-616KMF	☐			5, 3.3	4	3.6	20	40～65	1500	0.2	3	
STK-616TML	☐			5, 3.3	4	3.6	20	20～65	600	0.85	3.5	
STK-616TMF	☐			5, 3.3	4	3.6	20	20～65	1500	0.2	3.5	
STK-616BML	☐			5	4	3.6	13～20	13～65	600	0.9	3.5	
STK-616DML	☐			3.3	4	3.6	12.5～20	12.5～65	600	0.9	3.5	
STK-616EML	☐			5	4	3.6	20	20～65	600	0.9	3.5	

Application: BDU

STB-CAB540, 500

STB-CAB1500

SHK-VBS6/S2

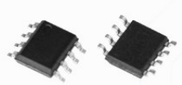
SHK-VBS/D

◎Absolute parameter & Electrical parameters

Product	Out		Vcc (V)	U_{ESD} (kV)	Ud (kV)	I_pn (A)	I_pm (A)	f_band (kHz)	t_r (μs)	Acc. (%FS)	Application
	Voltage	Digital									
STB-CAB		□	12	4	2.5	500～1500	500～1500	NA	NA	0.15	BDU
SHK-VBS/D-A	□		5	8	2.5	75～1000	75～1000	10	18	0.15	
SHK-VBS/D-B	□		5	8	2.5	75～750	75～750	10	18	0.15	
SHK-VBS/D-C	□		5	8	2.5	75～500	75～500	10	18	0.15	
SHK-VBS/D-D	□		5	8	2.5	30～350	30～350	10	18	0. 15	
SHK-VBS/D-E	□		5	8	2.5	40～400	40～400	10	18	0. 15	
SHK-VBS6/S2	□		5	4	4	100～1500	100～1500	40	2	2.5	

Application: Headlight Power supply

STK-616ZM



STK-616YM

Product	Out			Vcc (V)	U_{ESD} (kV)	Ud (kV)	I_pn (A)	I_pm (A)	f_band (kHz)	t_r (μs)	Acc (%FS)	Application
	Voltage	Digital	Current									
STK-616ZMF	□			5, 3.3	4	2.4	20	20～50	2000	0.05	3.5	Headlight Power supply
STK-616YML	□			5, 3.3	4	2.0	20	20～50	400	1	3.5	

Application: Electric Vehicle Charging piles

STK-HO

STK-PL/A

STK-PL/M

STK-616TM,KM

STK-616BM

STK-616EM

STK-616DM

STK-600/M-PSF

STK-600/M-PFF

STK-600/M-MPFF

STK-600/M-MSFF

STK-HD/P

STK-HD/K

STB-CAS

STB-CAS/K

STB-CAS/R

◎Absolute parameter & Electrical parameters

Product	Out			Vcc (V)	U_{ESD} (kV)	Ud (kV)	I_pn (A)	I_pm (A)	f_band (kHZ)	t_r (μs)	Acc (%FS)	Application
	Voltage	Digital	Current									
STK-HO	□			5	4	4	60～150	150～375	150	2	3	Charging piles
STK-PL/A	□			5	4	5	10～50	25～125	400	1.5	2	
STK-PL/M	□			5	4	5	80～180	200～450	500	1	2	
STK-616KMF	□			5, 3.3	4	3.6	20	40～65	1500	0.2	3	
STK-616TML	□			5, 3.3	4	3.6	20	20～65	600	0.85	3.5	
STK-616TMF	□			5, 3.3	4	3.6	20	20～65	1500	0.2	3.5	
STK-616KML	□			5, 3.3	4	3.6	20	40～65	600	0.9	3	
STK-616BML	□			5	4	3.6	13～20	13～65	600	0.9	3.5	
STK-616DML	□			3.3	4	3.6	12.5～20	12.5～25	600	0.9	3.5	
STK-616EML	□			5	4	3.6	20	20～65	600	0.9	3.5	
STK-600/M	□			5, 3.3	4	4	50, 100	50～400	120	4.6	3.5	
STK-600/M-M	□			5, 3.3	4	4	50, 100	50～250	120	4.6	3.5	
STK-HD/P	□			5, 3.3	4	4	5～30	10～75	600	1	3	
STK-HD/K	□			5	4	4	32～50	80～125	600	1	1.5	
STB-CAS/x	□			5	4	5	15～75	51～220	400	0.3	1.1~3	

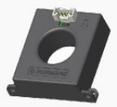
Application: Electric Vehicle Charging Pile

Accuracy --1 mA

Type B Leakage Current Protection

SFG-CPL/A

SFG-CPL/B



SFG-CPL/A2

SFG-CPL/A3

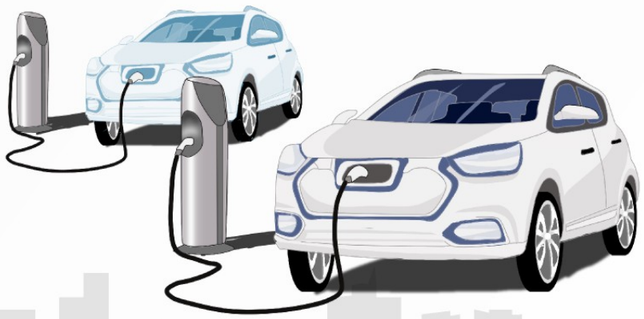
SFG-CPL/A4

SFG-CPL/A5

SFG-CPL/A6

◎ Features

- · IEC 62752
- · IEC 62955
- · Compact design
- · Frequency DC ~ 1 kHz
- · Supports DC 6 mA, AC 30 mA digital output
- · Primary side load current 40 A (expandable to 100 A)
- · Fast response and judgement output function
- · Self-checking function
- · High-precision small-current, large-current, and high-frequency AC residual current detection
- · High-performance EMC shielding function
- · Wide range of working temperature (-40~+105℃)

◎Absolute parameter & Electrical parameters

Product	Out			Vcc (V)	EMC			Itrip (mA)	I_pm (mA)	Ick (mA)
	Voltage	Digital	Current		Vw (kV)	Ud (kV)	ILS (kA)			
SFG-CPL/A		☐		5	7	3	5	DC 6 , AC 30	300	30
SFG-CPL/B		☐		5	7	3	5	DC 6 , AC 30	300	30
SFG-CPL/B-A		☐		5	7	3	5	DC 6 , AC 30	300	30
SFG-CPL/A2		☐		5	7	3	5	DC 6 , AC 30	300	30
SFG-CPL/A2-A		☐		5	7	3	5	DC 6	300	30
SFG-CPL/A3		☐		5	7	3	5	DC 6 , AC 30	300	30
SFG-CPL/A4		☐		5	7	3	5	DC 6,AC10/30	300	30
SFG-CPL/A5		☐		5	7	3	5	DC 6 , AC 30	300	30
SFG-CPL/A6		☐		5	7	3	5	DC 6 , AC 30	300	30