



CURRENT SENSOR

Application

New Energy

新能源应用



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

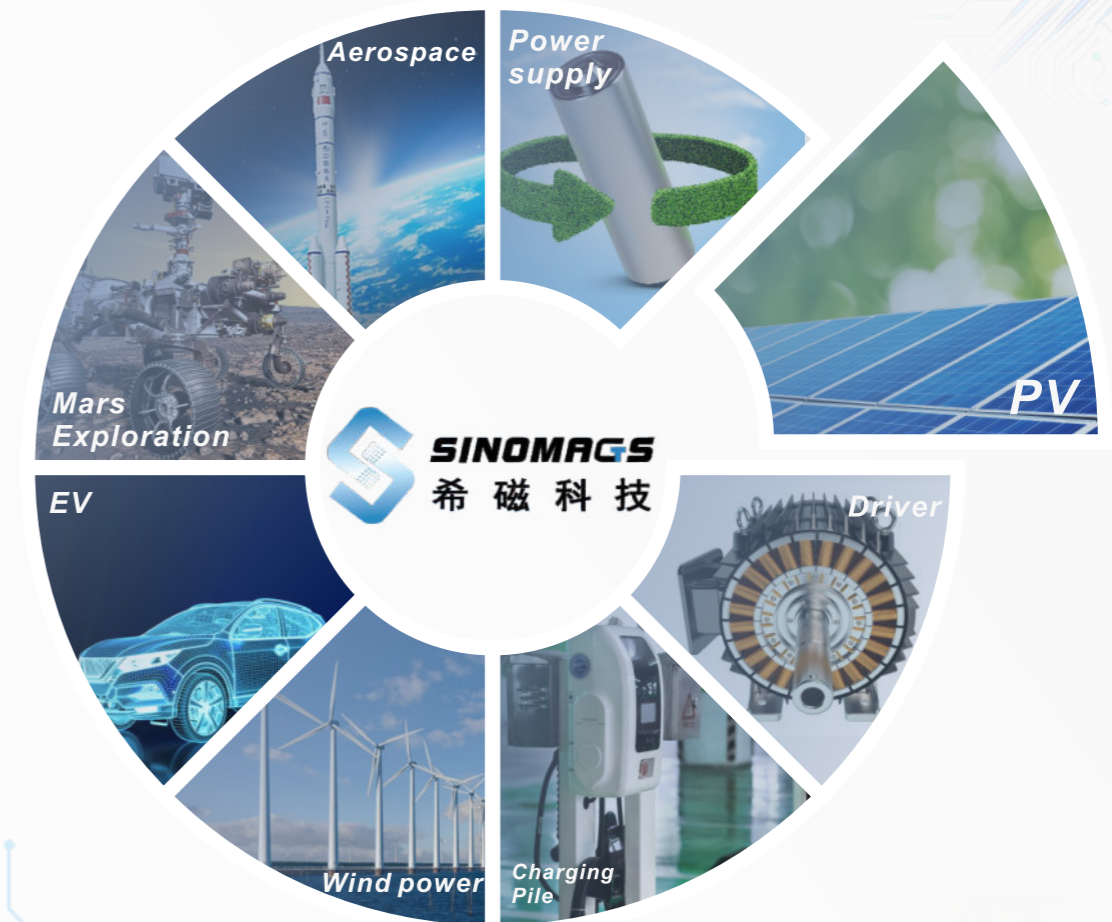
Wafer capacity 500 million pcs/year

100 Mpcs

2022 *current sensor* production capacity exceeds 100 million

250 Mpcs

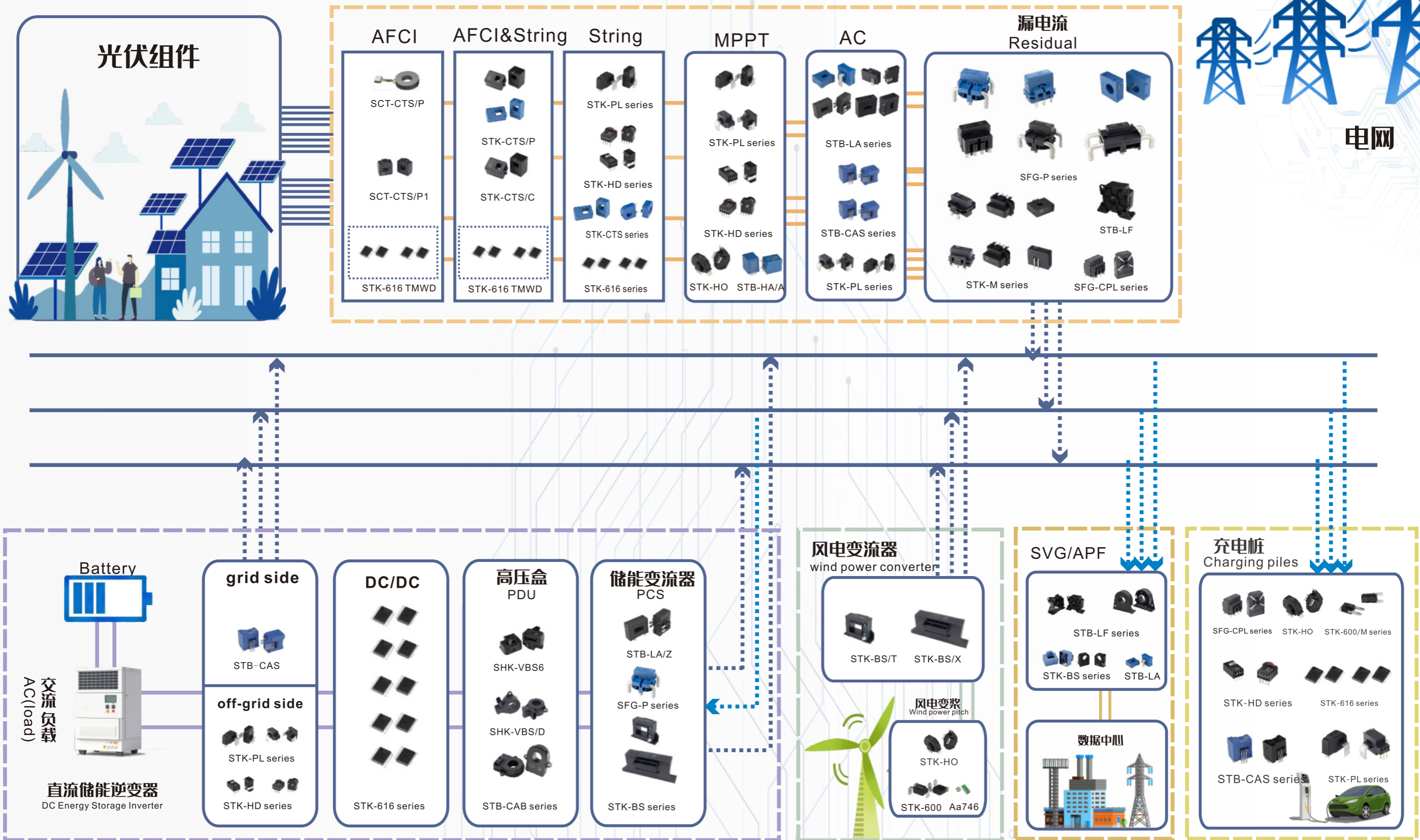
Cumulative *current sensor* shipments of approximately 250 million units



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

新能源应用

New Energy Application

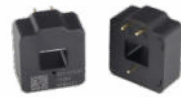


Current Sensors For New Energy

Features

- Meet the requirements for high voltage and high altitude
- Meet the requirements for high frequency
- Development based on underlying application requirements

Application: AFCI / AFCI&String



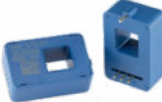
SCT-CTS/P1



SCT-CTS/P



STK-CTS/C1



STK-CTS/P1



STK-CTS/P5



STK-CTS/P6

Isolation & Electrical parameters

Product	Out						ESD rating(HBM)	Application
	Voltage	Current	Self-inspection Inductance(μH)	Induction coil Inductance(μH)	Self-inspection Resistance(Ω)	Induction coil Resistance(Ω)		
SCT-CTS/P1	○		NA	400 ~ 500	NA	0.4 ~ 1	4	AFCI
SCT-CTS/P	○		135 ~ 205	530 ~ 580	0.4 ~ 1	0.8 ~ 2	4	

Product	Out		V _{cc} (V)	U _{ESD} (kV)	U _d (kV)	I _{pn} (A)	I _{pm} (A)	f _{band} (kHz)	t _r (μs)	Acc. (%FS)	Application
	Voltage	Current									
STK-CTS/C	○		5	4	4	12.8 ~ 16	32 ~ 40	400	1	1	AFCI & String
STK-CTS/P	○		5	4	4	12.8, 20 ~ 50	20 ~ 50	400	1	1	AFCI & String

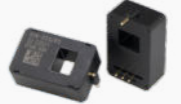
Application: AFCI & String / String



STK-CTS/C1



STK-CTS/P1



STK-CTS/P5



STK-CTS/P6



STK-CTS/W



STK-616TM



STK-616TMM



STK-616TMWD



STK-616KM



STK-616EM



STK-616DM



STK-616BM, HM



STK-HD/K



STK-HD/P



STK-PL/A



STK-PL/M

Isolation & Electrical parameters

Product	Out		V _{cc} (V)	U _{ESD} (kV)	U _d (kV)	I _{pn} (A)	I _{pm} (A)	f _{band} (kHz)	t _r (μs)	Acc. (%FS)	Application
	Voltage	Current									
STK-CTS/W	○		5	4	4	15 ~ 25	15 ~ 25	400	1	2	AFCI&String
STK-CTS/C	○		5	4	4	12.8 ~ 16	32 ~ 40	400	1	3	
STK-CTS/P	○		5	4	4	12.8, 20 ~ 50	20 ~ 50	400	1	2.5 ~ 3	
STK-616TMWD	○		5, 3.3	4	3.6	20 ~ 65	23 ~ 74.7	600	0.2	3.5	AFCI / AFCI&String / String
STK-616KML	○		5, 3.3	4	3.6	40 ~ 65	46 ~ 74.7	600	0.9	3	
STK-616KMF	○		5, 3.3	4	3.6	30 ~ 65	36.5 ~ 74.7	1500	0.2	3	
STK-616TML	○		5, 3.3	4	3.6	20 ~ 65	23 ~ 74.7	600	0.9	3.5	
STK-616TMF	○		5, 3.3	4	3.6	40 ~ 65	46 ~ 74.7	1500	0.2	3.5	
STK-616TMM	○		5, 3.3	4	3.6	20 ~ 65	23 ~ 74.7	500	0.2	3.5	
STK-616HM	○		5, 3.3	4	3.6	20 ~ 65	23 ~ 74.7	600	0.9	3.5	
STK-616BML	○		5, 3.3	4	3.6	12.5 ~ 25	37.5 ~ 75	600	0.9	3.5	
STK-616DML	○		5, 3.3	4	3.6	15 ~ 65	15 ~ 65	600	0.9	3.5	
STK-616EML	○		5, 3.3	4	3.6	20 ~ 65	20 ~ 65	600	0.9	3.5	

Application: String

◎ Isolation & Electrical parameters

Product	Out		V _{cc} (V)	U _{ESD} (kV)	U _d (kV)	I _{pn} (A)	I _{pm} (A)	f _{band} (kHz)	t _r (μs)	Acc. (%FS)	Application
	Voltage	Current									
STK-CTS/C	○		5	4	4	12.8~16	32~40	400	1	3	String
STK-CTS/W	○		5	4	4	15~25	15~25	400	1	2	
STK-CTS/P	○		5	4	4	12.8, 20~50	20~50	400	1	2.5~3	
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-HD/K	○		5	4	4	32~50	80~125	600	1	1.5	
STK-HD/P	○		5, 3.3	4	4	5~30	10~75	600	1	3	

Application: MPPT



STK-HO



STK-HD/K



STB-HD/P



STB-HA/A



STK-PL/A



STK-PL/M

◎ Isolation & Electrical parameters

Product	Out		V _{cc} (V)	U _{ESD} (kV)	U _d (kV)	I _{pn} (A)	I _{pm} (A)	f _{band} (kHz)	t _r (μs)	Acc. (%FS)	Application
	Voltage	Current									
STK-HO	○		5	4	4	60~150	150~375	150	2	3	MPPT
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-HA/A	○		±15	4	4	10~60	30~180	150	1.5	0.8(1.5)	
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	

Application: AC



STB-CAS



STB-CAS/F



STK-HD/P



STK-HD/K



STB-LA/S



STB-LA/D



STB-LA/Z



STB-LA/M



STB-LA(N)



STK-PL/A



STK-PL/M

◎ Isolation & Electrical parameters

Product	Out		V _{cc} (V)	U _{ESD} (kV)	U _d (kV)	I _{pn} (A)	I _{pm} (A)	f _{band} (kHz)	t _r (μs)	Acc. (%FS)	Application
	Voltage	Current									
STB-CAS/x	○		5	4	5	15~75	51~220	400	0.3	1.1~3	AC
STB-CAS/F	○		5	4	5	6~75	20~220	400	0.3	1.1~1.6	
STB-LA/S	○		5	4	4	100	220	300	0.5	1.1	
STB-LA/D		○	±15	4	4	55~100	55~175	150	0.5	1.5	
STB-LA(N)		○	12~15	4	4	100~150	200~240	150	0.5	0.5	
STB-LA/Z	○		5	4	4	150~200	300~450	300	0.3	0.8	AC (Load)
STB-LA/M	○		5	4	4	300	600	300	0.6	1.1	
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-HD/K	○		5	4	4	32~50	80~125	600	1	1.5	AC (grid)
STK-HD/P	○		5, 3.3	4	4	5~30	10~75	600	1	3	
STB-CAS/x	○		5	4	5	15~75	51~220	400	0.3	1.1~3	

Application: DC / DC



Application: Residual



◎ Isolation & Electrical parameters

Product	Out		V _{cc} (V)	U _{ESD} (kV)	U _d (kV)	I _{pn} (A)	I _{pm} (A)	f _{band} (kHz)	t _r (μs)	Acc. (%FS)	Application
	Voltage	Current									
STK-616KML	○		5, 3.3	4	3.6	40~65	46~74.7	600	0.9	3	DC/DC
STK-616KMF	○		5, 3.3	4	3.6	30~65	36.5~74.7	1500	0.2	3	
STK-616TML	○		5, 3.3	4	3.6	20~65	23~74.7	600	0.9	3.5	
STK-616TMF	○		5, 3.3	4	3.6	40~65	46~74.7	1500	0.2	3.5	
STK-616TMM	○		5, 3.3	4	3.6	20~65	23~74.7	500	0.2	3.5	
STK-616TMW	○		5, 3.3	4	3.6	2~65	7.4~65	600	0.2	3.5	
STK-616TMWD	○		5, 3.3	4	3.6	20~65	23~74.7	600	0.2	3.5	
STK-616HM	○		5, 3.3	4	3.6	20~65	23~74.7	600	0.9	3.5	
STK-616BML	○		5, 3.3	4	3.6	12.5~25	37.5~75	600	0.9	3.5	
STK-616DML	○		5, 3.3	4	3.6	15~65	15~65	600	0.9	3.5	
STK-616EML	○		5, 3.3	4	3.6	20~65	20~65	600	0.9	3.5	



◎ Isolation & Electrical parameters

Product	Out		V _{cc} (V)	U _{ESD} (kV)	U _d (kV)	I _{pn} (A)	I _{pm} (A)	f _{band} (kHz)	t _r (μs)	Acc. (%FS)	Application
	Voltage	Current									
STK-P/M	○		5	NA	5	0.3~1.02	0.5~1.7	0.7	700	4	Residual
SFG-P	○		5	NA	4	0.3~5	0.5~10	15	30~50	3.2	
SFG-P/N1	○		5	NA	4	0.3~5	0.5~10	15	30~50	3.2	
SFG-P/P2F	○		5	NA	4	0.3~3	0.5~5	15	40~50	3.2	
SFG-P/P3	○		5	NA	4	3~5	5~8	15	40	3.2	
SFG-P/P4	○		5	NA	4	3~5	5~8	15	40	3.2	
SFG-P/S	○		5	5	4	0.3~1	0.5~1.7	0.7	700	4	
STB-LF	○		±15	NA	4	100	200	1000	0.2	3	

Application: PDU



◎ Isolation & Electrical parameters

Product	Out		V _{cc} (V)	U _{ESD} (kV)	U _d (kV)	I _{pn} (A)	I _{pm} (A)	f _{band} (kHz)	t _r (μs)	Acc. (%FS)	Application
	Voltage	Digital									
SHK-VBS6/S2	○		5	8	2.5	100~1500	100~1500	40	2	3.25	PDU
SHK-VBS/D	○		5	8	2.5	75~1000	75~1000	10	18	0.35-2.5	
STB-CAB		○	12	4	2.5	500~1500	500~1500	NA	NA	0.5~1	

Application: PCS

Application: wind power



© Isolation & Electrical parameters

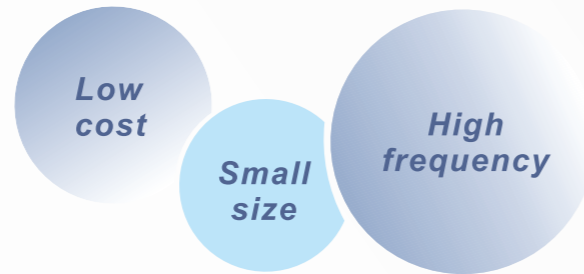
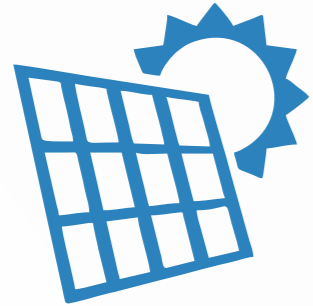
Product	Out		V _{cc} (V)	U _{ESD} (kV)	U _d (kV)	I _{pn} (A)	I _{pm} (A)	f _{band} (kHz)	t _r (μs)	Acc. (%FS)	Application
	Voltage	Current									
SFG-P	○		5	NA	4	0.3~5	0.5~10	15	30~50	3.2	Residual
SFG-P/N1	○		5	NA	4	0.3~5	0.5~10	15	30~50	3.2	
SFG-P/P2F	○		5	NA	4	0.3~3	0.5~5	15	40~50	3.2	
SFG-P/P3	○		5	NA	4	3~5	5~8	15	40	3.2	
SFG-P/P4	○		5	NA	4	3~5	5~8	15	40	3.2	
SFG-P/S	○		5	5	4	0.3~1	0.5~1.7	0.7	700	4	
STB-LF	○		±15	NA	4	100	200	1000	0.2	3	
STB-LA/Z	○		5	4	4	150~200	300~450	300	0.3	0.8	
STK-BS/X	○		±15	4	4	500~2500	1500~5500	25	5	1	
STK-BS/T	○		±15	4	4	200~1500	600~2500	25	5	1	

© Isolation & Electrical parameters

Product	Out		V _{cc} (V)	U _{ESD} (kV)	U _d (kV)	I _{pn} (A)	I _{pm} (A)	f _{band} (kHz)	t _r (μs)	Acc. (%FS)	Application
	Voltage	Current									
STK-HO	○		5	4	4	60~150	150~375	150	2	3	wind power pitch
STK-600	○		5	4	4	50~100	50~400	180	2	3.5	
STK-BS/T	○		±15	4	4	200~1500	600~2500	25	5	1	wind power converter
STK-BS/X	○		±15	4	4	500~2500	1500~5500	25	5	1	



PV Micro-inverter



Micro-inverter (Power: 0.5~2 kw)

AFCI Function			MPPT function		
Applied Current Sensor					
PN-01	SCT-CTS/P1		PN-01	STK-616YM	
			PN-02	STK-HD/SG	
DCR	0.4~1.0	Ω	Vcc	3.3, 5	V
Induc. L	0.4~0.5	mH	I _{pn}	3~65	A
I _{PM}	50	A	I _{pm}	7.5~65	A
			F _{band}	350~600	kHZ
			t _r	0.4~1.2	μ s
			Acc.	1.5~3.5	%FS

Micro-inverter (Power: 0.5~2 kw)

AC current		
Applied Current Sensor		
PN-01	STK-616TM	
PN-02	STK-616KM	
PN-03	STK-HD/SG	
Vcc	3.3, 5	V
I _{pn}	3~65	A
I _{pm}	7.5~65	A
F _{band}	600~1500	kHZ
t _r	0.3~0.9	μ s
Acc.	1.5~3.5	%FS

Grid Application



(Static Var Generator) SVG

Static Var Generator		
Applied Current Sensor		
PN-01	STB-LF, STB-LF2	
PN-02	STB-LF/G	
Vcc	± 15	V
I _{pn}	100~300	A
I _{pm}	200~360	A
F _{band}	100~1000	kHZ
t _r	0.2~0.5	μ s
Acc.	0.1~3	%FS

(Active power filter) APF

Active power filter		
Applied Current Sensor		
PN-01	STK-BS1	
PN-02	STK-BS/S1	
PN-03	STK-BS/T	
PN-04	STB-LA	
Vcc	5~15	V
I _{pn}	50~1500	A
I _{pm}	150~2500	A
F _{band}	25~150	kHZ
t _r	0.5~5	μ s
Acc.	0.5~1	%FS

Residential Energy Storage Inverter

Small size

Low cost

Full range of products

Type: Single-P (Energy storage) (Power: 3~10 kw)

AFCI Function			MPPT function		
Applied Current Sensor					
PN-01	SCT-CTS/P1		PN-01	STK-PL/A	
			PN-02	STK-616TM, STK-616KM	
			PN-03	STK-HD/K, STK-HD/P, STK-HD/S	
DCR	0.4~1.0	Ω	Vcc	3.3, 5	V
Induc. L	0.4~0.5	mH	I _{PN}	3~65	A
I _{PM}	50	A	I _{PM}	7.5~125	A
			F _{band}	400~1500	kHZ
			t _r	0.3~1.5	μ s
			Acc.	1.5~3	%FS

AC current			Residual current		
Applied Current Sensor					
PN-01	STK-PL/A		PN-01	STK-1.0P/M1S-1	
PN-02	STB-CAS/R/F		PN-02	STK-0.3P/M1	
PN-03	STK-HD/K, STK-HD/P, STK-HD/S				
Vcc	3.3, 5	V	Vcc	5	V
I _{pn}	3~75	A	I _{pn}	0.3, 1	A
I _{pm}	7.5~220	A	I _{pm}	0.5, 1.7	A
F _{band}	400~800	kHZ	F _{band}	0.7	kHZ
t _r	0.3~1.5	μ s	t _r	700.0	μ s
Acc.	1.1~3	%FS	Acc.	4	%FS

DCDC to Battery		
Applied Current Sensor		
PN-01	STK-PL/A	
PN-02	STK-616TM, STK-616KM	
PN-03	STK-HD/K, STK-HD/P, STK-HD/S	
Vcc	3.3, 5	V
I _{pn}	3~65	A
I _{pm}	7.5~125	A
F _{band}	400~1500	kHZ
t _r	0.3~1.5	μ s
Acc.	1.5~3	%FS

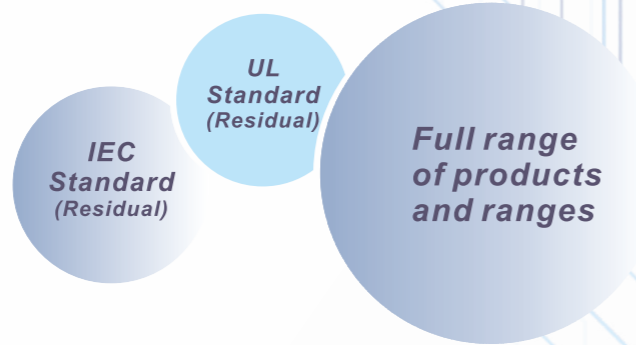
Type: Three-P (Energy storage) (Power: 5-10kw)

AFCI Function			String current		
Applied Current Sensor					
PN-01	SCT-CTS/P1, SCT-CTS/P2~P5		PN-01	STK-CTS/P5, STK-CTS/P6	
DCR	0.4~1	Ω	Vcc	5	V
	0.8~2	Ω	I _{pn}	10~32	A
Induc. L	0.4~0.5	mH	I _{pm}	25~50	A
	0.53~0.58	mH	F _{band}	400	kHZ
I _{PM}	50, 150	A	t _r	1	μ s
			Acc.	2.5~3	%FS

MPPT function			AC current		
Applied Current Sensor					
PN-01	STK-PL/A		PN-01	STB-CAS/R/F	
PN-02	STK-616TM		PN-02	STK-PL/A	
PN-03	STK-616KM		PN-03	STK-HD/K	
PN-04	STK-HD/K, STK-HD/P, STK-HD/S				
Vcc	3.3, 5	V	Vcc	5	V
I _{pn}	3~65	A	I _{pn}	6~50	A
I _{pm}	7.5~125	A	I _{pm}	20~220	A
F _{band}	400~1500	kHZ	F _{band}	400~600	kHZ
t _r	0.3~1.5	μ s	t _r	0.3~1.5	μ s
Acc.	1.5~3	%FS	Acc.	1.1~1.6	%FS

Residual current			AC (load)		
Applied Current Sensor					
PN-01	SFG-0.3P/S2-1		PN-01	STB-CAS/x	
			PN-02	STK-PL/A	
				STK-HD/K, STK-HD/P	
Vcc	5	V	Vcc	3.3, 5	V
I _{pn}	0.3	A	I _{pn}	5~75	A
I _{pm}	0.5	A	I _{pm}	25~220	A
F _{band}	0.7	kHZ	F _{band}	400~600	kHZ
t _r	700	μ s	t _r	0.3~1.5	μ s
Acc.	4	%FS	Acc.	1.1~3	%FS

Electric Vehicle Charging Pile



Electric Vehicle Charging Pile

Charging pile module			Charging pile module		
Applied Current Sensor			Applied Current Sensor		
PN-01	STK-616TM		PN-01	STK-HD/P, STK-HD/P/G	
PN-02	STK-616KM		PN-02	STK-HD/K, STK-HD/K/G	
PN-03			PN-03		
Vcc	3.3 or 5.0	V	Vcc	3.3 or 5.0	V
I _{pn}	20~65	A	I _{pn}	5.0~50	A
I _{pm}	NA	A	I _{pm}	10~125	A
F _{band}	600~1500	kHZ	F _{band}	600~1000	kHZ
t _r	0.2~0.9	μs	t _r	1.0	μs
Acc.	3.0~3.5	%FS	Acc.	1.5~3.0	%FS

Charging pile module			Charging pile module		
Applied Current Sensor			Applied Current Sensor		
PN-01	STB-CAS		PN-01	STB-CAS/F	
PN-02	STB-CAS/R		PN-02	STB-CAS/R/F	
PN-03	STB-CAS/K		PN-03	STB-CAS/K/F	
Vcc	5.0	V	Vcc	10~180	V
I _{pn}	15~75	A	I _{pn}	6~75	A
I _{pm}	51~220	A	I _{pm}	20~220	A
F _{band}	400	kHZ	F _{band}	400	kHZ
t _r	0.3	μs	t _r	0.3	μs
Acc.	1.1~3.0	%FS	Acc.	1.1~3.0	%FS

Charging pile module			Charging pile module		
Applied Current Sensor			Applied Current Sensor		
PN-01	STK-PL/A		PN-01	STK-HO	
PN-02	STK-PL/M		PN-02		
PN-03	STK-PL/AG		PN-03		
Vcc		V	Vcc	5.0	V
I _{pn}	10~180	A	I _{pn}	60~120	A
I _{pm}	25~450	A	I _{pm}	150~375	A
F _{band}	400~1000	kHZ	F _{band}	150	kHZ
t _r	0.2~1.5	μs	t _r	2.0	μs
Acc.	2.0	%FS	Acc.	3.0	%FS

Charging pile module			Charging pile module		
Applied Current Sensor			Applied Current Sensor		
PN-01	STK-600/M		PN-01	STK-600/F	
PN-02	STK-600/M-M		PN-02		
PN-03			PN-03		
Vcc	3.3 or 5.0	V	Vcc	5.0	V
I _{pn}	50, 100	A	I _{pn}	50	A
I _{pm}	50~400	A	I _{pm}	200~400	A
F _{band}	120	kHZ	F _{band}	1000	kHZ
t _r	4.6	μs	t _r	0.4	μs
Acc.	3.5	%FS	Acc.	3.5	%FS

Residual current			Residual current		
Applied Current Sensor			Applied Current Sensor		
PN-01	SFG-CPL/A series (A2~A6)		PN-01	SFG-CPL/B	
I _{pm}	300	mA	I _{pm}	300	mA
I _{pn1}	6	mA DC	I _{pn1}	6	mA DC
I _{pn2}	10(A4), 30	mA rms	I _{pn2}	30	mA rms
F _{band}	2.0	kHz	F _{band}	2.0	kHz
t _r	Follow IEC62752		t _r	Follow IEC62752	

