IDM

	12.80
	336.94
/ A	1216/237
/	

- **IDM** 2018 IDM 2018 62.71 4.29 6-8 5 2 1 3

- **MOSFET** **600V-6500V IGBT** MOSFET IGBT SBD FRD MOSFET IGBT SBD FRD Trench-FS 600V-6500V IGBT

- 2019 2662.0 2021 3010.6

- IPO 12.80 / IPO 336943049 1215925195 8

- 2019~2021 EPS 0.29 0.40 0.57 / PE 2020 245~284 PB 2020 268~313 268~284 22.04~23.36 /

- 1 2

	2017	2018	2019E	2020E	2021E
( )	5876	6271	5782	6754	7924
(+/-)YoY(%)	33.6%	6.7%	-7.8%	16.8%	17.3%
( )	70	429	358	490	697
(+/-)YoY(%)	123.2%	511.0%	-16.6%	36.7%	42.3%
EPS( )	0.06	0.35	0.29	0.40	0.57
(%)	17.6%	25.2%	24.0%	26.3%	27.3%
(%)	1.8%	10.4%	8.5%	5.5%	7.2%

2017-2018

:
Tel:(021)23219646
Email:cp9808@htsec.com
:S0850514080004

:
Tel:(021)23212214
Email:xl10881@htsec.com
:S0850518100003

:
Tel:(021)23154119
Email:yl11569@htsec.com
:S0850518100002

:
Tel:(021)23154170
Email:jj11200@htsec.com
:S0850517010002

1. IDM 5
2. 5
3. MEMS 8
3.1 8
3.2 MEMS 11
3.3 12
4. 14
5. 14
5.1 14
5.2 19
6. 19
..... 20

1 5
2 9
3 2014-2021 9
4 2014-2021 10
5 2017-2022 MEMS 11

1 IC 6
2 7
3 7
4 7
5 2018 12
6 2018 13
7 2018 MOSFET 13
8 14
9 15
10 15
11 15
12 IC 16
13 16
14 17
15 17
16 18
17 A PE 2020 19
18 A PB 2020 19

1. IDM

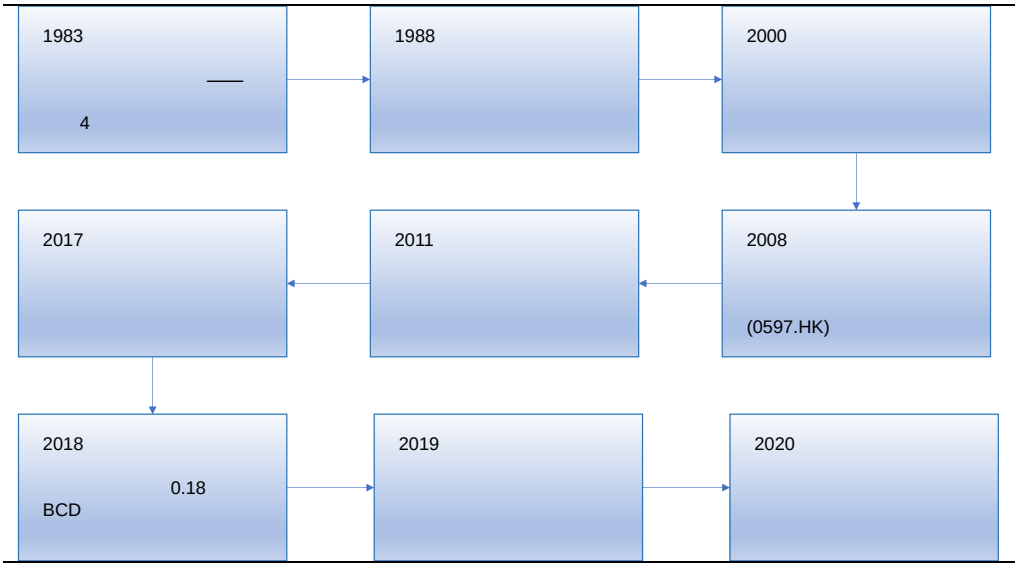
2017

2004

2018 IDM
2018 62.71 4.29

6-8
5 2 1 3

1



2.

IC

IC

MOSFET IGBT SBD FRD IC

MOSFET IGBT
SBD FRD

MOSFET IDM

-100V 1500V MOSFET
MOSFET
MOS VDMOS MOS

IGBT SBD FRD
Trench-FS 600V-6500V IGBT SBD
8 Trench
FRD

IC IC

1	IC		
	AC-DC	AC-DC	
	LED IC	LED	
	BMS IC		
IC	IC		78 1117 100mA-1A
	IC	100W	
	IC		,
	IC		AB D 5mW-50W

MEMS
MEMS

ESD
UL

2

MEMS

MCU MCU MCU

OTP MTP Flash CMOS

4 8 16 32 CPU

3

MCU

MCU PC MCU

MCU

MCU

MCU

8 16 32 CPU

4

		2018
3 6	Analog BCD MEMS DMOS Power Discrete	247
1 8	Advance BCD Analog DMOS	73
1 8	MOS MOS MOS SBD	60
		199
	QFP QFN PQFN FC-QFN TSSOP SSOP MSOP IPM	62
		69
		2.4

1 8 3 6 8
73 6 247 6
1.0-0.11 m
SOI BCD CMOS CMOS
Bipolar BiCMOS IGBT MEMS GaN SiC

BCD
MEMS

1 8 60
MOS
SBD MOS MOS IGBT GaN
IC

62

50 m12 \
FC
PEP INNOVATION

2.4

2018 27%

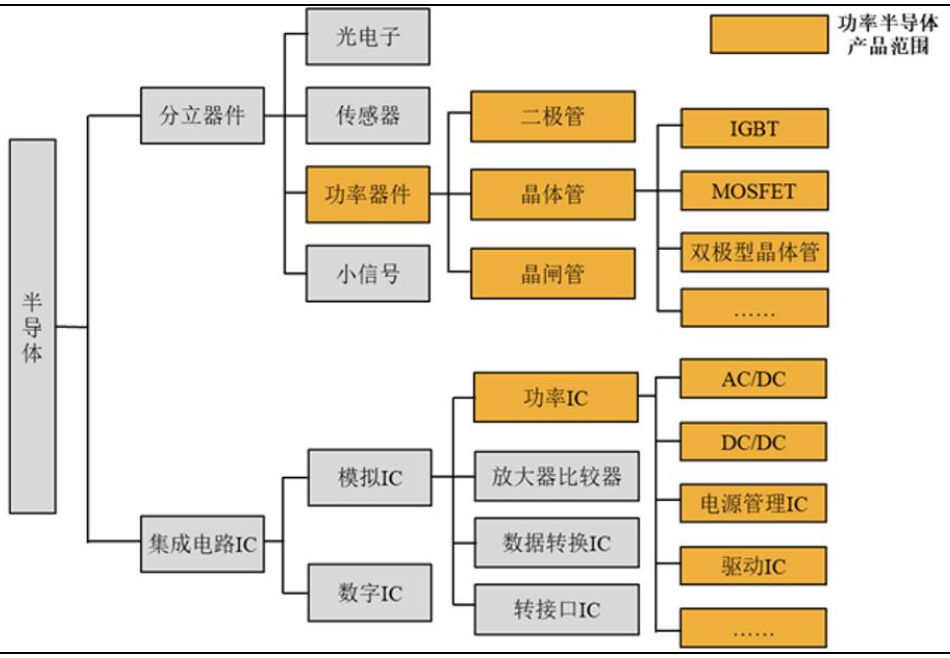
3. MEMS

3.1

IC

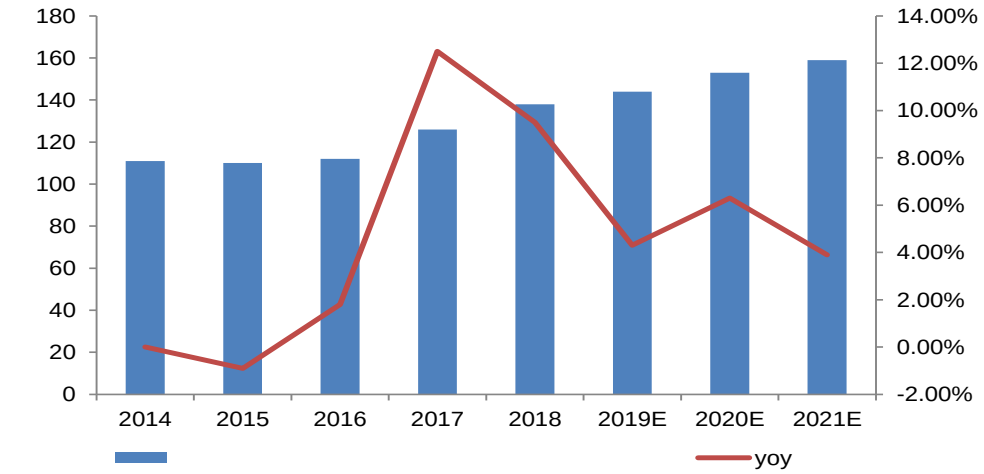
IHS Markit MOSFET IGBT 5

2



IHS Markit 2018 391

4 2014-2021



IHS Markit

IHS Markit IC MOSFET IGBT 2018 60.98% 20.21% 13.92%

IC

IHS Markit 2018 IC 84.3 2016-2018 2.88% IC GaN SiC IC

MOSFET

MOSFET

IHS MOSFET 40%

IHS Markit 2018 MOSFET 27.92 2016 -2018 15.03%

Type-C MOSFET MOSFET

IGBT BJT MOSFET IGBT MOSFET IGBT

IHS Markit 2016 IGBT 15.40 2018 19.23 11.74% IGBT 16 CPU IGBT 1700V IGBT

IGBT

IGBT

IGBT

MOSFET IC MOSFET IGBT

3.2 MEMS

A/D

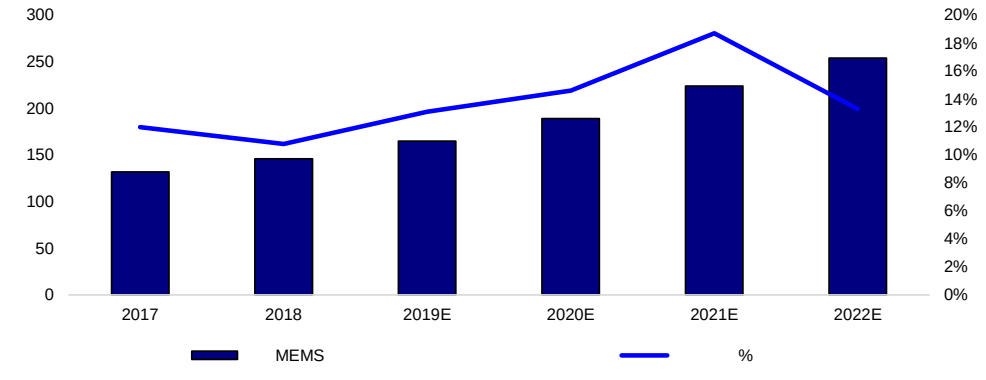
MEMS

2018 MEMS 146 10.8%

MEMS

Yole Development 2018-2022 MEMS 14.85%

5 2017-2022 MEMS



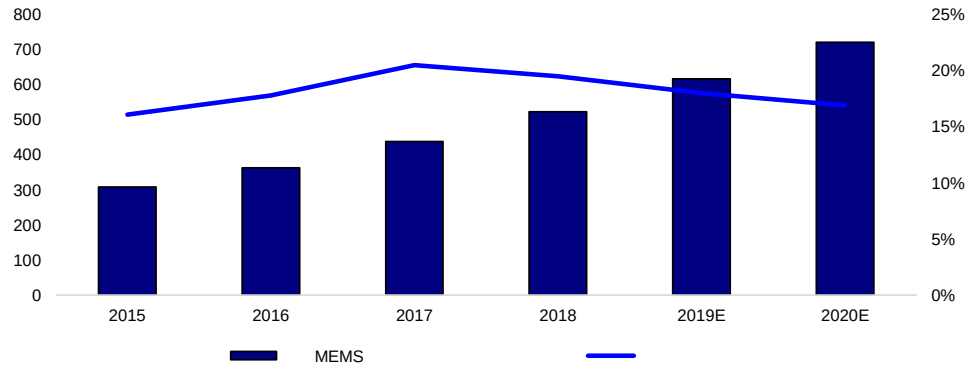
Yole Development

MEMS 60%

2018 MEMS

523 19.5% 2018-2020 17.41%

6 2015-2020 MEMS



MEMS

MEMS

MEMS

MEMS

IDM Yole

Development 2017 MEMS IDM

3.3

2018

10 10 IDM

5 2018

	2018	
1	509	
2	248	
3	239	
4	225	
5	111	
6	107	
7	92	
8	66	
9	65	
10	63	IDM

2018

MOSFET

4.

IPO 292994049
336943049 25% 8

8

8 BCD 8 MEMS
BCD
MEMS 16000

IC MEMS

8

1	8	150000	50%
2		60000	20%
3		30000	10%
4		60000	20%
		300000	100%

5.

5.1

1 2016 2017 2018 2019H1
0.14 / 0.13 / 0.15 / 0.16 /

2020 5G

2019~2021 -10.00% 20.00%
20.00% 5.00% 5.00% 5.00%

9

	2018	2019E	2020E	2021E
	2418.86	2324.56	2928.94	3690.47
yoy	16.93%	-3.90%	26.00%	26.00%
	33.83%	32.00%	34.00%	34.50%
	163.99	147.59	177.11	212.53
yoy	-0.47%	-10.00%	20.00%	20.00%
/	0.15	0.16	0.17	0.17
yoy	15.38%	5.00%	5.00%	5.00%

wind

2 2016 2017 2018 2019H1
0.03 / 0.03 / 0.06 / 0.07 / 2018

2020 5G
2019~2021
-10.00% 10.00% 10.00% 3.00% 3.00%
3.00%

10

	2018	2019E	2020E	2021E
	137.64	135.49	153.51	173.93
yoy	41.99%	-1.56%	13.30%	13.30%
	40.39%	37.00%	40.00%	40.00%
	24.36	21.92	24.12	26.53
yoy	-13.95%	-10.00%	10.00%	10.00%
/	0.06	0.06	0.06	0.07
yoy	100.00%	3.00%	3.00%	3.00%

wind

3 2016 2017 2018 2019H1
0.25 / 0.27 / 0.25 / 0.20 / 2016 2018
2020 5G
2019~2021
-15.00% 10.00% 10.00% -10.00% 10.00% 10.00%

11

	2018	2019E	2020E	2021E
	99.37	77.07	93.26	112.84
yoy	-22.06%	-22.44%	21.00%	21.00%
	30.67%	28.55%	30.00%	30.00%
	4.03	3.43	3.77	4.14
yoy	-14.44%	-15.00%	10.00%	10.00%
/	0.25	0.23	0.25	0.27
yoy	-7.41%	-10.00%	10.00%	10.00%

wind

4 2016 2017 2018 2019H1 IC
0.34 / 0.23 / 0.36 / 0.26 /

2020 5G IC
IC 2019~2021 -20.00%
10.00% 10.00% 30.00% 10.00% 10.00%

12 **IC**

		2018	**2019E**	**2020E**	**2021E**
		27.61	28.99	35.07	42.44
	yoy	-40.02%	4.98%	21.00%	21.00%
		30.86%	33.00%	34.00%	35.00%
IC		7742.11	6193.69	6813.06	7494.36
	yoy	-61.08%	-20.00%	10.00%	10.00%
	/	0.36	0.47	0.51	0.57
	yoy	56.52%	30.00%	10.00%	10.00%

wind

5 2016 2017 2018 2019H1
1290.33 / 1427.53 / 1493.01 / 1464.63
/ 2017
2019
2020 5G
2019~2021
-5.00% 5.00% 5.00% -5.00% 5.00% 5.00%

13

		2018	**2019E**	**2020E**	**2021E**
		2674.27	2413.54	2660.92	2933.67
	yoy	4.33%	-9.75%	151.07%	21.55%
		19.49%	18.00%	20.00%	20.50%
		179.12	170.16	178.67	187.61
	yoy	-0.25%	-5.00%	5.00%	5.00%
	/	1493.01	1418.36	1489.28	1563.74
	yoy	4.59%	-5.00%	5.00%	5.00%

wind

6 2020 5G
2019~2021 -10.00% 10.00%
10.00%

14

	2018	2019E	2020E	2021E
	785.68	707.11	777.82	855.61
yoy	-4.20%	-10.00%	10.00%	10.00%
	15.28%	15.28%	16.00%	17.00%

wind

7 2020 5G 2019~2021 -15.00% 10.00% 10.00%

8 2019~2021 800 800 400 400 400 400

15

	2018	2019E	2020E	2021E
	111.96	95.16	104.68	115.15
yoy	-17.89%	-15.00%	10.00%	10.00%
	19.53%	20.00%	20.00%	20.00%

wind

9 IPO 878982146 IPO 336943049 IPO 12.80 / IPO 1215925195

2019~2021 57.82 67.54 79.24 EPS 0.29 0.40 0.57 /

16

		2018	2019E	2020E	2021E
		6270.80	5781.92	6754.22	7924.10
	yoy	6.73%	-7.80%	16.82%	17.32%
		25.20%	23.99%	26.28%	27.28%
		2418.86	2324.56	2928.94	3690.47
	yoy	16.93%	-3.90%	26.00%	26.00%
		33.83%	32.00%	34.00%	34.50%
		137.64	135.49	153.51	173.93
	yoy	41.99%	-1.56%	13.30%	13.30%
		40.39%	37.00%	40.00%	40.00%
		99.37	77.07	93.26	112.84
	yoy	-22.06%	-22.44%	21.00%	21.00%
		30.67%	28.55%	30.00%	30.00%
		27.61	28.99	35.07	42.44
IC	yoy	-40.02%	4.98%	21.00%	21.00%
		30.86%	33.00%	34.00%	35.00%
		2674.27	2413.54	2660.92	2933.67
	yoy	4.33%	-9.75%	10.25%	10.25%
		19.49%	18.00%	20.00%	20.50%
		785.68	707.11	777.82	855.61
	yoy	-4.20%	-10.00%	10.00%	10.00%
		15.28%	15.28%	16.00%	17.00%
		111.96	95.16	104.68	115.15
	yoy	-17.89%	-15.00%	10.00%	10.00%
		19.53%	20.00%	20.00%	20.00%

wind

5.2

2018 62.71 4.29
IDM
PE PB

PE IDM
PE 2020 50~58x 245~284
PB PB 2020 3.00~3.50x
268~313

PE PB 268~284
IPO 22.04~23.36 /
2020 PE 55~58x 2020 PB
3.00~3.18x

17 A PE 2020

	PE x
	48
	51
	50

wind 2020 2 26

18 A PB 2020

	PB x
	5.05
	5.48
	5.26

wind 2020 2 26

6.

1 2

	2018	2019E	2020E	2021E
	0.35	0.29	0.40	0.57
	3.41	3.46	7.35	7.92
	1.22	1.38	1.08	1.24
	0.00	0.00	0.00	0.00
P/E	36.24	43.46	31.79	22.34
P/B	3.75	3.70	1.74	1.62
P/S	1.69	1.95	2.30	1.96
EV/EBITDA	7.69	10.69	8.65	7.78
%	**0.0%**	**0.0%**	**0.0%**	**0.0%**
%				
	25.2%	24.0%	26.3%	27.3%
	6.8%	6.2%	7.2%	8.8%
	10.4%	8.5%	5.5%	7.2%
	4.3%	3.5%	3.5%	4.5%
	8.4%	6.1%	8.8%	10.8%
%				
	6.7%	-7.8%	16.8%	17.3%
EBIT	8150.3%	-23.3%	64.9%	31.1%
	511.0%	-16.6%	36.7%	42.3%
	49.8%	48.8%	29.2%	29.1%
	1.1	1.5	3.5	3.4
	0.8	1.2	3.0	2.9
	0.3	0.5	1.9	1.8
	68.7	71.6	70.2	70.9
	81.0	70.3	75.6	73.0
	0.6	0.6	0.6	0.5
	1.5	1.5	1.7	2.1

	2018	2019E	2020E	2021E
	429	358	490	697
	108	90	123	175
	1025	855	895	800
	15	49	86	64
	-95	332	-278	-226
	1482	**1684**	**1315**	**1511**
	-533	-1490	-1490	-1090
	0	0	0	0
	-42	0	0	0
	-575	**-1490**	**-1490**	**-1090**
	-253	1078	-1078	0
	85	49	4233	0
	-459	-1359	-96	-75
	-627	**-232**	**3059**	**-75**
	281	**-38**	**2885**	**346**

	2018	2019E	2020E	2021E
	6271	**5782**	**6754**	**7924**
	4690	4395	4979	5763
%	25.2%	24.0%	26.3%	27.3%
	85	78	91	107
%	1.3%	1.3%	1.3%	1.3%
	126	104	128	158
%	2.0%	1.8%	1.9%	2.0%
	374	335	378	444
%	6.0%	5.8%	5.6%	5.6%
EBIT	546	419	691	906
	0	13	8	-62
%	0.0%	0.2%	0.1%	-0.8%
	72	120	120	120
	11	0	0	0
	586	**481**	**661**	**946**
	5	12	12	12
	591	**492**	**673**	**958**
EBITDA	1500	1154	1466	1586
	53	44	60	86
%	9.0%	9.0%	9.0%	9.0%
	108	90	123	175
	429	**358**	**490**	**697**

	2018	2019E	2020E	2021E
	1538	1500	4385	4731
	1108	1135	1298	1539
	1181	847	1032	1152
	1279	1077	1301	1491
	5106	4558	8017	8914
	0	0	0	0
	3898	3914	3919	3649
	351	711	1071	1431
	294	564	804	1014
	4886	5531	6136	6436
	9992	**10089**	**14153**	**15350**
	0	1078	0	0
	800	754	864	994
	116	136	142	176
	3737	1135	1314	1475
	4654	3102	2320	2645
	0	1498	1498	1498
	318	318	318	318
	318	1816	1816	1816
	4972	**4919**	**4136**	**4462**
	830	879	1216	1216
	4148	4209	8932	9628
	872	962	1085	1260
	9992	**10089**	**14153**	**15350**

2018

, , , , , , , , , , , ,
, , , , , , , , , , ,
, ,

1. 6 6			10%
			-10% 10%
			-10%
			6
2. A 500			10%
			-10% 10%
			-10%

“ ”

(021)23219403 luying@htsec.com
(021)63411586 gaodd@htsec.com
(021)23212042 jc9001@htsec.com

(021)23219404 dengyong@htsec.com
(021)23219658 xyg6052@htsec.com
(021)23219747 tll5535@htsec.com

(021)23212042 jc9001@htsec.com
(021)23219820 yb9744@htsec.com
(021)23219885 ljl11087@htsec.com
(021)23154483 sx11788@htsec.com
(021)23154504 cx12025@htsec.com

(021)23219394 yjx12725@htsec.com

(021)63411586 gaodd@htsec.com
(021)23219732 fengjr@htsec.com
(021)23219395 zhengyb@htsec.com
(021)23219984 ll9773@htsec.com
(021)23219883 yhm9591@htsec.com
(021)23212230 ylq9619@htsec.com
(021)23219443 ys10481@htsec.com
(021)23219745 lly10892@htsec.com
(021)23154386 zzg11641@htsec.com
(021)23219449 lz11936@htsec.com

(021)23219914 yw10384@htsec.com

(021)63411586 gaodd@htsec.com
(021)23219419 niyt@htsec.com
(021)23219645 chenyao@htsec.com
(021)23219004 tangyy@htsec.com
(021)23154168 pl10382@htsec.com
(021)23219326 xyh10763@htsec.com
(021)23219686 tx10771@htsec.com
(021)23219819 wy10876@htsec.com
(021)23219433 csy11033@htsec.com
(021)23219370 zzk11560@htsec.com
(021)23219774 zyy10866@htsec.com

(021)23219445 tsh12355@htsec.com
(021)23154167 wqy12576@htsec.com

(021)23212042 jc9001@htsec.com
(021)23219807 zx6701@htsec.com
(021)23154121 jps10296@htsec.com
(021)23154149 dj11195@htsec.com
(021)23154484 lb11789@htsec.com

(021)23154142 wqz12709@htsec.com

(021)23219658 xyg6052@htsec.com
(010)56760096 zq10540@htsec.com
(021)23154132 gs10373@htsec.com
(021)23154117 ly11082@htsec.com
(021)23154184 yp11059@htsec.com
zxh12382@htsec.com
(021)23154141 zxw10402@htsec.com
lsx11330@htsec.com
(021)23219810 zz9612@htsec.com
lf12596@htsec.com

(021)23219406 tyj11545@htsec.com
(021)23219733 zzx12149@htsec.com
(021)23219400 wyx12372@htsec.com
021-23154147 wxk12750@htsec.com

(021)23219583 zy9957@htsec.com
(021)23219420 ymniu@htsec.com
(021)23219223 kongwn@htsec.com
(021)23154122 pyl10297@htsec.com
(021)23219945 xj11211@htsec.com

02123154123 wyq12745@htsec.com

(021)23219434 lml@htsec.com
(021)23219393 chenjiuhong@htsec.com
(021)23219387 wuyiping@htsec.com
(021)23219946 zl8316@htsec.com
(021)23219953 zhr8381@htsec.com
(021)23219396 wx5937@htsec.com

(021)23219404 dengyong@htsec.com
(021)23154143 zjj10419@htsec.com
(021)23154505 hx11853@htsec.com

(021)23219411 zx12361@htsec.com

(0755)82780398 ywx9461@htsec.com
(021)23219808 zq6670@htsec.com
(010)68067998 hwb10850@htsec.com

(010)56760096 lgk12371@htsec.com
(010)56760092 zzm12569@htsec.com
02123154384 fgq12116@htsec.com

(021)23154017 wm10860@htsec.com
(0755)82900463 dw11213@htsec.com

(021)23154145 cyq12265@htsec.com
075523617756 zl12742@htsec.com
0755-23617756 fqh12888@htsec.com

(021)23154113 wj10521@htsec.com
(021)23212001 zl10996@htsec.com
(021)23154146 dyc10422@htsec.com
(021)23154398 fyf11758@htsec.com

(021)23219399 wanglt@htsec.com
(021)23154125 lhk11523@htsec.com
(021)23219415 gy12362@htsec.com

(010)58067906 hyh11052@htsec.com
(021)23154120 sxw10268@htsec.com
(010)58067907 myc11153@htsec.com
(021)23219104 cxg11774@htsec.com

(021)23219480 sy8486@htsec.com
(021)23154392 cxh11840@htsec.com
(021)23154394 gjy11909@htsec.com

zjy12711@htsec.com

(021)23219747 tll5535@htsec.com
(021)23219436 xiey@htsec.com
(021)23154128 jj10777@htsec.com
(021)23219812 yf11127@htsec.com

(021)23219646 cp9808@htsec.com
(021)23154119 yl11569@htsec.com
(021)23212214 xl10881@htsec.com
(021)23154170 jj11200@htsec.com

021-23154139 xjc12802@htsec.com

(010)58067998 lm10779@htsec.com
(021)23154146 dyc10422@htsec.com
(021)23154113 wj10521@htsec.com

(021)23219760 wt12363@htsec.com

(021)23219402 zyc9637@htsec.com
(021)23219692 fangq@htsec.com
(021)23154148 zb10242@htsec.com
(021)23219171 xbq6583@htsec.com
(021)23154513 cjb11782@htsec.com

(0755)82764281 lw10053@htsec.com
(021)23154130 lhr10342@htsec.com
(021)23214397 zcc11726@htsec.com
(021)23219431 swr12178@htsec.com
(021)23219392 lz11785@htsec.com

(021)23219392 zhd10834@htsec.com
(021)23154174 yl11036@htsec.com
ycl12224@htsec.com
(021)23154131 hjj10361@htsec.com
(021)23154137 hl11570@htsec.com

(010)50949926 zjs10213@htsec.com
(010)50949926 ywm11574@htsec.com
(021)23219383 zzq11650@htsec.com
01050949962 zy12258@htsec.com

010-56760095 ytx12741@htsec.com

(010)50949926 st9998@htsec.com
(021)23219634 ht10515@htsec.com
(021)23154127 lfz11585@htsec.com

(010)56760090 rgb12695@htsec.com

(021)23219382 yun@htsec.com
010 56760091 lyj12399@htsec.com
(021)23154652 lx12671@htsec.com
(021)23154401 ld11766@htsec.com

(021)23219407 lx11040@htsec.com
(021)23154510 sk11787@htsec.com

(021)23219748 ly12337@htsec.com

(021)23212081 fcy10886@htsec.com
(021)23154122 pyl10297@htsec.com
(021)23154114 sh12219@htsec.com
(0755)82945368 dsw11227@htsec.com

yhj12866@htsec.com

(021)23219816 swc11480@htsec.com
(021)23219814 gy10234@htsec.com
(021)23154124 yz10334@htsec.com
zd12213@htsec.com

(021)23154145 js12801@htsec.com

(021)23219391 liuyq@htsec.com
(021)23154399 zhl11756@htsec.com

zxj12156@htsec.com
(021)23154134 lfh12225@htsec.com
(0755)82945368 dsw11227@htsec.com

(021)23219405 dingpin@htsec.com
(021)23212041 cy10867@htsec.com

(021)23154396 myq12354@htsec.com

(010)58067941 whw9587@htsec.com
(021)23219389 ty11049@htsec.com

(021)23154171 cbs10969@htsec.com
yhj12866@htsec.com

zhx10170@htsec.com

(021)23154172 zyx11631@htsec.com

(010)50949926 st9998@htsec.com
xww12276@htsec.com
(021)23154395 ljl12245@htsec.com
(0755)82900489 tmy10908@htsec.com

(021)23219399 wanglt@htsec.com
(021)23219671 cyy10636@htsec.com
xyz11630@htsec.com

(021)23219244 chenzy@htsec.com
(021)23154382 ly11194@htsec.com
(021)23154383 zmc11316@htsec.com
(021)23214390 ll11838@htsec.com

(021)23212208 yzy12003@htsec.com
(021)23154126 zy10340@htsec.com

(0755)82775962 ctq5979@htsec.com
(0755)23607963 fcy7498@htsec.com
(0755)83253022 gulj@htsec.com
(0755)83255933 liujj4900@htsec.com
(0755)82775282 rw10588@htsec.com
(0755)23617160
oymc11039@htsec.com
gbh11537@htsec.com

(021)23219385 huxm@htsec.com
(021)23219592 zhuj@htsec.com
(021)23219384 jiwj@htsec.com
(021)23219410 huangyu@htsec.com
(021)23219281 qgn10768@htsec.com
(021)23154192 hyx10493@htsec.com
(021)23219397 hc10482@htsec.com
(021)23219373 mwy10474@htsec.com
mxn11376@htsec.com
(021)23212268 yyx10310@htsec.com
zsy11797@htsec.com
wcl11854@htsec.com
23214650 syj12493@htsec.com
021-23219691 ly12488@htsec.com

(010)58067988 yyq9989@htsec.com
010-5806 7936 gn12384@htsec.com
(010)58067931 zlx11191@htsec.com
(010)58067977 yys10962@htsec.com
(010)58067929 hj12311@htsec.com
lj12330@htsec.com
oyyq12331@htsec.com
(010)58067851 gjy12727@htsec.com

689 9
021 23219000
021 23219392
www.htsec.com