



3DD13003A

主要参数 MAIN CHARACTERISTICS

I_C	1.5A
V_{CEO}	450V
P_C (TO-92-FJ/TO-92-FJ-F1)	1W
P_C (DPAK/IPAK)	10W
P_C (TO-126)	20W
P_C (TO-220)	40W

用途

- 充电器
- 电子镇流器
- 高频开关电源
- 高频功率变换
- 一般功率放大电路

APPLICATIONS

- Battery changer
- Electronic ballasts
- High frequency switching power supply
- High frequency power transform
- Commonly power amplifier circuit

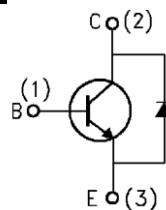
产品特性

- 高耐压
- 高电流容量
- 高开关速度
- 高可靠性
- 环保 (RoHS) 产品

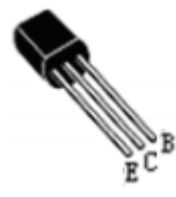
FEATURES

- High breakdown voltage
- High current capability
- High switching speed
- High reliability
- RoHS product

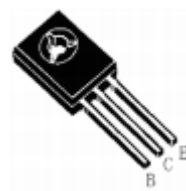
封装 Package



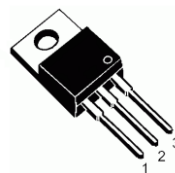
TO-92-FJ



TO-126



TO-220



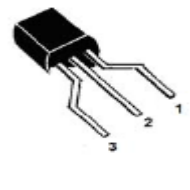
IPAK



DPAK



TO-92-FJ-F1



**订货信息 ORDER MESSAGE**

订 货 型 号 Order codes				印 记 Marking	封 装 Package
有卤-条管 Halogen-Tube	无卤-条管 Halogen-Free-Tube	有卤-编带 Halogen-Reel	无卤-编带 Halogen-Free-Reel		
3DD13003A-R-B	3DD13003A-R-BR	3DD13003A-R-A	3DD13003A-R-AR	13003A	DPAK
3DD13003A-V-B	3DD13003A-V-BR	N/A	N/A	13003A	IPAK
N/A	N/A	3DD13003A-TJ-A	3DD13003A-TJ-AR	13003A	TO-92-FJ
N/A	N/A	3DD13003A-TJ1-A	3DD13003A-TJ1-AR	13003A	TO-92-FJ-F1
3DD13003A-M-B	3DD13003A-M-BR	N/A	N/A	13003A	TO-126
3DD13003A-CA-B	3DD13003A-CA-BR	N/A	N/A	13003A	TO-220
有卤-袋装 Halogen-Bag	无卤-袋装 Halogen-Free-Bag			印 记 Marking	封 装 Package
3DD13003A-V-C	3DD13003A-V-CR			13003A	IPAK
3DD13003A-TJ-C	3DD13003A-TJ-CR			13003A	TO-92-FJ
3DD13003A-TJ1-C	3DD13003A-TJ1-CR			13003A	TO-92-FJ-F1
3DD13003A-M-C	3DD13003A-M-CR			13003A	TO-126
3DD13003A-CA-C	3DD13003A-CA-CR			13003A	TO-220



绝对最大额定值 ABSOLUTE RATINGS ($T_c=25^\circ\text{C}$)

项 目 Parameter	符 号 Symbol	数 值 Value	单 位 Unit
集电极—发射极直流电压 Collector- Emitter Voltage ($V_{BE}=0$)	V_{CES}	700	V
集电极—发射极直流电压 Collector- Emitter Voltage ($I_B=0$)	V_{CEO}	450	V
发射极—基极直流电压 Emitter-Base Voltage	V_{EBO}	9	V
最大集电极直流电流 Collector Current (DC)	I_C	1.5	A
最大集电极脉冲电流 Collector Current (pulse)	I_{CP}	3.0	A
最大集电极耗散功率 Total Dissipation (TO-92-FJ/ TO-92-FJ-F1)	P_C	1	W
最大集电极耗散功率 Total Dissipation (DPAK /IPAK)	P_C	10	W
最大集电极耗散功率 Total Dissipation (TO-126)	P_C	20	W
最大集电极耗散功率 Total Dissipation (TO-220)	P_C	40	W
最高结温 Junction Temperature	T_j	150	$^\circ\text{C}$
贮存温度 Storage Temperature	T_{stg}	-55~+150	$^\circ\text{C}$

电特性 ELECTRICAL CHARACTERISTIC

项 目 Parameter	测试条件 Tests conditions	最小值 Value(min)	典型值 Value(typ)	最大值 Value(max)	单 位 Unit
$V_{(BR)CEO}$	$I_C=10\text{mA}, I_B=0$	450	500	-	V
$V_{(BR)CBO}$	$I_C=1\text{mA}, I_E=0$	700	830	-	V
$V_{(BR)EBO}$	$I_E=1\text{mA}, I_C=0$	9	13	-	V
I_{CBO}	$V_{CB}=700\text{V}, I_E=0$	-	-	100	μA
I_{CEO}	$V_{CE}=450\text{V}, I_B=0$	-	-	50	μA
I_{EBO}	$V_{EB}=7\text{V}, I_C=0$	-	-	10	μA
	$V_{CE}=10\text{V}, I_C=200\text{mA}$	8	25	40	-
	$V_{CE}=5\text{V}, I_C=1.5\text{A}$	4	8	-	-
$V_{CE(sat)}$	$I_C=0.5\text{A}, I_B=0.1\text{A}$	-	0.15	0.8	V
	$I_C=1.5\text{A}, I_B=0.5\text{A}$	-	0.5	2.0	-
$V_{BE(sat)}$	$I_C=1.0\text{A}, I_B=0.25\text{A}$	-	0.6	1.8	V
tf	$V_{CC}=24\text{V}, I_C=0.5\text{A}, I_{B1}=-I_{B2}=0.1\text{A}$	-	-	0.7	μs
fT	$V_{CE}=10\text{V}, I_C=0.2\text{A}$	4	-	-	MHz

热特性 THERMAL CHARACTERISTIC

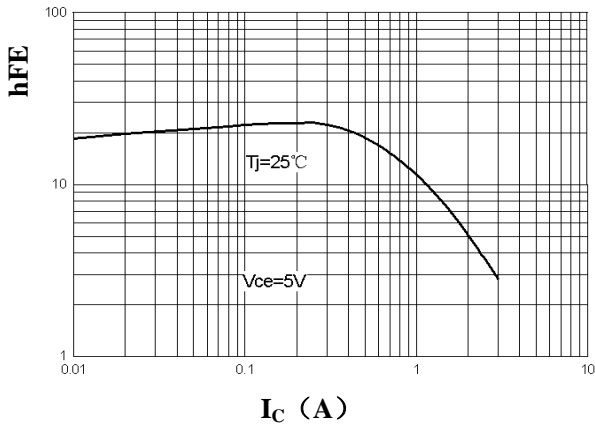
项 目 Parameter	符 号 Symbol	最小值 min	最大值 max	单 位 Unit
结到管壳的热阻 Thermal Resistance Junction Case (TO-92-FJ/ TO-92-FJ-F1)	$R_{th(j-c)}$	-	49	$^\circ\text{C/W}$
结到管壳的热阻 Thermal Resistance Junction Case DPAK/IPAK	$R_{th(j-c)}$	-	12.5	$^\circ\text{C/W}$
结到管壳的热阻 Thermal Resistance Junction Case TO-126	$R_{th(j-c)}$	-	6.25	$^\circ\text{C/W}$
结到管壳的热阻 Thermal Resistance Junction Case TO-220	$R_{th(j-c)}$	-	3.125	$^\circ\text{C/W}$



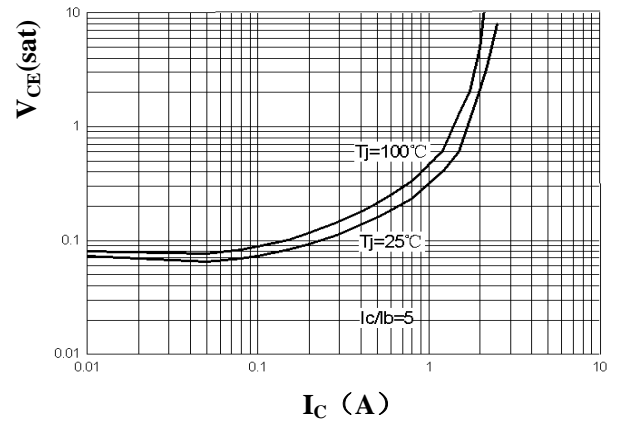


特征曲线 ELECTRICAL CHARACTERISTICS (curves)

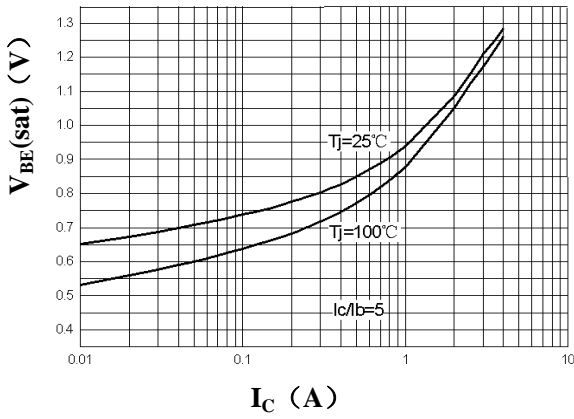
hFE - I_C



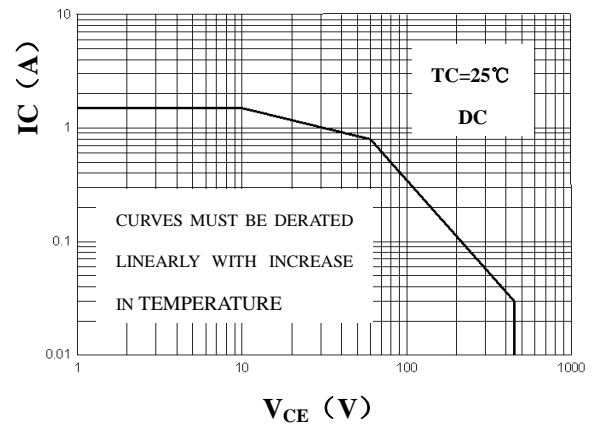
V_{CE(sat)} - I_C



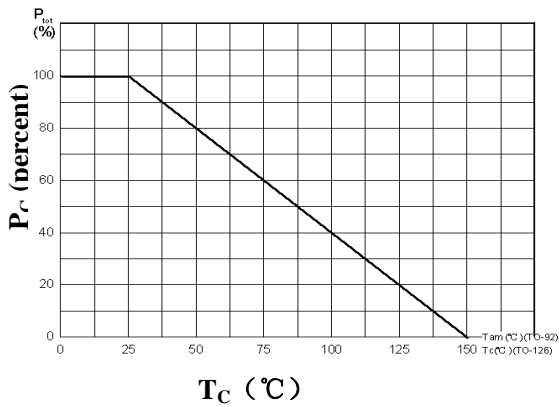
V_{BE (sat)} - I_C



SOA



P_C-T_C

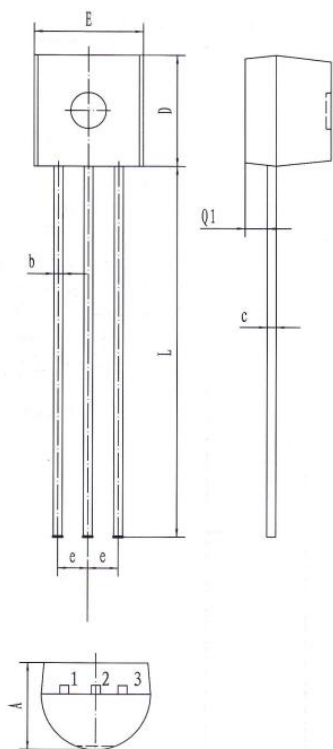




3DD13003A

外形尺寸 PACKAGE MECHANICAL DATA
TO-92-FJ

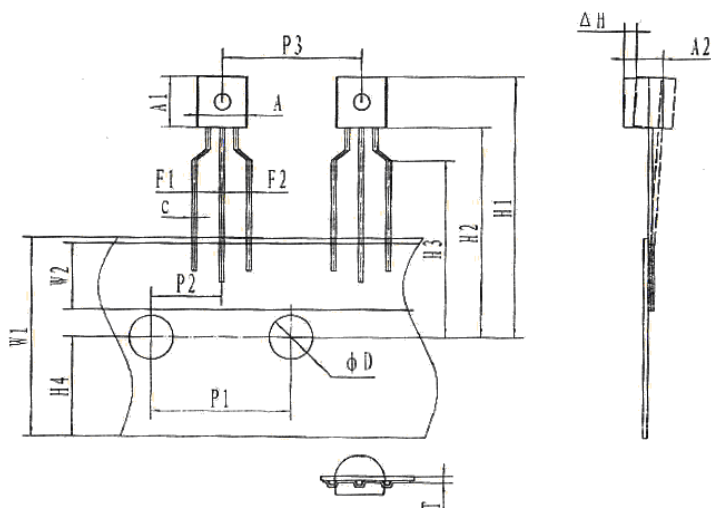
单位 Unit : mm



符号 Symbol	尺寸 (mm) Size (mm)
A	3.30-3.90
b	0.35-0.55
c	0.31-0.51
D	4.30-4.90
E	4.30-4.90
e	1.17-1.37
L	12.50-15.50
Q1	0.85-1.00

TO-92-FJ 编带

单位 Unit : mm



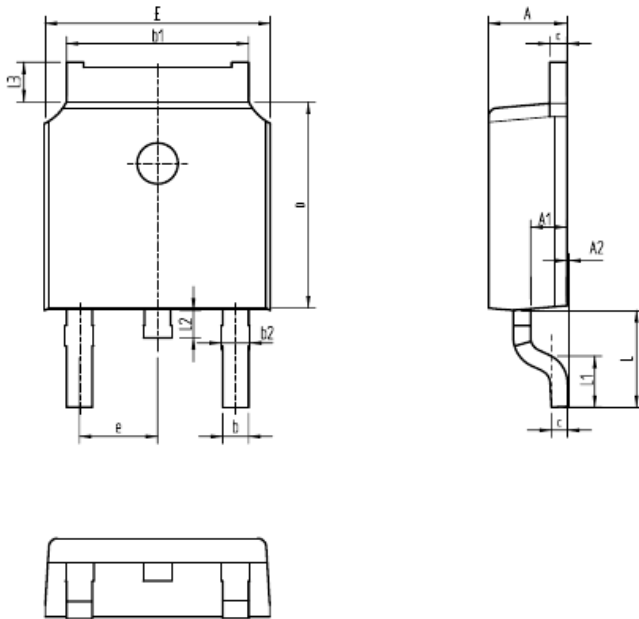
符号 Symbol	尺寸 (mm) Size (mm)
A	4.50-4.70
A1	4.50-4.70
A2	3.50-3.70
c	TYP 0.45
F1/F2	2.20-2.80
W1	17.5-18.5
W2	5.50-6.50
H1	22.0-27.0
H2	18.0-20.0
H3	15.0-17.0
H4	8.50-9.50
P1	12.5-12.9
P2	6.00-6.70
P3	12.5-12.9
T	0.40-0.45
φ D	3.80-4.20
ΔH	0.00-1.00





外形尺寸 PACKAGE MECHANICAL DATA
DPAK

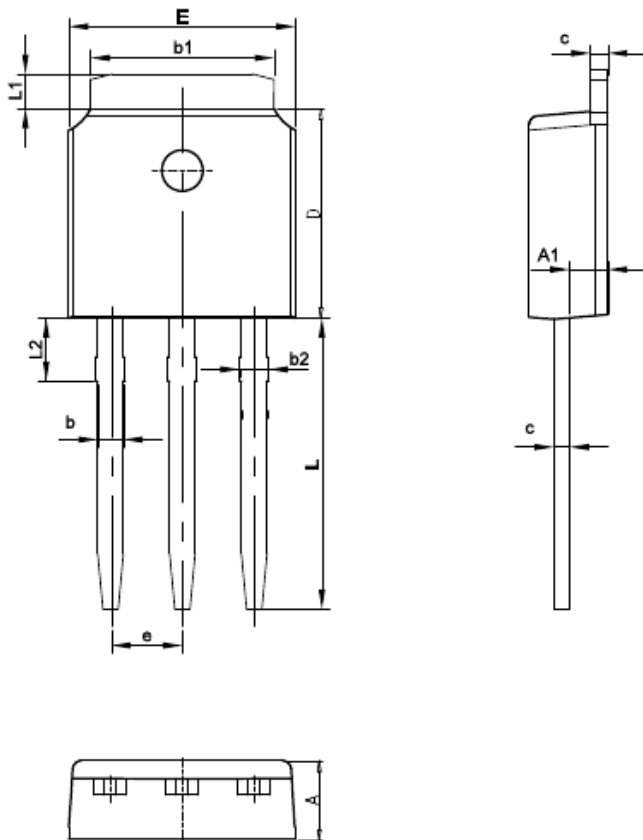
单位 Unit : mm



符号 Symbol	尺寸 (mm) Size (mm)
A	2.16-2.41
A1	0.97-1.17
A2	0.00-0.15
b	0.63-0.93
b1	5.13-5.53
b2	0.66-0.96
c	0.40-0.60
D	5.80-6.40
E	6.30-6.90
e	2.286BSC
L	2.50-3.30
L1	1.20-1.80
L2	0.60-1.00
L3	0.85-1.30

外形尺寸 PACKAGE MECHANICAL DATA
IPAK

单位 Unit : mm



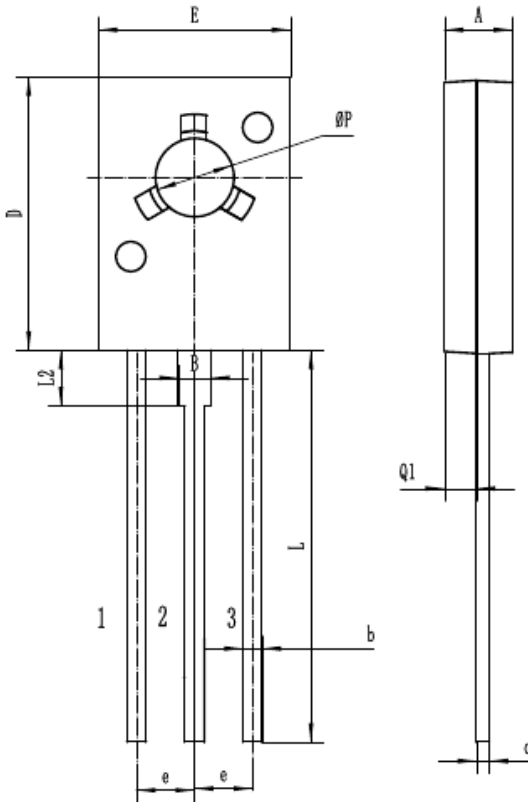
符号 Symbol	尺寸 (mm) Size (mm)
A	2.10-2.50
A1	0.87-1.27
b	0.63-0.93
b1	5.13-5.53
b2	0.67-1.00
c	0.40-0.60
D	5.80-6.40
E	6.3-6.9
L	9.10-9.70
e	2.286BSC
L1	0.82-1.22
L2	0.9-1.2





外形尺寸 PACKAGE MECHANICAL DATA
TO-126

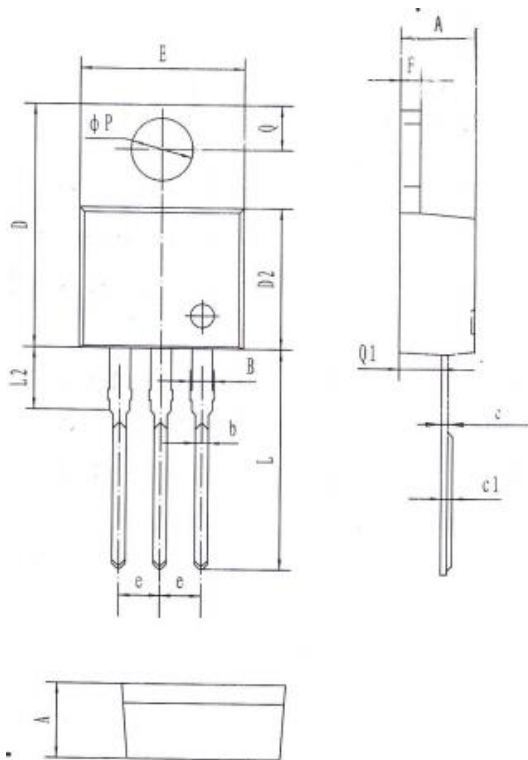
单位 Unit : mm



符号 symbol	MIN	MAX
A	2.5	2.9
B	1.22	1.47
b	0.6	0.9
c	0.3	0.7
D	10.5	11.1
E	7.1	8.1
e	2.19	2.39
L	15.3	15.7
L2	2.05	2.35
Q1	1.07	1.47
P	2.95	3.25

外形尺寸 PACKAGE MECHANICAL DATA
TO-220

单位 Unit : mm



符号 Symbol	尺寸 (mm) Size (mm)
A	4.40-4.80
B	1.10-1.40
b	0.70-0.95
c	0.28-0.48
c1	0.32-0.52
D	14.45-16.00
D2	8.20-9.20
E	9.60-10.40
e	2.39-2.69
F	1.20-1.35
L	13.05-14.05
L2	3.70-3.90
P	3.50-4.00
Q	2.40-3.00
Q1	2.20-2.90

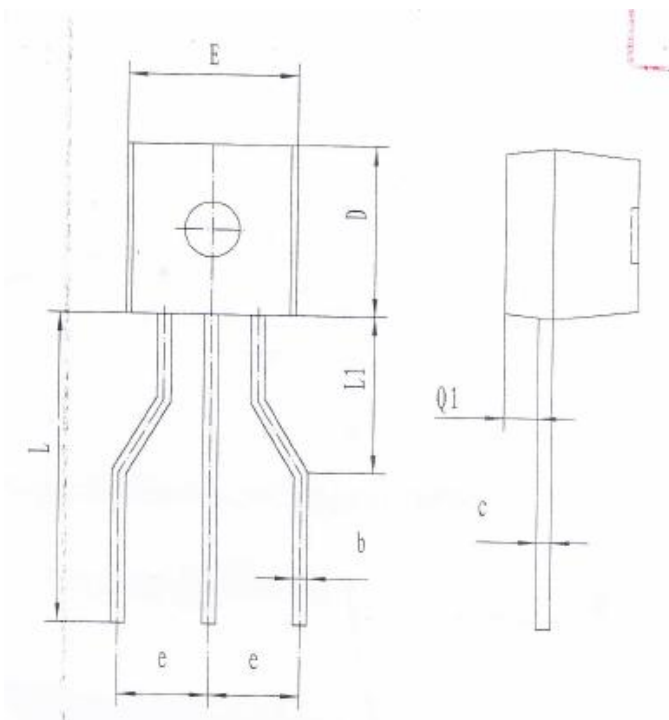




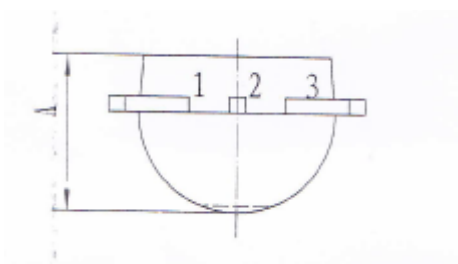
3DD13003A

外形尺寸 PACKAGE MECHANICAL DATA
TO-92-FJ-F1

单位 Unit : mm



符号 Symbol	尺寸 (mm) Size (mm)
A	3.30-3.90
b	0.35-0.55
c	0.31-0.51
D	4.30-4.90
E	4.30-4.90
e	2.00-3.10
L	5.90-7.10
L1	2.70-3.30
Q1	0.85-0.99



**注意事项**

1. 吉林华微电子股份有限公司的产品销售分为直销和销售代理，无论哪种方式，订货时请与公司核实。
2. 购买时请认清公司商标，如有疑问请与公司本部联系。
3. 在电路设计时请不要超过器件的绝对最大额定值，否则会影响整机的可靠性。
4. 本说明书如有版本变更不另外告知

NOTE

1. Jilin Sino-microelectronics co., Ltd sales its product either through direct sales or sales agent , thus, for customers, when ordering , please check with our company.
2. We strongly recommend customers check carefully on the trademark when buying our product, if there is any question, please don't be hesitate to contact us.
3. Please do not exceed the absolute maximum ratings of the device when circuit designing.
4. Jilin Sino-microelectronics co., Ltd reserves the right to make changes in this specification sheet and is subject to change without prior notice.

联系方式**吉林华微电子股份有限公司**

公司地址：吉林省吉林市深圳街 99 号

邮编：132013

总机：86-432-64678411

传真：86-432-64665812

网址：www.hwdz.com.cn

销售业务部

地址：吉林省吉林市深圳街 99 号

邮编：132013

电话： 86-432-64675588

64675688

64678411-3098/3099

传真：86-432-64671533

CONTACT**JILIN SINO-MICROELECTRONICS CO., LTD.**

ADD: No.99 Shenzhen Street, Jilin City, Jilin Province, China.

Post Code: 132013

Tel: 86-432-64678411

Fax: 86-432-64665812

Web Site: www.hwdz.com.cn

MARKET DEPARTMENT

ADD: No.99 Shenzhen Street, Jilin City, Jilin Province, China.

Post Code: 132013

Tel: 86-432-64675588

64675688

64678411-3098/3099

Fax: 86-432-64671533

