



# 3DD4203D

## 主要参数 MAIN CHARACTERISTICS

$I_C$	2.0A
$V_{CEO}$	400V
$P_C(TO-92)$	1W
$P_C(TO-251)$	10W
$P_C(TO-126(S))$	20W
$P_C(TO-220)$	40W

### 用途

- 节能灯
- 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

### 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

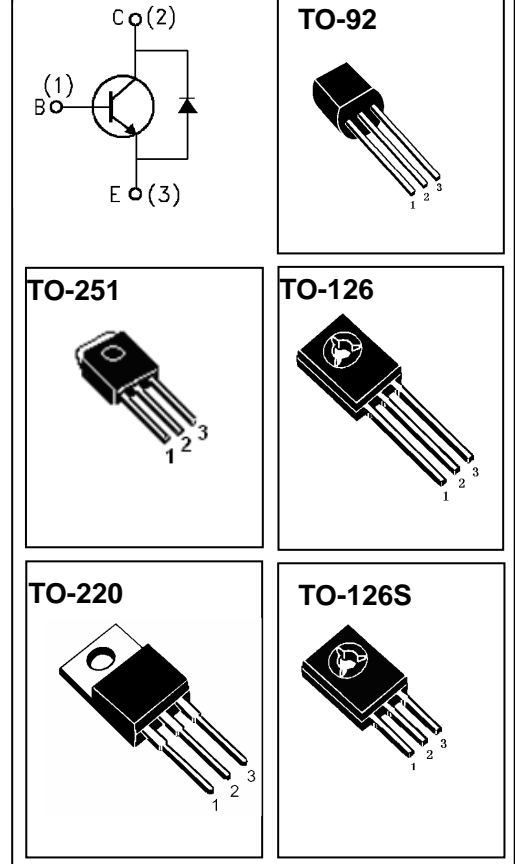
### APPLICATIONS

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

### FEATURES

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

## 封装 Package



## 订货信息 ORDER MESSAGE

订货型号 Order codes	印记 Marking	无卤素 Halogen Free	封装 Package	包装 Packaging
3DD4203D-O-T- B-A	D4203D	否 NO	TO-92	编带 Brede
3DD4203D-O-T- N-C	D4203D	否 NO	TO-92	袋装 Bag
3DD4203D-O- I- N-C	D4203D	否 NO	TO-251	袋装 Bag
3DD4203D-O- I- N-B	D4203D	否 NO	TO-251	条管 Tube
3DD4203D-O-M-N-C	D4203D	否 NO	TO-126	袋装 Bag
3DD4203D-O-M-N-B	D4203D	否 NO	TO-126	条管 Tube
3DD4203D-O-MS-N-C	D4203D	否 NO	TO-126S	袋装 Bag
3DD4203D-O-MS-N-B	D4203D	否 NO	TO-126S	条管 Tube
3DD4203D-O-Z-N-C	D4203D	否 NO	TO-220	袋装 Bag
3DD4203D-O-Z-N-B	D4203D	否 NO	TO-220	条管 Tube





## 绝对最大额定值 ABSOLUTE RATINGS (Tc=25℃)

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 <sub>BE</sub> =0)	V <sub>CES</sub>	700	V
集电极—发射极直流电压 Collector- Emitter Voltage (I <sub>B</sub> =0)	V <sub>CEO</sub>	400	V
发射极—基极直流电压 Emitter-Base Voltage	V <sub>EBO</sub>	9	V
最大集电极直流电流 Collector Current (DC)	I <sub>C</sub>	2.0	A
最大集电极脉冲电流 Collector Current (pulse)	I <sub>CP</sub>	4.0	A
最大集电极耗散功率 Total Dissipation (TO-92)	P <sub>C</sub>	1	W
最大集电极耗散功率 Total Dissipation (TO-251)	P <sub>C</sub>	10	W
最大集电极耗散功率 Total Dissipation (TO-126(S))	P <sub>C</sub>	20	W
最大集电极耗散功率 Total Dissipation (TO-220)	P <sub>C</sub>	40	W
最高结温 Junction Temperature	T <sub>J</sub>	150	℃
贮存温度 Storage Temperature	T <sub>stg</sub>	-55~+150	℃

## 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) <sub>CEO</sub>	I <sub>C</sub> =10mA, I <sub>B</sub> =0	400	490	-	V
V(BR) <sub>CBO</sub>	I <sub>C</sub> =1mA, I <sub>B</sub> =0	700	800	-	V
V(BR) <sub>EBO</sub>	I <sub>E</sub> =1mA, I <sub>C</sub> =0	9	13	-	V
I <sub>CBO</sub>	V <sub>CB</sub> =680V, I <sub>E</sub> =0	-	-	100	μA
I <sub>CEO</sub>	V <sub>CE</sub> =400V, I <sub>B</sub> =0	-	-	50	μA
I <sub>EBO</sub>	V <sub>EB</sub> =7V, I <sub>C</sub> =0	-	-	10	μA
hFE	V <sub>CE</sub> =5V, I <sub>C</sub> =5mA	6	16	40	-
	V <sub>CE</sub> =10V, I <sub>C</sub> =200mA	10	20	30	-
V <sub>CE(sat)</sub>	I <sub>C</sub> =0.5A, I <sub>B</sub> =0.1A	-	0.18	0.8	V
V <sub>BE(sat)</sub>	I <sub>C</sub> =0.5A, I <sub>B</sub> =0.1A	-	0.9	1.2	V
t <sub>f</sub>	V <sub>CC</sub> =24V I <sub>C</sub> =2A, I <sub>B1</sub> =-I <sub>B2</sub> =0.4A	-	-	0.7	μS
t <sub>s</sub>	V <sub>CC</sub> =24V I <sub>C</sub> =2A, I <sub>B1</sub> =-I <sub>B2</sub> =0.4A	-	-	4	μS
f <sub>T</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =0.1A	4	-	-	MHz

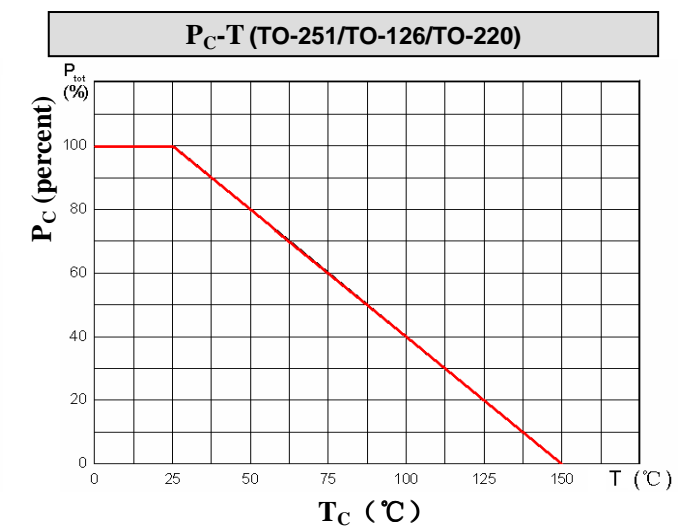
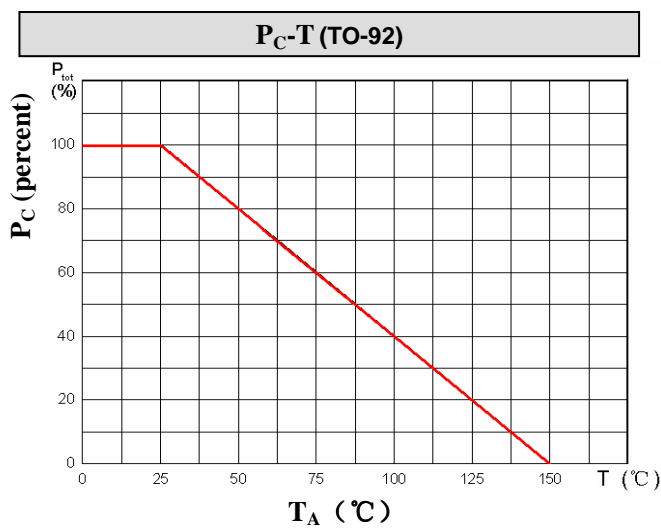
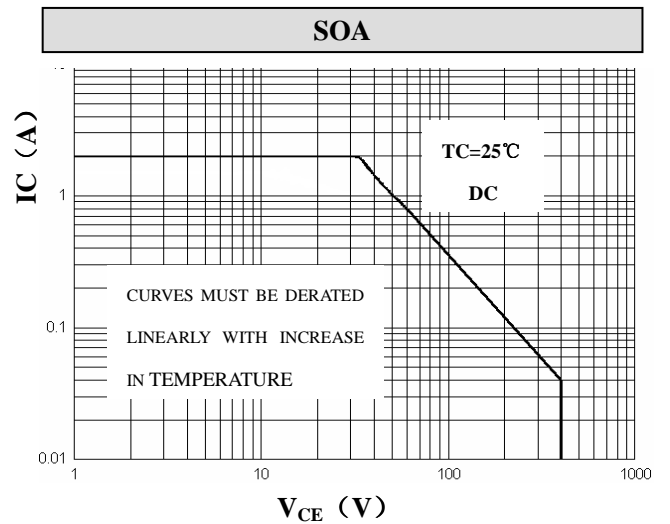
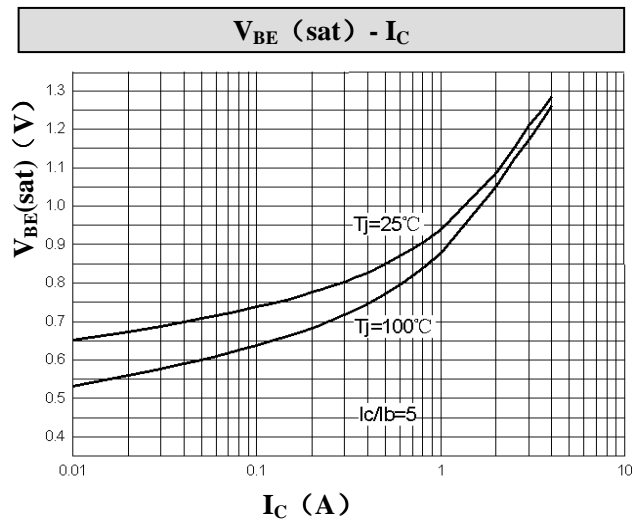
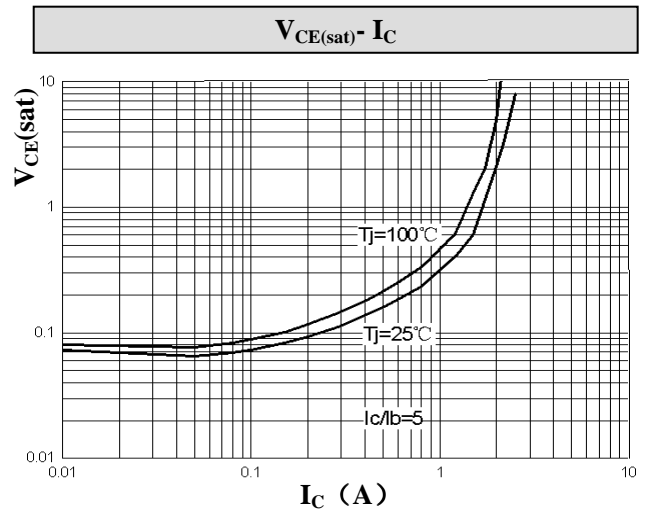
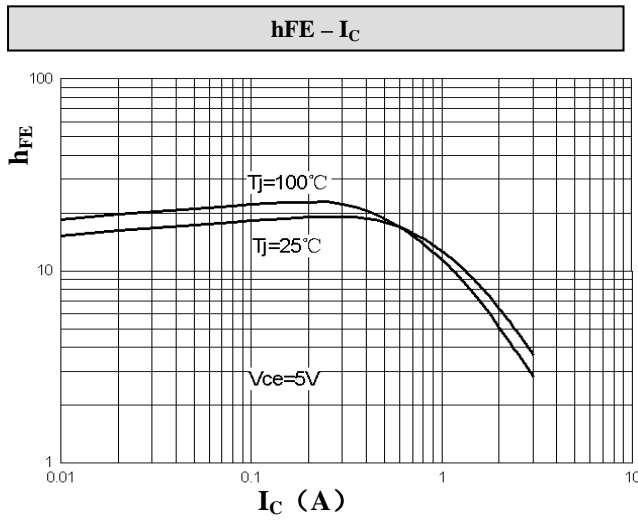
## 热特性 THERMAL CHARACTERISTIC

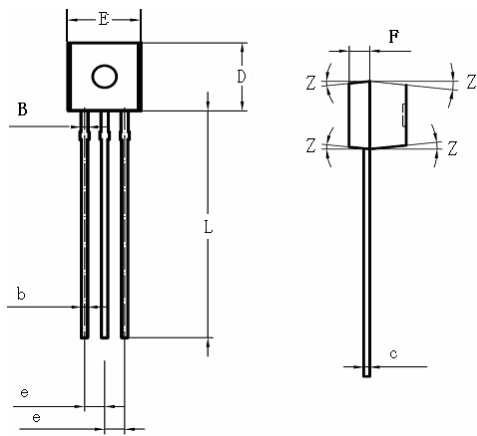
项 目 Parameter	符 号 Symbol	最小值 Value(min)	最大值 Value(max)	单 位 Unit
结到环境的热阻 TO-92 Thermal Resistance Junction Case TO-92	R <sub>th(j-a)</sub>	-	125	℃/W
结到管壳的热阻 TO-251 Thermal Resistance Junction Case TO-251	R <sub>th(j-c)</sub>	-	12.5	℃/W
结到管壳的热阻 TO-126(S) Thermal Resistance Junction Case TO-126(S)	R <sub>th(j-c)</sub>	-	6.25	℃/W
结到管壳的热阻 TO-220 Thermal Resistance Junction Case TO-220	R <sub>th(j-c)</sub>	-	3.125	℃/W



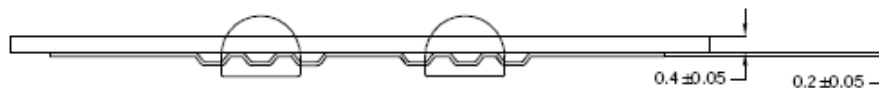
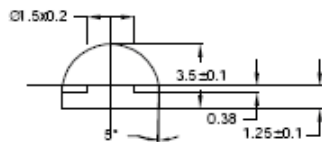
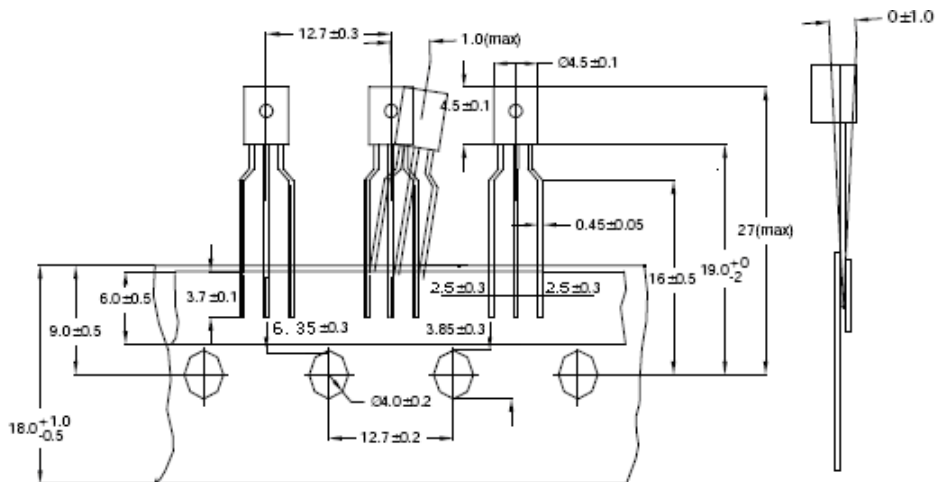
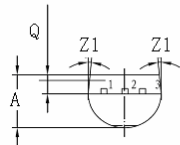


特征曲线 ELECTRICAL CHARACTERISTICS (curves)





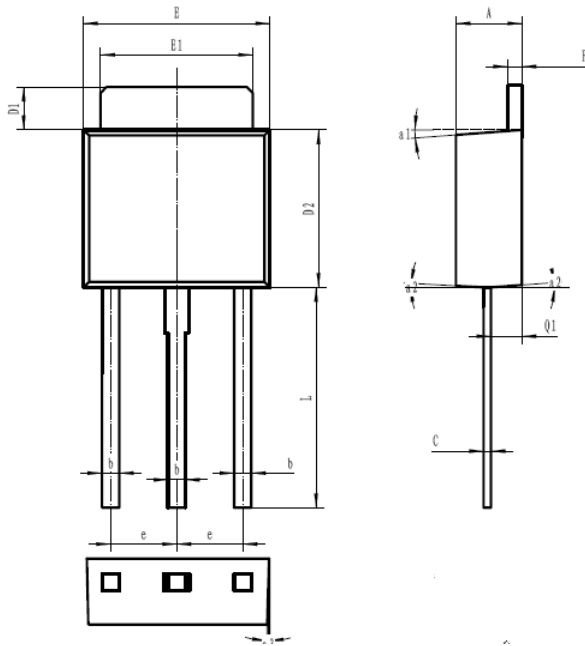
<b>A</b>	3.30-3.90
<b>B</b>	0.35-0.55
<b>b</b>	0.35-0.55
<b>c</b>	0.31-0.51
<b>D</b>	4.30-4.90
<b>E</b>	4.30-4.90
<b>e</b>	1.17-1.37
<b>F</b>	1.00-1.60
<b>L</b>	12.50-15.50
<b>Q</b>	1.00-1.60
<b>Z</b>	2°
<b>Z1</b>	5°





外形尺寸 PACKAGE MECHANICAL DATA  
TO-251

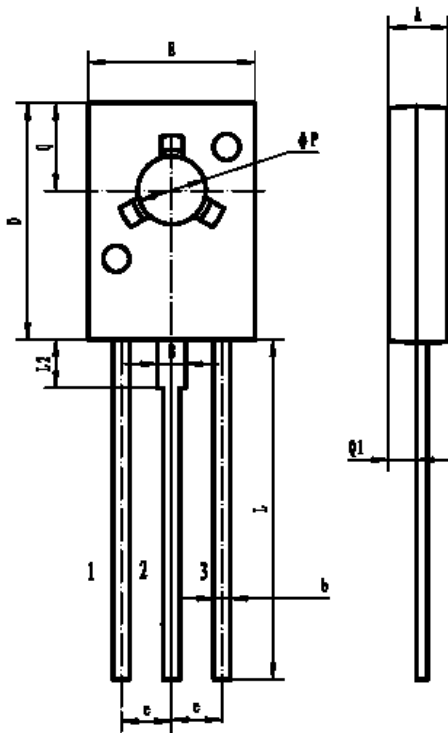
单位 Unit : mm



A	2.20-2.40
b	0.55-0.65
b1	0.70-0.90
C	0.45-0.55
D1	1.40-1.60
D2	5.40-5.60
E	6.40-6.60
E1	5.20-5.40
e	2.25-2.35
F	0.45-0.55
L	7.60-7.80
Q1	1.15-1.25
a1	4°-6°
a2	4°-6°
a3	4°-6°

外形尺寸 PACKAGE MECHANICAL DATA  
TO-126

单位 Unit : mm



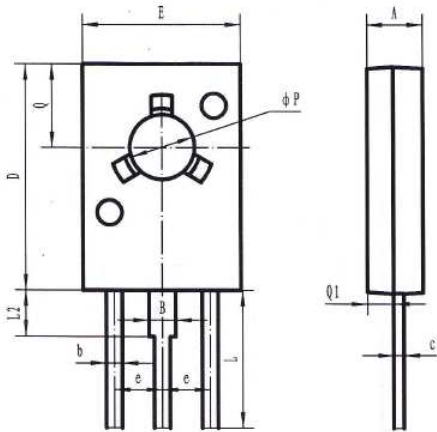
符号 symbol	MIN	MAX
A	2.50	2.90
B	1.22	1.28
C	0.30	0.70
D	10.50	11.10
E	7.10	8.10
Q	3.80	4.20
Q1	1.07	1.47
L	15.30	15.70
L2	2.10	2.30
b	0.60	0.90
e	2.19	2.39





外形尺寸 PACKAGE MECHANICAL DATA  
TO-126S

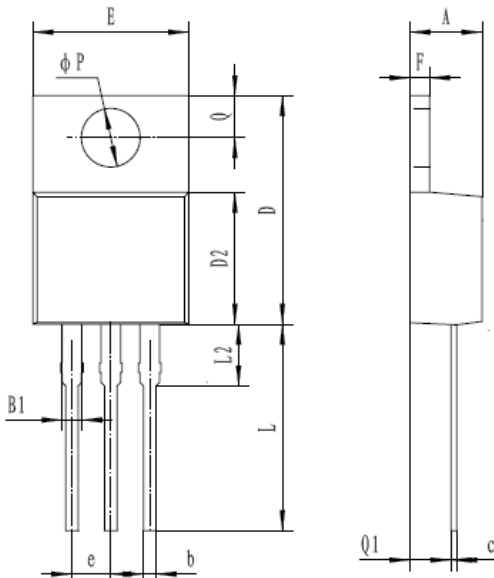
单位 Unit : mm



<b>A</b>	2.50-2.90
<b>B</b>	1.22-1.28
<b>c</b>	0.30-0.70
<b>D</b>	10.50-11.10
<b>E</b>	7.10-8.10
<b>Q</b>	3.80-4.20
<b>Q1</b>	1.07-1.47
<b>L</b>	7.80-8.20
<b>L2</b>	2.10-2.30
<b>b</b>	0.60-0.90
<b>e</b>	2.19-2.39

外形尺寸 PACKAGE MECHANICAL DATA  
TO-220

单位 Unit : mm



符号	尺寸 (mm)
<b>A</b>	4.4-4.8
<b>B1</b>	1.1-1.4
<b>b</b>	0.7-0.95
<b>c</b>	0.3-0.55
<b>D</b>	14.45-16.0
<b>D2</b>	8.2-9.2
<b>E</b>	9.6-10.4
<b>e</b>	2.54 (typ)
<b>F</b>	1.2-1.35
<b>L</b>	13.05-14.05
<b>L2</b>	3.7-3.9
<b>P</b>	3.5-4.0
<b>Q</b>	2.4-3.0
<b>Q1</b>	2.2-2.9



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- 4.本说明书如有版本变更不另外告知

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3. Please do not exceed the absolute maximum ratings of the device when circuit designing.
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**附录 (Appendix)：修订记录 (Revision History)**

日期 Date	旧版本 Last Rev.	新版本 New Rev.	修订内容 Description of Changes
2009-7-30	200905C	200906D	增加 TO-126S 封装
2009-9-3	200906D	200909E	更正放大测试条件
2009-10-29	200909E	200910F	电话号码
2010-3-2	200910F	201002G	增加 TO-92 封装

