



# 3DD4203D

## 主要参数 MAIN CHARACTERISTICS

$I_c$	2.0A
$I_{cm}$	4.0A
$V_{CEO}$	400V
$P_c(TO-92)$	1W
$P_c(IPAK)$	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

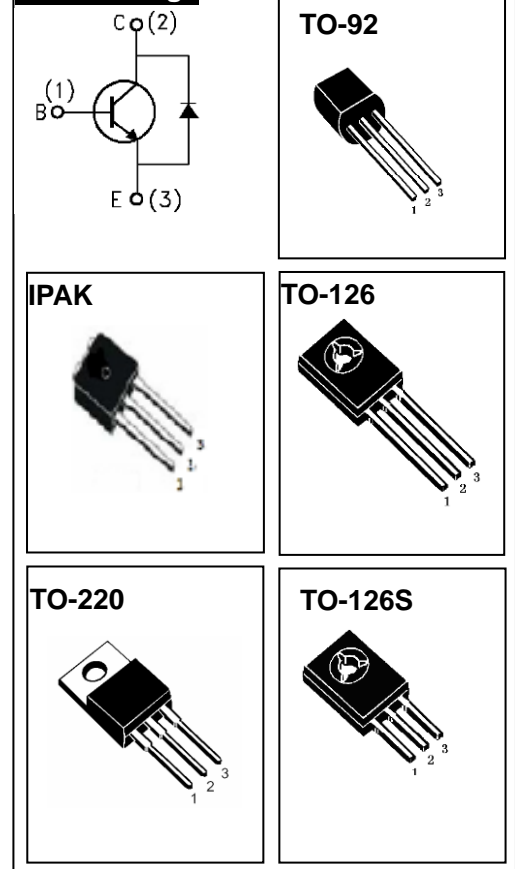
### APPLICATIONS

- Energy-saving light
- 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	封 装 Package
有卤-条管 Halogen-Tube	无卤-条管 Halogen-Free-Tube	有卤-袋装 Halogen-Bag	无卤-袋装 Halogen-Free-Bag		
N/A	N/A	3DD4203D-T-C	3DD4203D-T-CR	D4203D	TO-92
3DD4203D-V-B	3DD4203D-V-BR	3DD4203D-V-C	3DD4203D-V-CR	D4203D	IPAK
3DD4203D-M-B	3DD4203D-M-BR	3DD4203D-M-C	3DD4203D-M-CR	D4203D	TO-126
3DD4203D-M1-B	3DD4203D-M1-BR	3DD4203D-M1-C	3DD4203D-M1-CR	D4203D	TO-126S
3DD4203D-CA-B	3DD4203D-CA-BR	3DD4203D-CA-C	3DD4203D-CA-CR	D4203D	TO-220
有卤-编带 Halogen-Reel	无卤-编带 Halogen-Free-Reel			印 记 Marking	封 装 Package
3DD4203D-T-A	3DD4203D-T-AR			D4203D	TO-92



绝对最大额定值 ABSOLUTE RATINGS (T<sub>c</sub>=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 (IPAK)	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>E</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

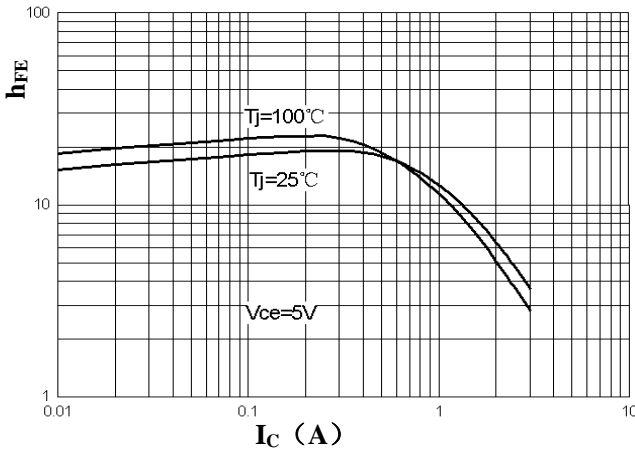
项 目 Parameter	符 号 Symbol	最小值 Value(min)	最大值 Value(max)	单 位 Unit
结到环境的热阻 TO-92 Thermal Resistance Junction Ambient TO-92	R <sub>th(j-a)</sub>	-	125	℃/W
结到管壳的热阻 IPAK Thermal Resistance Junction Case IPAK	R <sub>th(j-c)</sub>	-	12.5	℃/W
结到管壳的热阻 TO-126(S) Thermal Resistance Junction Case TO-126(S)	R <sub>th(j-c)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



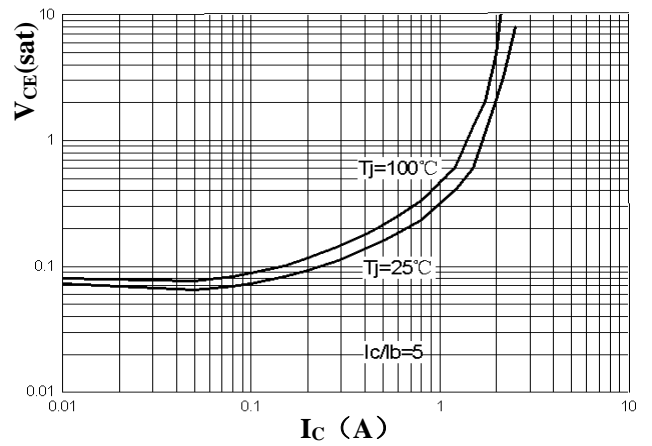


特征曲线 ELECTRICAL CHARACTERISTICS (curves)

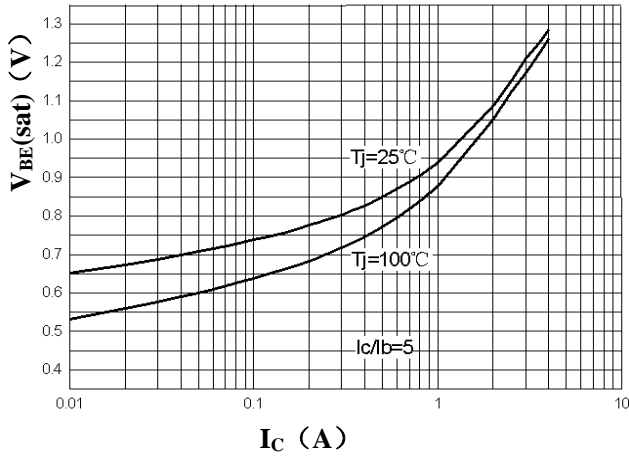
hFE - Ic



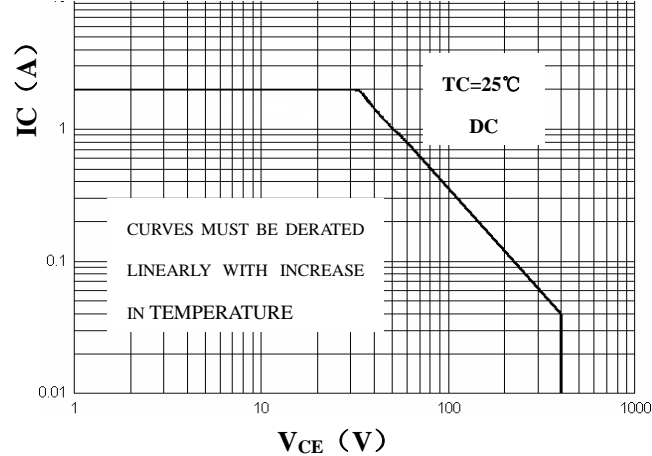
$V_{CE(sat)}$  - Ic



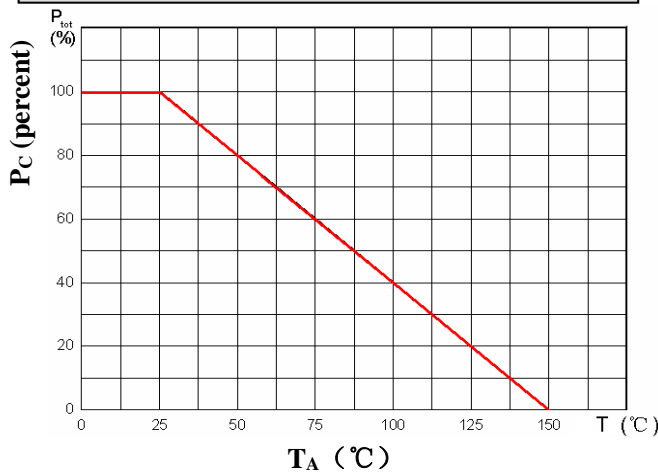
$V_{BE(sat)}$  - Ic



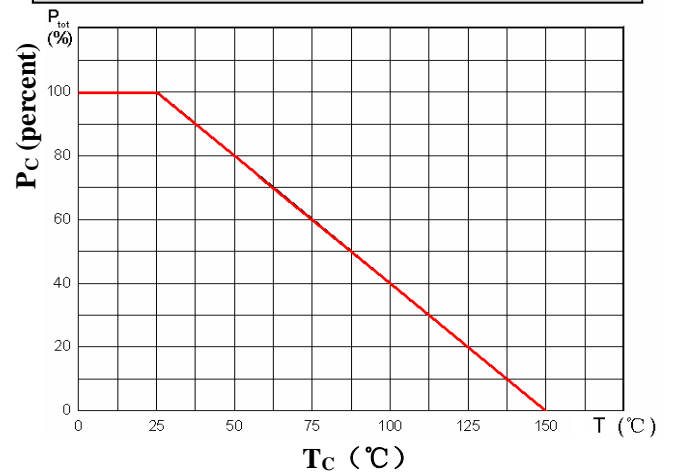
SOA

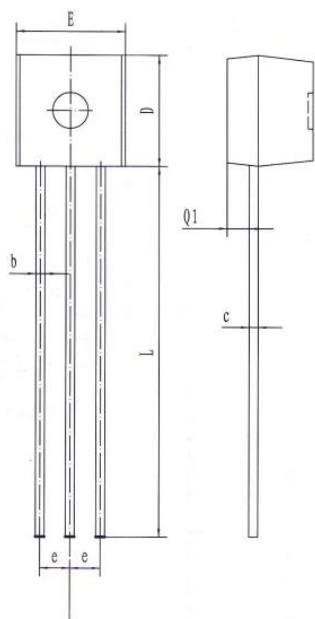


$P_C$ -T (TO-92)

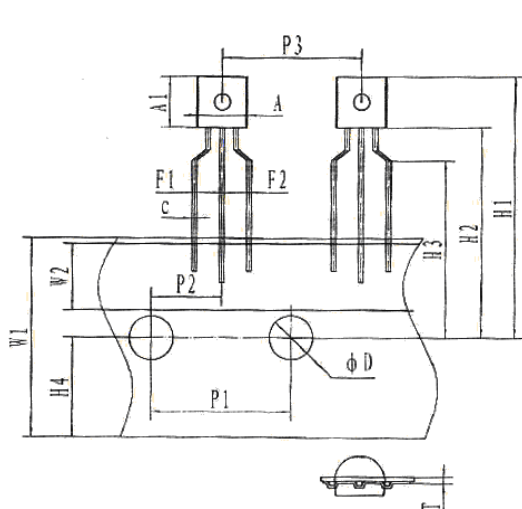
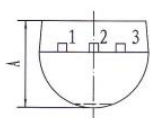


$P_C$ -T (TO-251/TO-126/TO-220)





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



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
△H	0.00-1.00

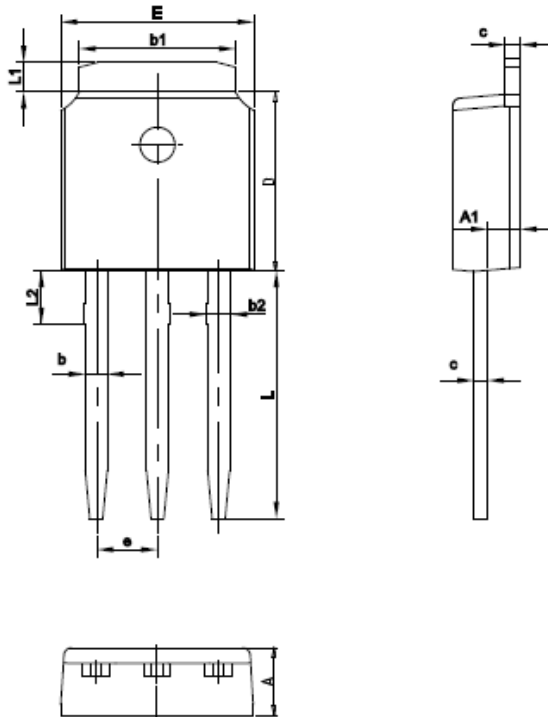




## 外形尺寸 PACKAGE MECHANICAL DATA

IAPK

单位 Unit : mm

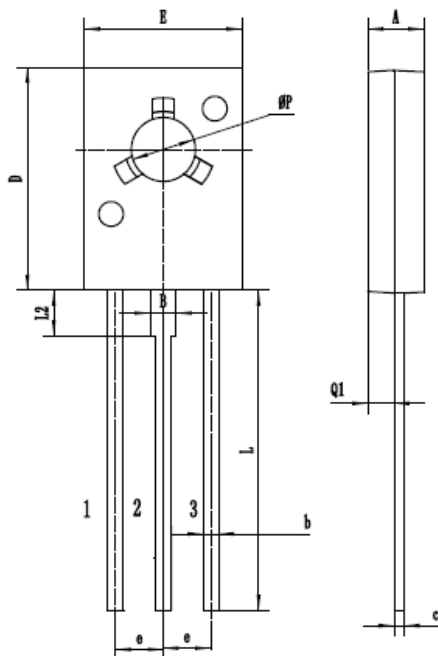


SYMBOL	MM	
	MIN	MAX
A	2.10	2.50
A1	0.87	1.27
b	0.63	0.93
b1	5.13	5.53
b2	0.67	1.00
c	0.40	0.60
D	5.80	6.40
E	6.30	6.90
L	9.10	9.70
e	2.28GBSC	
L1	0.82	1.22
L2	0.90	1.20

## 外形尺寸 PACKAGE MECHANICAL DATA

TO-126

单位 Unit : mm



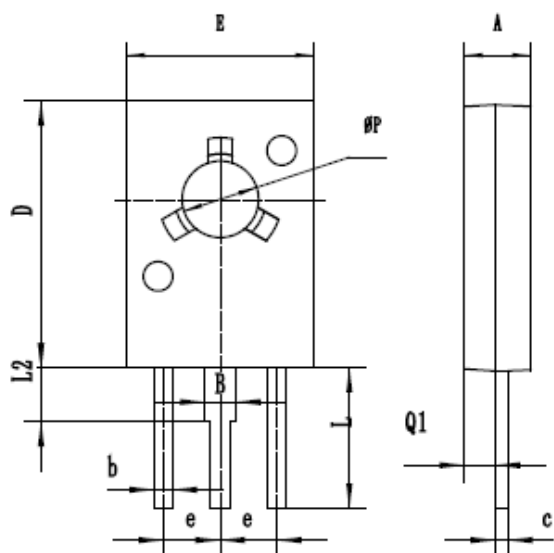
符号 symbol	MIN	MAX
<b>A</b>	2.50	2.90
<b>B</b>	1.22	1.47
<b>b</b>	0.60	0.90
<b>c</b>	0.30	0.70
<b>D</b>	10.5	11.1
<b>E</b>	7.10	8.10
<b>e</b>	2.19	2.39
<b>L</b>	15.30	15.70
<b>L2</b>	2.05	2.35
<b>Q1</b>	1.07	1.47
<b>P</b>	2.95	3.25





外形尺寸 PACKAGE MECHANICAL DATA  
TO-126S

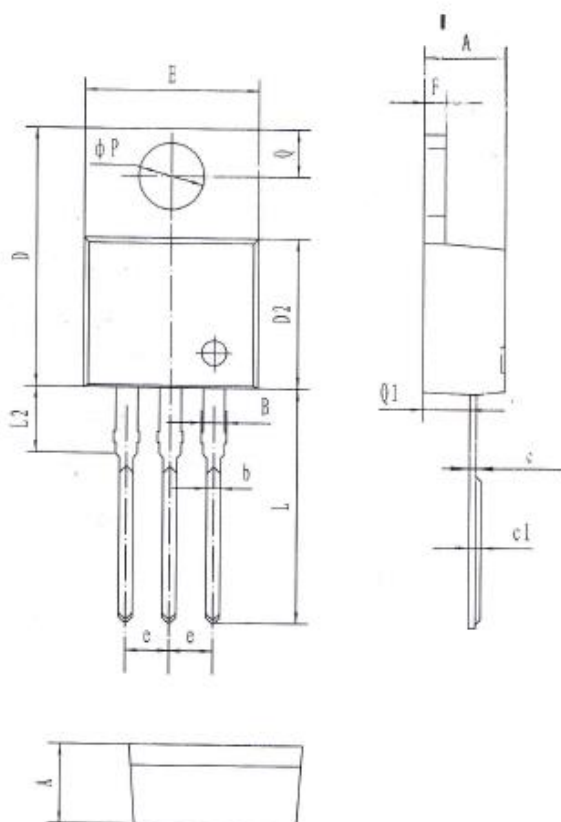
单位 Unit : mm



符号 symbol	MIN	MAX
A	2.50	2.90
B	1.22	1.47
b	0.60	0.90
c	0.30	0.70
D	10.5	11.1
E	7.10	8.10
e	2.19	2.39
L	5.30	6.00
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	MIN	MAX
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
Q	2.40	3.00
Q1	2.20	2.90
P	3.50	4.00



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