



# 3DD13007MD

## 主要参数 MAIN CHARACTERISTICS

$I_C$	8A
$V_{CEO}$	400V
$P_C(TO-220HF/220MF/220MF-K1)$	45W
$P_C(TO-262/220C/220C-S1/263)$	80W

### 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

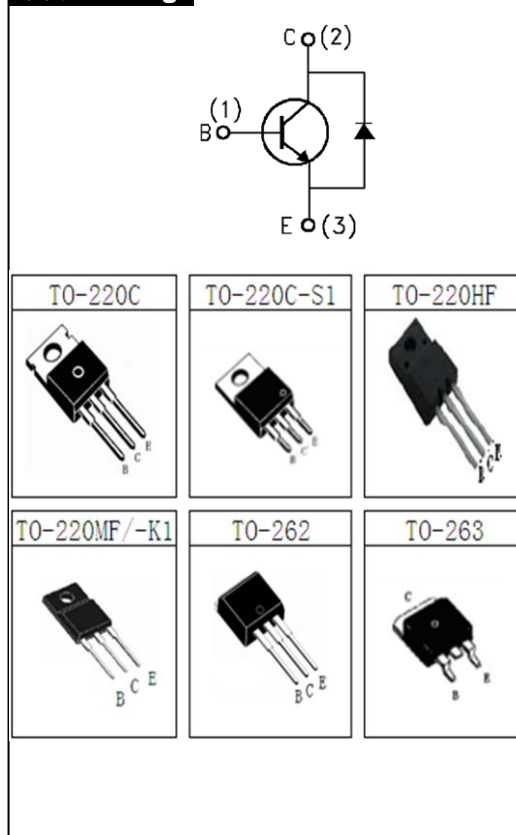
### APPLICATIONS

- Energy-saving light
- Electronic ballasts
- High frequency switching power supply
- High frequency power transform
- Commonly power amplifier

### 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		
3DD13007MD-C-B	3DD13007MD-C-BR	3DD13007MD-C-C	3DD13007MD-C-CR	13007MD	TO-220C
3DD13007MD-C1-B	3DD13007MD-C1-BR	3DD13007MD-C1-C	3DD13007MD-C1-CR	13007MD	TO-220C-S1
3DD13007MD-FA-B	3DD13007MD-FA-BR	3DD13007MD-FA-C	3DD13007MD-FA-CR	13007MD	TO-220HF
3DD13007MD-F-B	3DD13007MD-F-BR	3DD13007MD-F-C	3DD13007MD-F-CR	13007MD	TO-220MF
3DD13007MD-F1-B	3DD13007MD-F1-BR	3DD13007MD-F1-C	3DD13007MD-F1-CR	13007MD	TO-220MF-K1
3DD13007MD-B-B	3DD13007MD-B-BR	3DD13007MD-B-C	3DD13007MD-B-CR	13007MD	TO-262
N/A	N/A	3DD13007MD-S-C	3DD13007MD-S-CR	13007MD	TO-263
有卤-编带 Halogen-Reel	无卤-编带 Halogen-Free-Reel			印 记 Marking	封 装 Package
3DD13007MD-S-A	3DD13007MD-S-AR			13007MD	TO-263





## 绝对最大额定值 ABSOLUTE RATINGS (Tc=25°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 <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>	8	A
最大集电极脉冲电流 Collector Current (pulse)	I <sub>CP</sub>	16	A
最大基极直流电流 Base Current (DC)	I <sub>B</sub>	4	A
最大基极脉冲电流 Base Current (pulse)	I <sub>BP</sub>	8	A
最大集电极耗散功率 Total Dissipation(TO-220HF/220MF/220MF-K1)	P <sub>C</sub>	45	W
最大集电极耗散功率 Total Dissipation (TO-262/220C/220C-S1/263)	P <sub>C</sub>	80	W
最高结温 Junction Temperature	T <sub>j</sub>	150	°C
贮存温度 Storage Temperature	T <sub>stg</sub>	-55~+	°C
		150	°C

注：pulse电流宽度为小于5ms的非重复单脉冲。 Pulse Test: Pulse Width = 5.0 ms, Duty Cycle < 10%.

## 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	-	-	V
V(BR) <sub>CBO</sub>	I <sub>C</sub> =1mA, I <sub>E</sub> =0	700	-	-	V
V(BR) <sub>EBO</sub>	I <sub>E</sub> =1mA, I <sub>C</sub> =0	9	-	-	V
I <sub>CBO</sub>	V <sub>CB</sub> =700V, 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> =9V, I <sub>C</sub> =0	-	-	10	μA
Hfe(1)	V <sub>CE</sub> =5V, I <sub>C</sub> =1A	8	-	50	
Hfe(2)	V <sub>CE</sub> =5V, I <sub>C</sub> =5A	5	-	-	
V <sub>CE(sat)</sub> (1)	I <sub>C</sub> =5A, I <sub>B</sub> =1A	-	-	1.8	V
V <sub>CE(sat)</sub> (2)	I <sub>C</sub> =8A, I <sub>B</sub> =2A	-	-	2.5	V
V <sub>BE(sat)</sub>	I <sub>C</sub> =5A, I <sub>B</sub> =1A	-	-	2.0	V
t <sub>f</sub>	V <sub>CC</sub> =24V I <sub>C</sub> =5A, I <sub>B1</sub> =-I <sub>B2</sub> =1A	-	-	0.7	μS
t <sub>s</sub>		-	-	4	μS
f <sub>T</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =0.5A	4	-	-	MHz

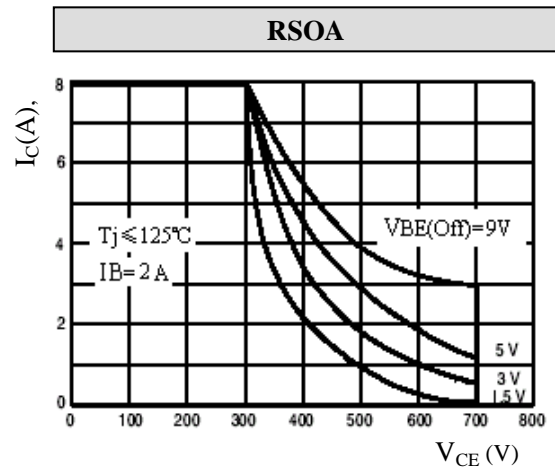
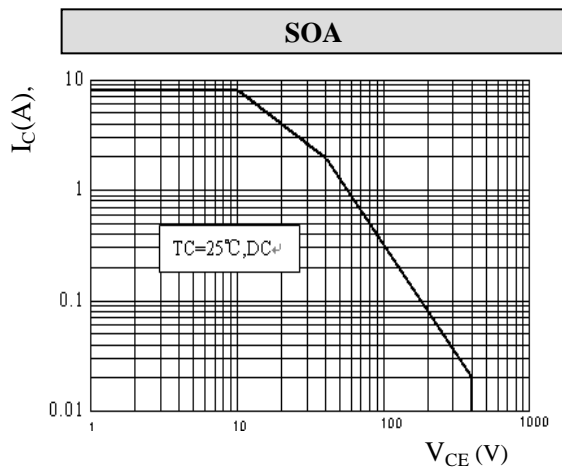
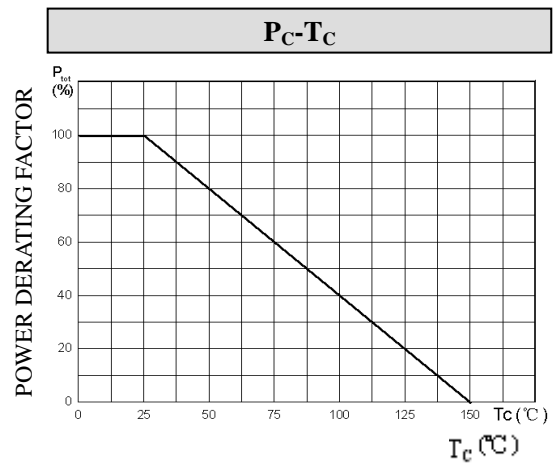
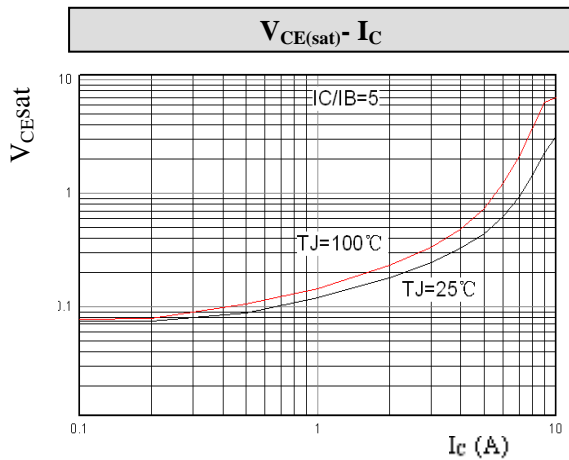
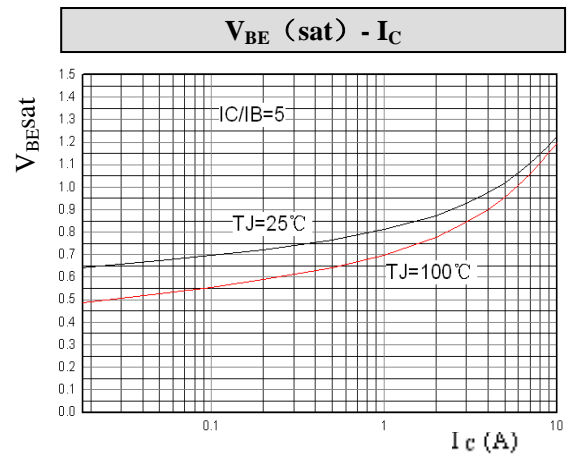
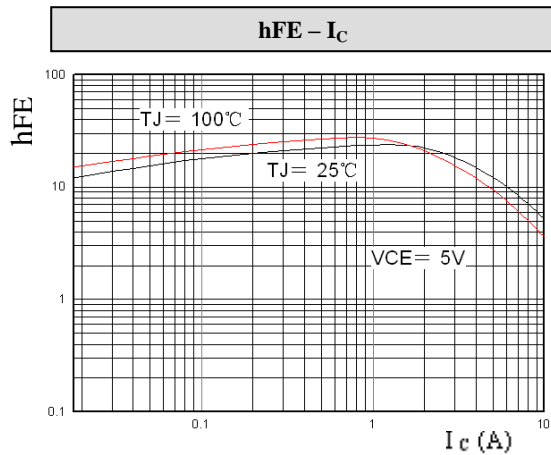
## 热特性 THERMAL CHARACTERISTIC

项 目 Parameter	符 号 Symbol	最小值 Value(min)	最大值 Value(max)	单 位 Unit
结到管壳的热阻 TO-220HF/220MF/220MF-K1 Thermal Resistance Junction Case TO-220HF	R <sub>th(j-c)</sub>	-	3.125	°C/W
结到管壳的热阻 TO-262/220C/220C-S1/263 Thermal Resistance Junction Case TO-262/220C/263	R <sub>th(j-c)</sub>	-	1.56	°C/W



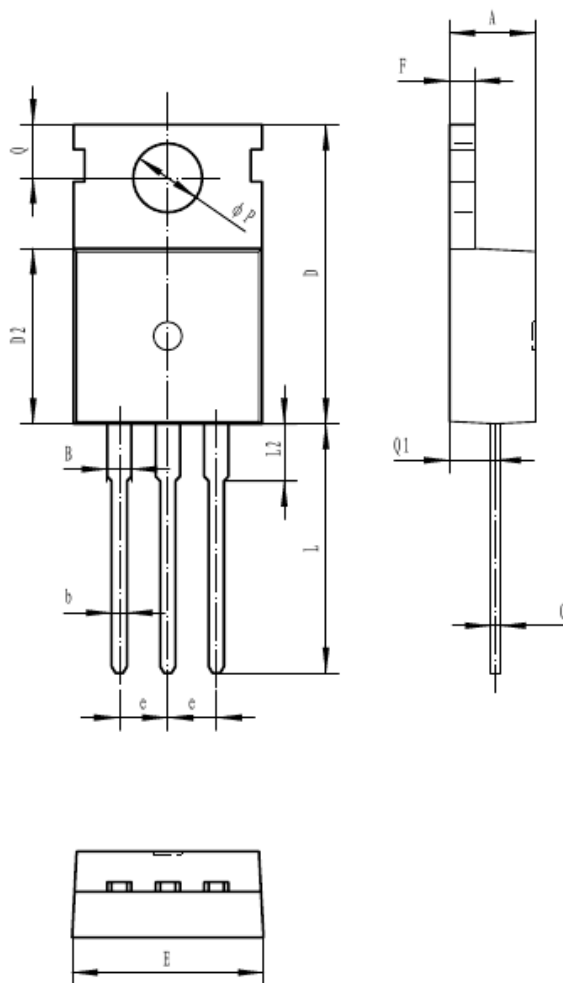


特征曲线 ELECTRICAL CHARACTERISTICS (curves)





## TO-220C

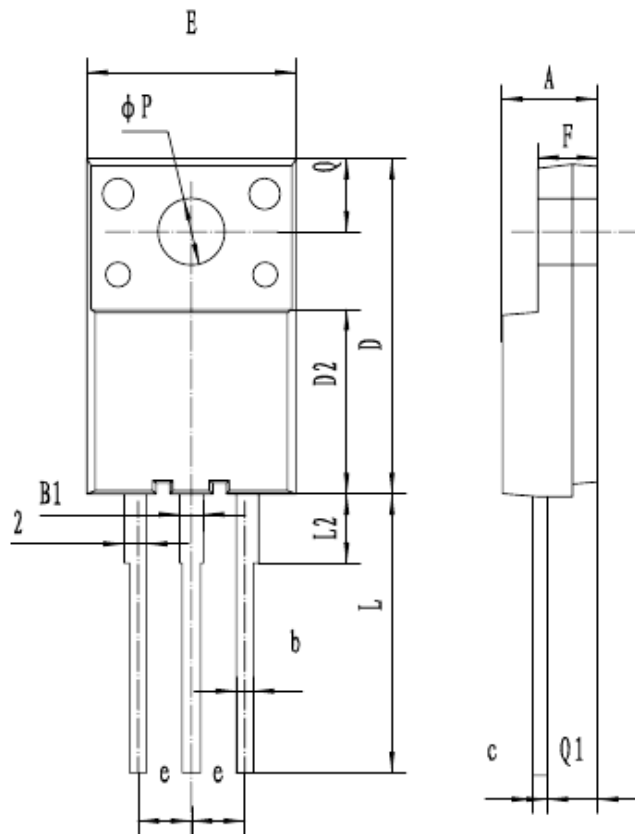


符号 symbol	MIN	MAX
A	4.30	4.70
B	1.22	1.40
b	0.70	0.95
c	0.40	0.65
D	15.20	16.20
D2	9.00	9.40
E	9.70	10.10
e	2.39	2.69
F	1.25	1.40
L	12.60	13.60
L2	2.80	3.20
Q	2.60	3.00
Q1	2.20	2.60
P	3.50	3.80





## TO-220HF



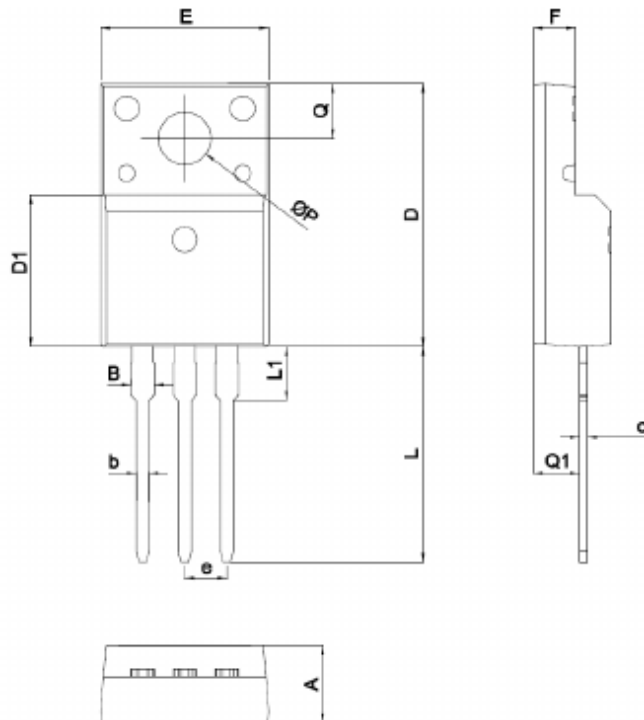
符号 symbol	MIN	MAX
A	4.0	5.0
B1	0.87	1.27
B2	0.87	1.27
b	0.72	0.92
c	0.5	0.7
D	15.0	16.5
D2	7.8	9.4
E	9.62	10.62
e	2.54 TYP	
F	2.3	3.3
L	13.0	14.0
L2	3.1	3.5
ΦP	3.0	3.4
Q	3.15	3.55
Q1	2.2	2.5





单位 Unit : mm

## TO-220MF-K1



SYMBOL	mm	
	MIN	MAX
A	4.5	4.9
B	1.22	1.47
b	0.7	0.9
c	0.45	0.60
D	15.6	16.1
D1	9.0	9.3
e	2.54TYPE	
E	9.9	10.4
F	2.3	2.8
L	12.6	13.3
L1	3.1	3.4
Q	3.2	3.4
Q1	2.6	2.9
ΦP	3.0	3.5

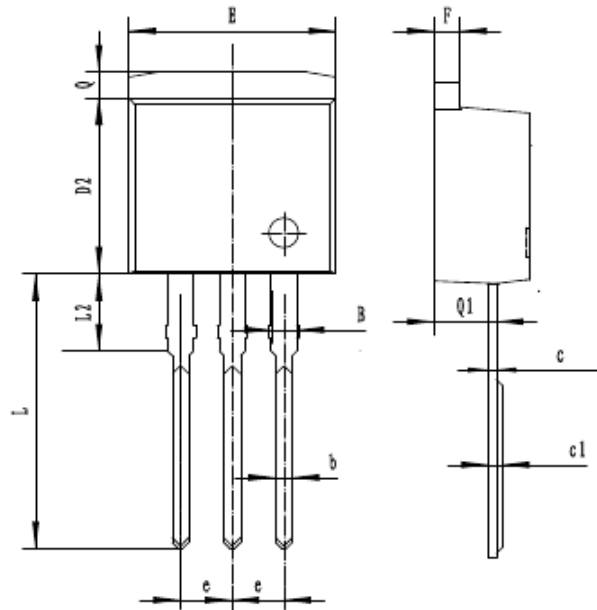




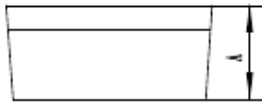
外形尺寸 PACKAGE MECHANICAL DATA

单位 Unit : mm

TO-262



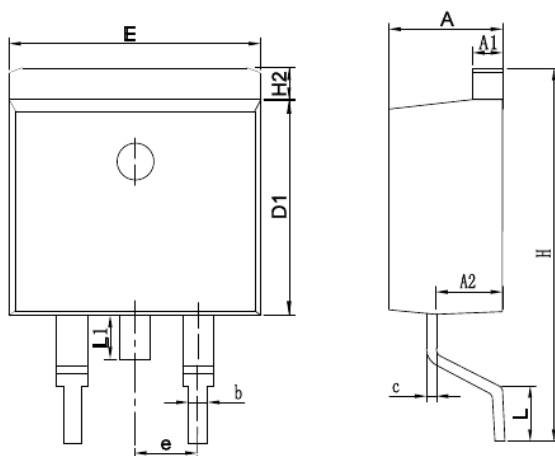
符号 symbol	MIN	MAX
A	4.40	4.90
B	1.10	1.40
b	0.70	0.95
c	0.30	0.60
c1	0.33	0.63
D2	8.20	9.20
E	9.60	10.50
e	2.39	2.69
F	1.20	1.35
L	13.11	14.61
L2	3.55	4.05
Q	1.10	1.40
Q1	2.65	2.85



外形尺寸 PACKAGE MECHANICAL DATA

单位 Unit : mm

TO-263



SYMBOL	MM	
	MIN	MAX
A	4.30	4.80
A1	1.12	1.42
A2	2.54	2.84
b	0.67	1.00
c	0.29	0.52
D1	8.40	9.00
E	9.80	10.46
e	2.54BSC	
H	14.00	16.00
H2	1.12	1.45
L	1.50	3.10
L1	1.45	1.70



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