



# 3DD13007MD

## 主要参数 MAIN CHARACTERISTICS

$I_C$	8A
$V_{CE0}$	400V
$P_C(TO-220HF/220MF-K1)$	45W
$P_C(TO-220C/262/263)$	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

### APPLICATIONS

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

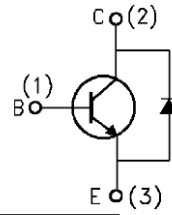
### 产品特性

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

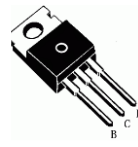
### FEATURES

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

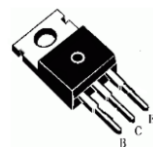
## 封装 Package



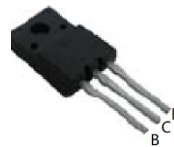
TO-220C



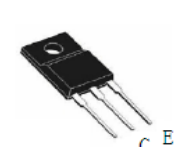
TO-220C-S1



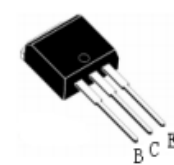
TO-220HF



TO-220MF-K1



TO-262



TO-263



## 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	D13007MD	TO-220C
3DD13007MD-C1-B	3DD13007MD-C1-BR	3DD13007MD-C1-C	3DD13007MD-C1-CR	D13007MD	TO-220C-S1
3DD13007MD-FA-B	3DD13007MD-FA-BR	3DD13007MD-FA-C	3DD13007MD-FA-CR	D13007MD	TO-220HF
3DD13007MD-F1-B	3DD13007MD-F1-BR	3DD13007MD-F1-C	3DD13007MD-F1-CR	D13007MD	TO-220MF-K1
3DD13007MD-B-B	3DD13007MD-B-BR	3DD13007MD-B-C	3DD13007MD-B-CR	D13007MD	TO-262
N/A	N/A	3DD13007MD-S-C	3DD13007MD-S-CR	D13007MD	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			D13007MD	TO-263

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 ( $I_B=0$ )	$V_{CEO}$	400	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)	$I_C$	8	A
最大集电极脉冲电流 Collector Current (pulse)	$I_{CP}$	16	A
最大基极直流电流 Base Current (DC)	$I_B$	4	A
最大基极脉冲电流 Base Current (pulse)	$I_{BP}$	8	A
最大集电极耗散功率 Total Dissipation(TO-220HF/220M-K1 )	$P_C$	45	W
最大集电极耗散功率 Total Dissipation ( TO-/220C 262/263)	$P_C$	80	W
最高结温 Junction Temperature	$T_j$	150	$^\circ\text{C}$
贮存温度 Storage Temperature	$T_{stg}$	-55~+150	$^\circ\text{C}$

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

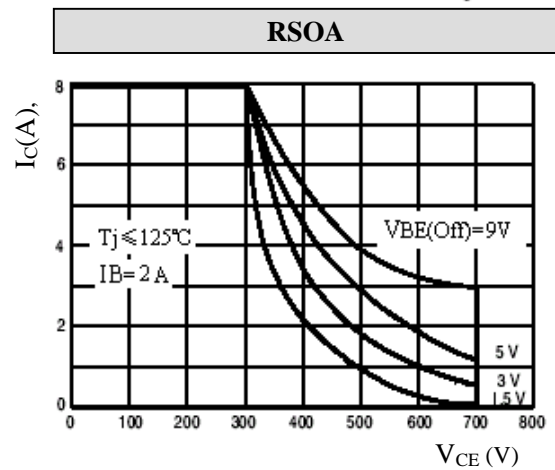
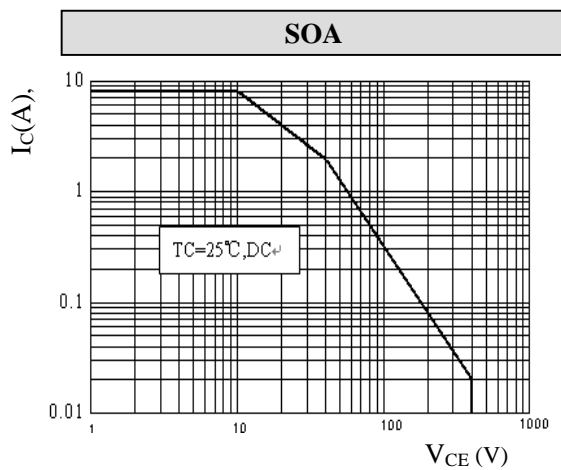
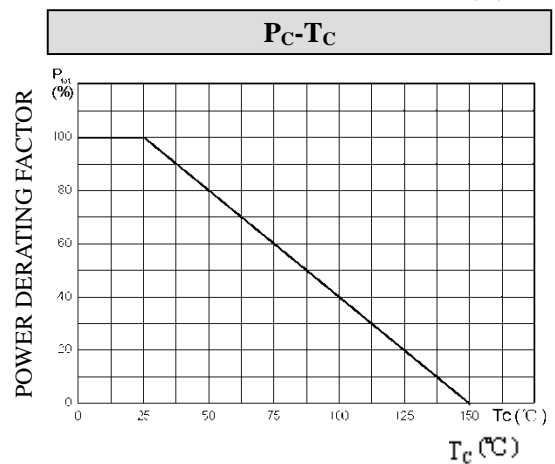
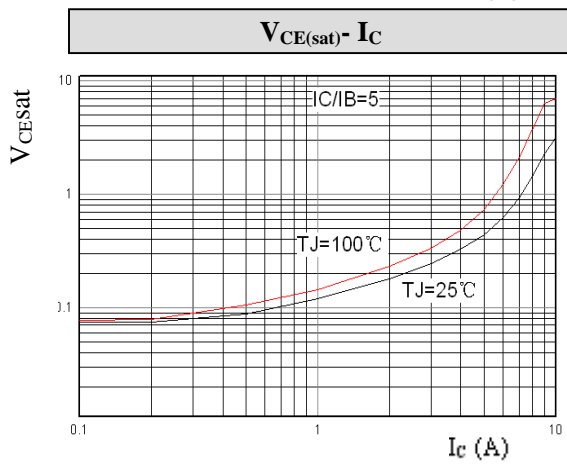
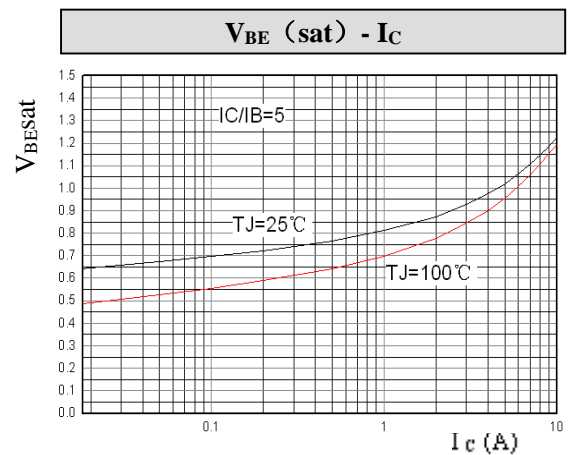
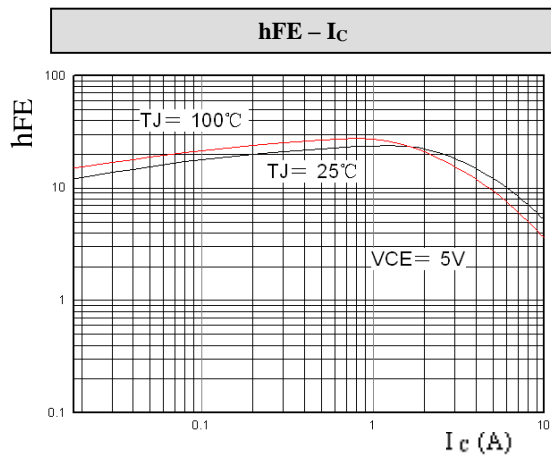
项 目 Parameter	测试条件 Tests conditions	最小值 Value(min)	典型值 Value(typ)	最大值 Value(max)	单 位 Unit
$V_{(BR)CEO}$	$I_C=10\text{mA}, I_B=0$	400	-	-	V
$V_{(BR)CBO}$	$I_C=1\text{mA}, I_E=0$	700	-	-	V
$V_{(BR)EBO}$	$I_E=1\text{mA}, I_C=0$	9	-	-	V
$I_{CBO}$	$V_{CB}=700\text{V}, I_E=0$	-	-	100	$\mu\text{A}$
$I_{CEO}$	$V_{CE}=400\text{V}, I_B=0$	-	-	50	$\mu\text{A}$
$I_{EBO}$	$V_{EB}=9\text{V}, I_C=0$	-	-	10	$\mu\text{A}$
$H_{fe}(1)$	$V_{CE}=5\text{V}, I_C=1\text{A}$	8	-	50	
$H_{fe}(2)$	$V_{CE}=5\text{V}, I_C=5\text{A}$	5	-	-	
$V_{CE(sat)}(1)$	$I_C=5\text{A}, I_B=1\text{A}$	-	-	1.8	V
$V_{CE(sat)}(2)$	$I_C=8\text{A}, I_B=2\text{A}$	-	-	2.5	V
$V_{BE(sat)}$	$I_C=5\text{A}, I_B=1\text{A}$	-	-	2.0	V
$t_f$	$V_{CC}=24\text{V}, I_C=5\text{A}, I_{B1}=-I_{B2}=1\text{A}$	-	-	0.7	$\mu\text{S}$
$t_s$		-	-	4	$\mu\text{S}$
$f_T$	$V_{CE}=10\text{V}, I_C=0.5\text{A}$	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-K1 Thermal Resistance Junction Case TO-220HF/220MF-K1	$R_{th(j-c)}$	-	3.125	$^\circ\text{C/W}$
结到管壳的热阻 TO-220C/262/263 Thermal Resistance Junction Case TO-220C/262/263	$R_{th(j-c)}$	-	1.56	$^\circ\text{C/W}$

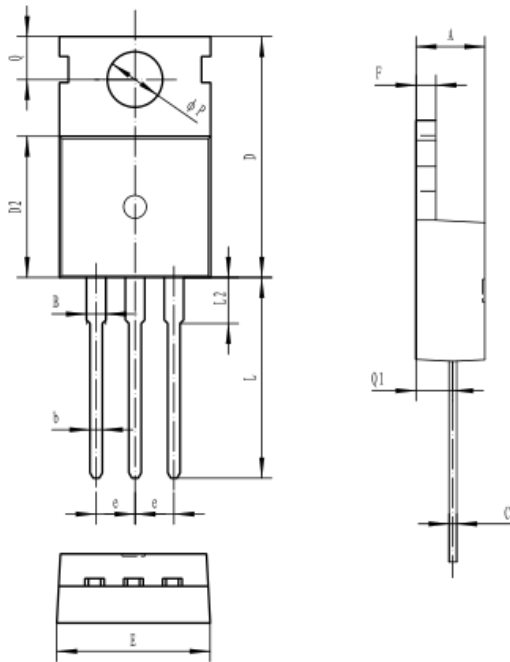


特征曲线 ELECTRICAL CHARACTERISTICS (curves)



外形尺寸 PACKAGE MECHANICAL DATA  
TO-220C

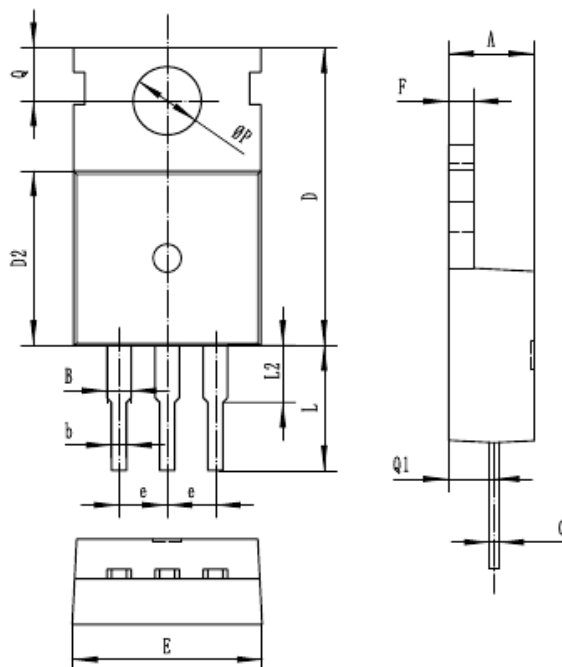
单位 Unit : mm



符号	尺寸 (mm)
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

外形尺寸 PACKAGE MECHANICAL DATA  
TO-220C-S1

单位 Unit : mm

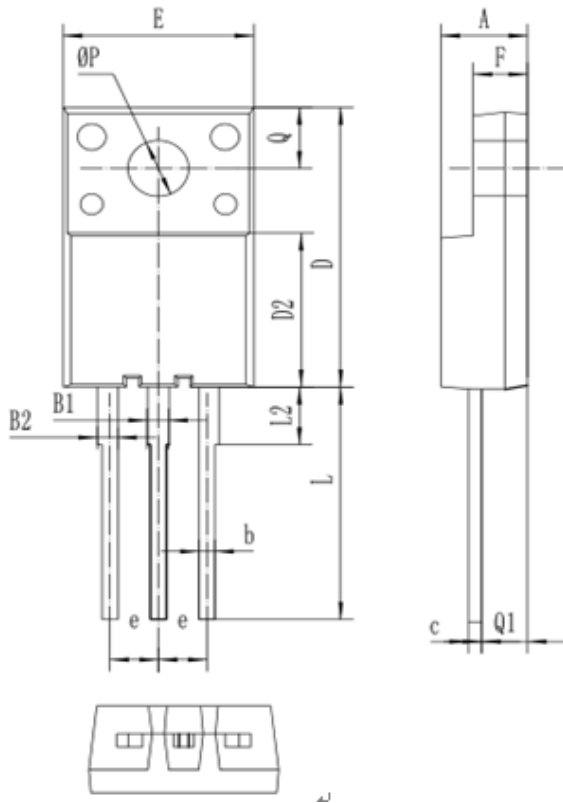


符号	尺寸 (mm)
A	4.30-4.70
B	1.22-1.40
b	0.70-0.95
c	0.40-0.65
D	15.20-16.20
D2	9.00-9.40
E	9.70-10.10
e	2.39-2.69
F	1.25-1.40
L	6.10-6.50
L2	2.80-3.20
Q	2.60-3.00
Q1	2.20-2.60
P	3.50-3.80



外形尺寸 PACKAGE MECHANICAL DATA  
TO-220HF

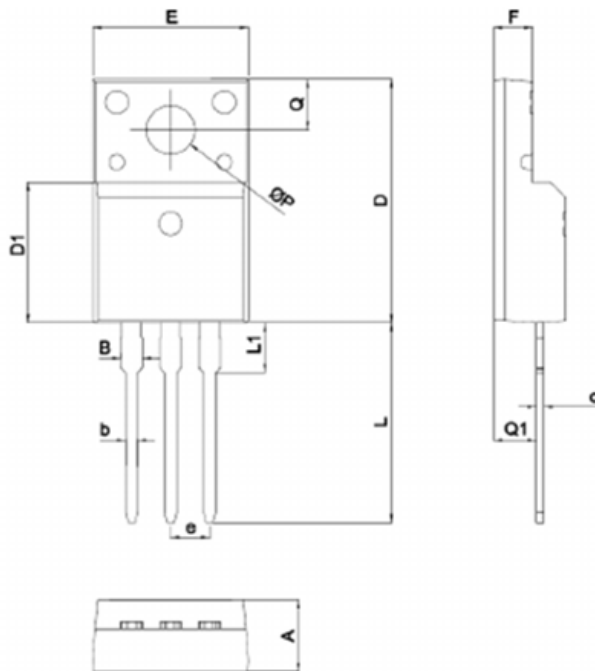
单位 Unit : mm



符号	尺寸 (mm)
A	4.00-5.00
B1	0.87-1.27
B2	0.87-1.27
b	0.72-0.92
c	0.50-0.70
D	15.0-16.5
D2	7.80-9.40
E	9.62-10.62
e	2.54TYP
F	2.30-3.30
L	13.0-14.0
L2	3.10-3.50
P	3.00-3.40
Q	3.15-3.55
Q1	2.20-2.50

外形尺寸 PACKAGE MECHANICAL DATA  
TO-220MF-K1

单位 Unit : mm

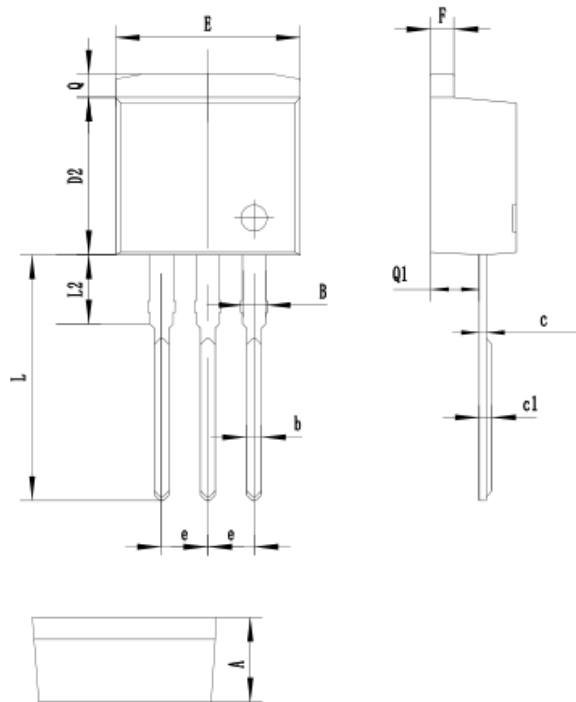


符号	尺寸 (mm)
A	4.50-4.90
B	1.22-1.47
b	0.70-0.90
c	0.45-0.60
D	15.6-16.1
D1	9.00-9.30
e	2.54TYPE
E	9.90-10.40
F	2.30-2.80
L	12.6-13.3
L1	3.10-3.40
Q	3.20-3.40
Q1	2.60-2.90
P	3.00-3.50



外形尺寸 PACKAGE MECHANICAL DATA  
TO-262

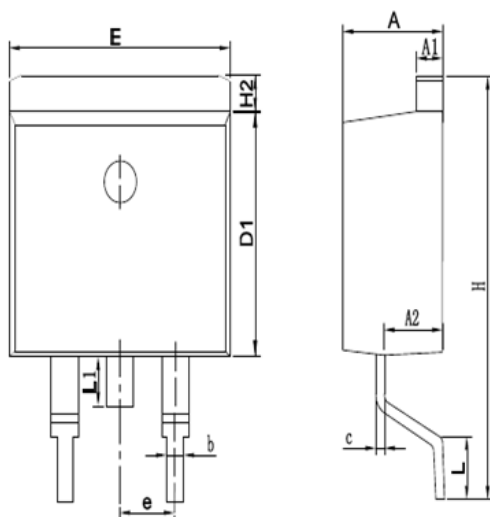
单位 Unit : mm



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	2.45	2.85

外形尺寸 PACKAGE MECHANICAL DATA  
TO-263

单位 Unit : mm



符号	尺寸 (mm)
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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### 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](http://www.hwdz.com.cn)

### 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](http://www.hwdz.com.cn)