



3DD13005ED

主要参数 MAIN CHARACTERISTICS

I_C	4A
V_{CEO}	400V
$P_C(TO-251/126/126S/220HF)$	40W
$P_C(TO-252)$	50W
$P_C(TO-220C/262/263)$	75W

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

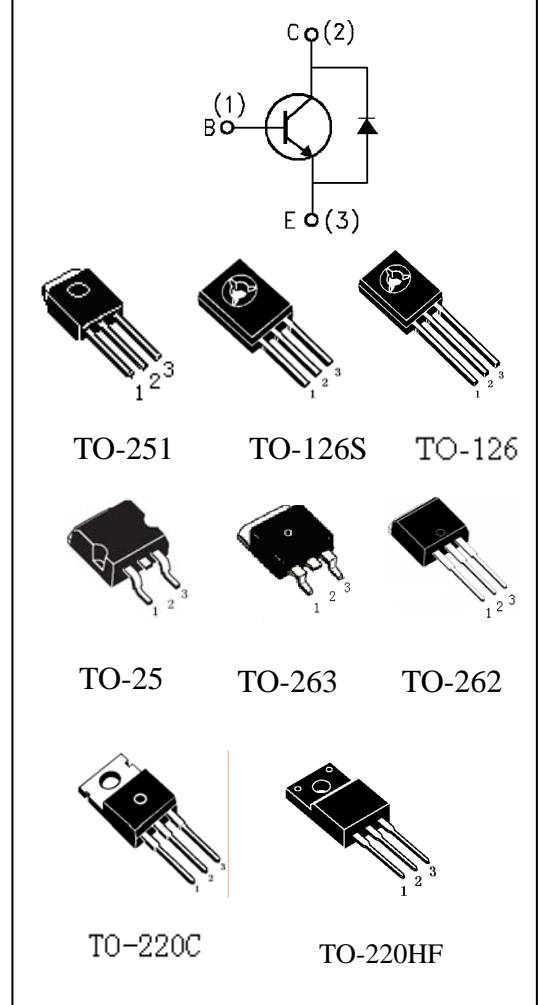
APPLICATIONS

- 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	无卤素 Halogen Free	封装 Package	包装 Packaging
3DD13005ED-O-HF-N-B	13005ED	否 NO	TO-220HF	条管 Tube
3DD13005ED-O-M-N-C	13005ED	否 NO	TO-126	袋装 Bag
3DD13005ED-O-MS-N-C	13005ED	否 NO	TO-126S	袋装 Bag
3DD13005ED-O-I-N-B	13005ED	否 NO	TO-251	条管 Tube
3DD13005ED-O-U-B-A	13005ED	否 NO	TO-252	编带 Brede
3DD13005ED-O-B-N-B	D13005ED	否 NO	TO-262	条管 Tube
3DD13005ED-O-S-B-B	D13005ED	否 NO	TO-263	条管 Tube
3DD13005ED-O-C-N-B	D13005ED	否 NO	TO-220C	条管 Tube





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 _{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	4	A
最大集电极脉冲电流 Collector Current (pulse)	I _{CP}	8	A
最大基极直流电流 Base Current (DC)	I _B	2	A
最大基极脉冲电流 Base Current (pulse)	I _{BP}	4	A
最大集电极耗散功率 Total Dissipation (TO-251/126/126S/220HF)	P _C	40	W
最大集电极耗散功率 Total Dissipation (TO-252)	P _C	50	W
最大集电极耗散功率 Total Dissipation (TO-220C/262/263)	P _C	75	W
最高结温 Junction Temperature	T _j	150	°C
贮存温度 Storage Temperature	T _{stg}	-55~+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) _{CEO}	I _C =10mA, I _B =0	400	-	-	V
V(BR) _{CBO}	I _C =1mA, I _B =0	700	-	-	V
V(BR) _{EBO}	I _E =1mA, I _C =0	9	-	-	V
I _{CBO}	V _{CB} =700V, I _E =0	-	-	100	μA
I _{CEO}	V _{CE} =400V, I _B =0	-	-	50	μA
I _{EBO}	V _{EB} =9V, I _C =0	-	-	10	μA
Hfe(1)	V _{CE} =10V, I _C =500mA	8	-	50	
Hfe(2)	V _{CE} =5V, I _C =2A	5	-	-	
V _{CE(sat)}	I _C =2A, I _B =0.4A	-	-	1.0	V
V _{BE(sat)}	I _C =2A, I _B =0.5A	-	-	1.8	V
tf	V _{CC} =24V I _C =2A, I _{B1} =-I _{B2} =0.4A	-	-	0.7	μS
ts		-	-	5	μS
fT	V _{CE} =10V, I _C =0.5A	4	-	-	MHz

热特性 THERMAL CHARACTERISTIC

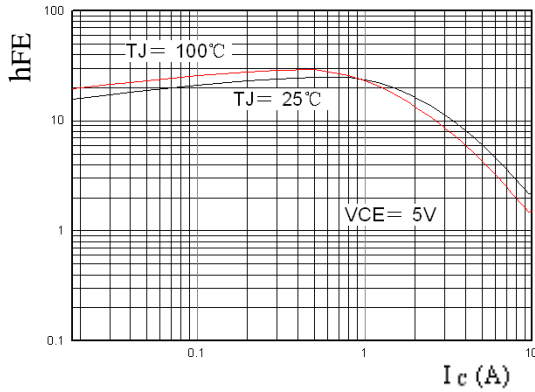
项 目 Parameter	符 号 Symbol	最小值 Value(min)	最大值 Value(max)	单 位 Unit
结到管壳的热阻 TO-251/126/126S/220HF Thermal Resistance Junction Case TO-251/126/126S	R _{th(j-c)}	-	3.125	°C/W
结到管壳的热阻 TO-252 Thermal Resistance Junction Case TO-252	R _{th(j-c)}	-	2.50	°C/W
结到管壳的热阻 TO-220C/262/263 Thermal Resistance Junction Case TO-220C/262/263	R _{th(j-c)}	-	1.67	°C/W



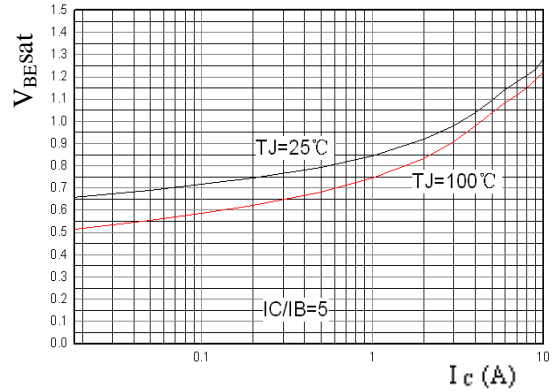


特征曲线 ELECTRICAL CHARACTERISTICS (curves)

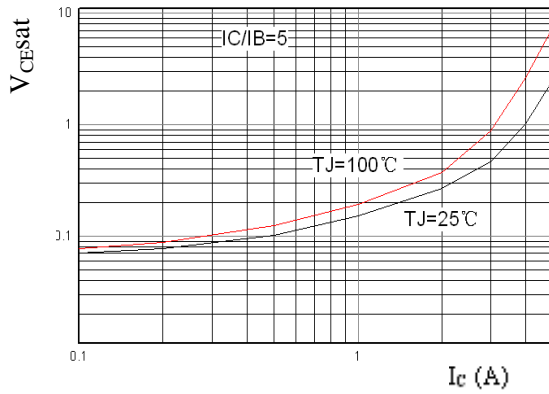
hFE - I_C



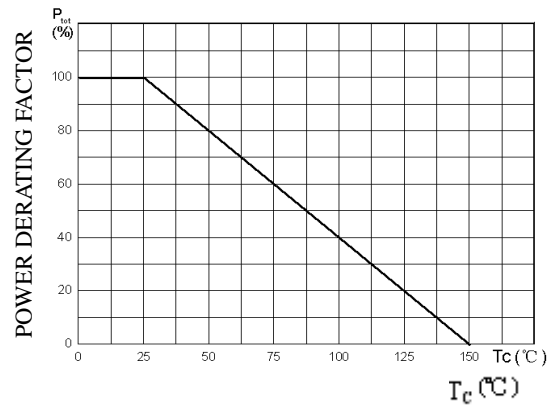
V_{BE (sat)} - I_C



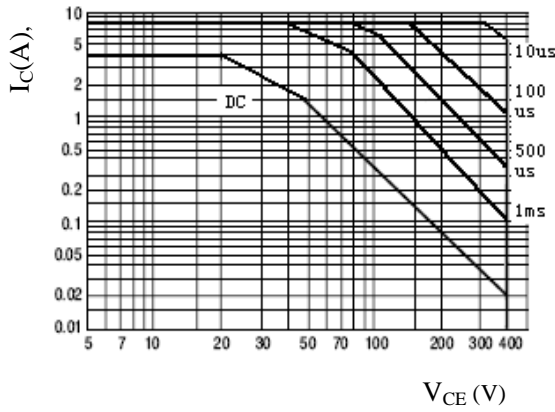
V_{CE(sat)} - I_C



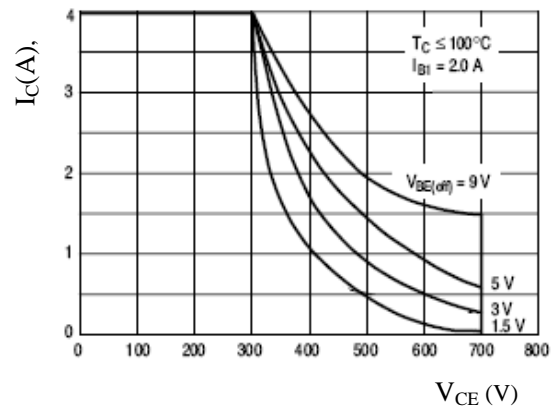
P_C-T_C



SOA

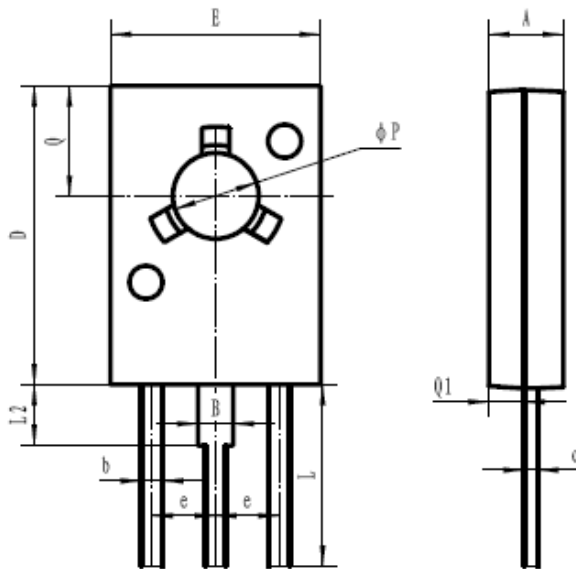


RSOA





TO-126S



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	7.80	8.20
L2	2.10	2.30
b	0.60	0.90
e	2.19	2.39

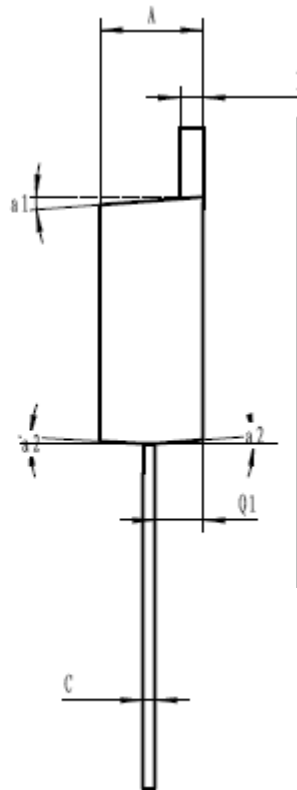
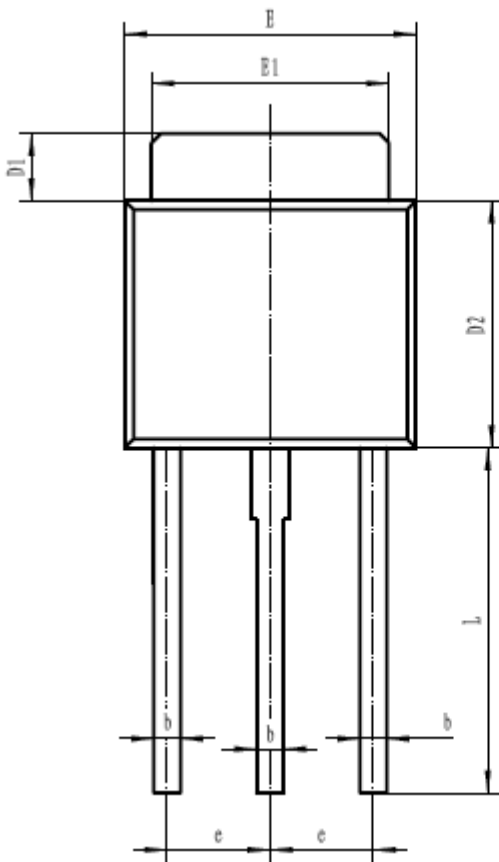




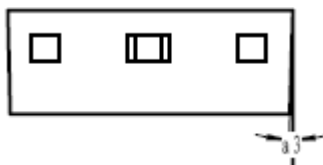
外形尺寸 PACKAGE MECHANICAL DATA

单位 Unit : mm

TO-251

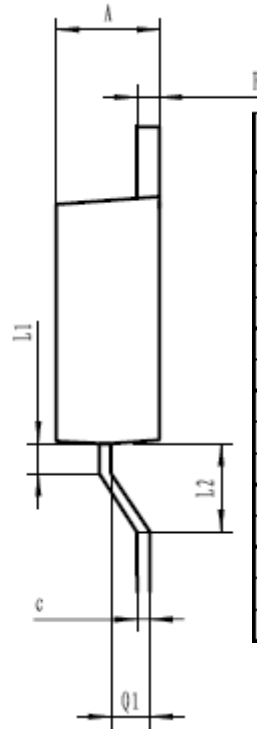
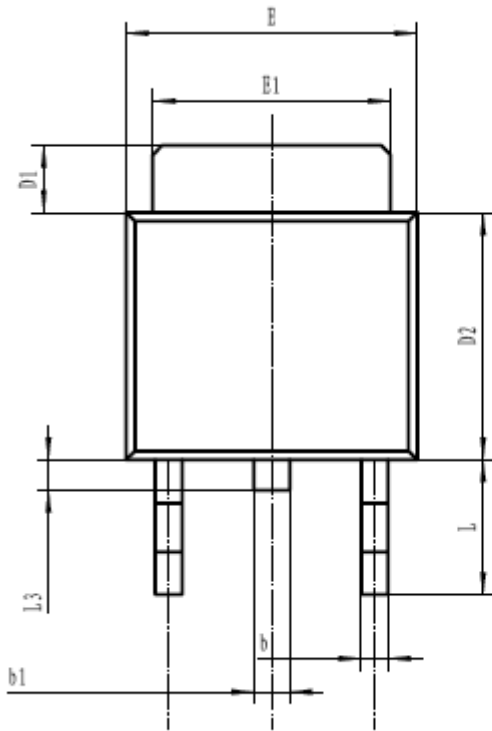


Symbol	Dimensions In Millimeters		
	min	type	max
A	2.2	2.30	2.4
b	0.55	0.60	0.65
b1	0.7	0.80	0.9
c	0.45	0.50	0.55
D1	1.4	1.50	1.6
D2	5.4	5.50	5.6
E	6.4	6.50	6.6
E1	5.2	5.30	5.4
e	2.25	2.30	2.35
F	0.45	0.50	0.55
L	7.6	7.70	7.8
Q1	1.15	1.20	1.25
a1	4°	5°	6°
a2	4°	5°	6°
a3	4°	5°	6°





TO-252 (1)

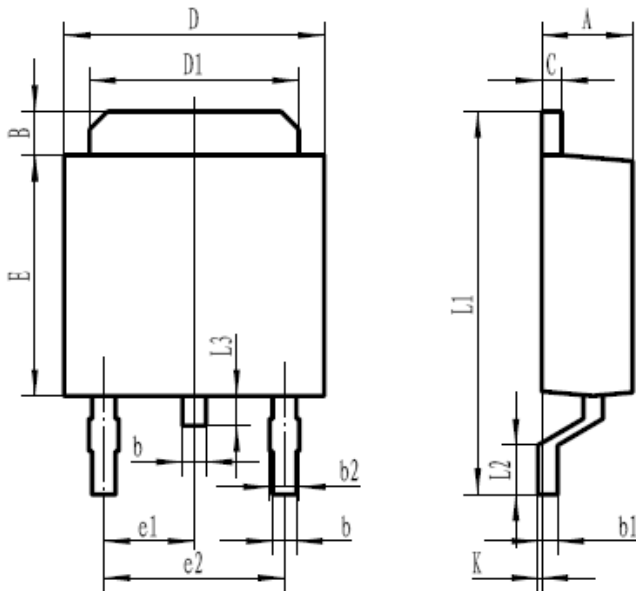


Symbol	Dimensions In Millimeters		
	min	type	max
A	2.2	2.30	2.4
b	0.55	0.60	0.65
b1	0.7	0.80	0.9
c	0.45	0.50	0.55
D1	1.4	1.50	1.6
D2	5.4	5.50	5.6
E	6.4	6.50	6.6
E1	5.2	5.30	5.4
e	2.25	2.30	2.35
F	0.45	0.50	0.55
L	2.6	2.70	2.8
L1	0.9	1.00	1.1
L2	1.7	1.8	1.9
L3	0.7	0.8	0.9
Q1	1.15	1.2	1.25





TO-252 (2)

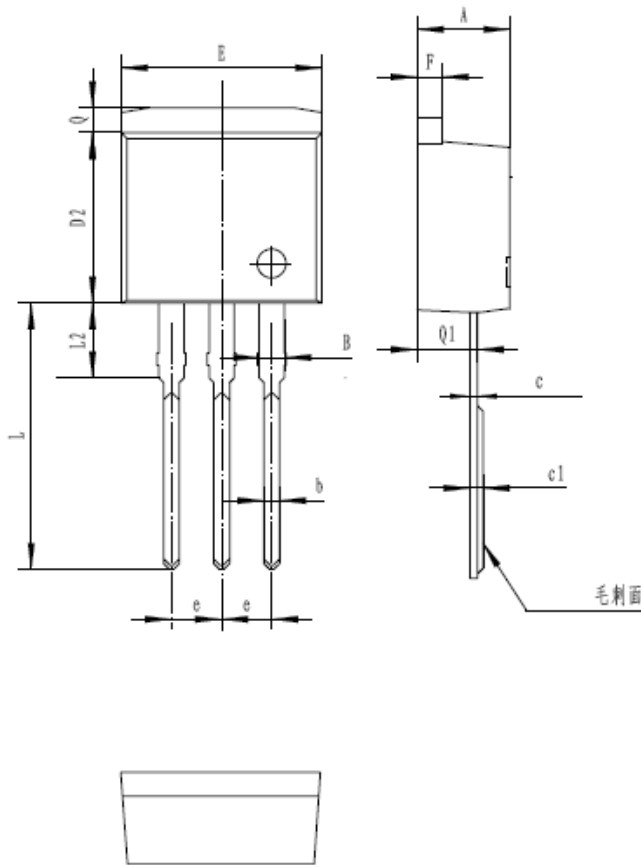


符号 Symbol	Min	Max
A	2.20	2.40
B	0.95	1.25
b	0.50	0.70
b1	0.45	0.55
b2	0.70	0.90
C	0.45	0.55
D	6.45	6.75
D1	5.20	5.40
E	5.95	6.25
e1	2.24	2.34
e2	4.43	4.73
L1	9.45	9.95
L2	1.25	1.75
L3	0.60	0.90
K	0.00	0.10





TO-262

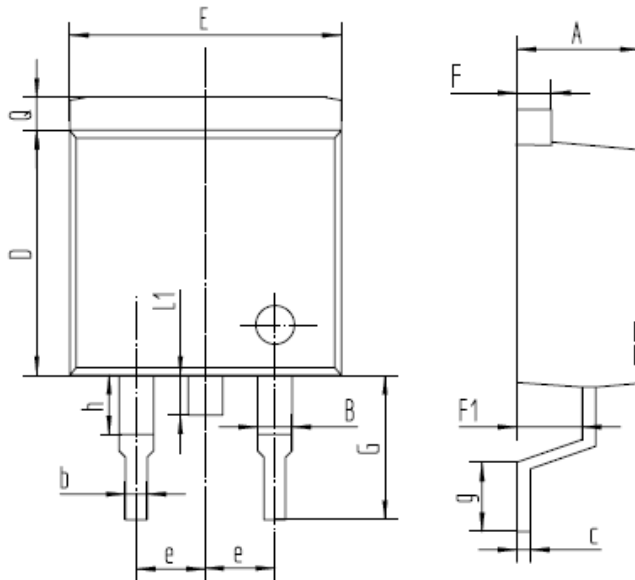


符号 symbol	MIN	MAX
A	4.40	4.90
B	1.10	1.40
b	0.70	0.95
c	0.30	0.60
c1	0.33	0.63
D2	8.20	9.20
E	9.60	10.50
e	2.39	2.69
F	1.20	1.35
L	13.11	14.61
L2	3.55	4.05
Q	1.10	1.40
Q1	2.65	2.85





TO-263

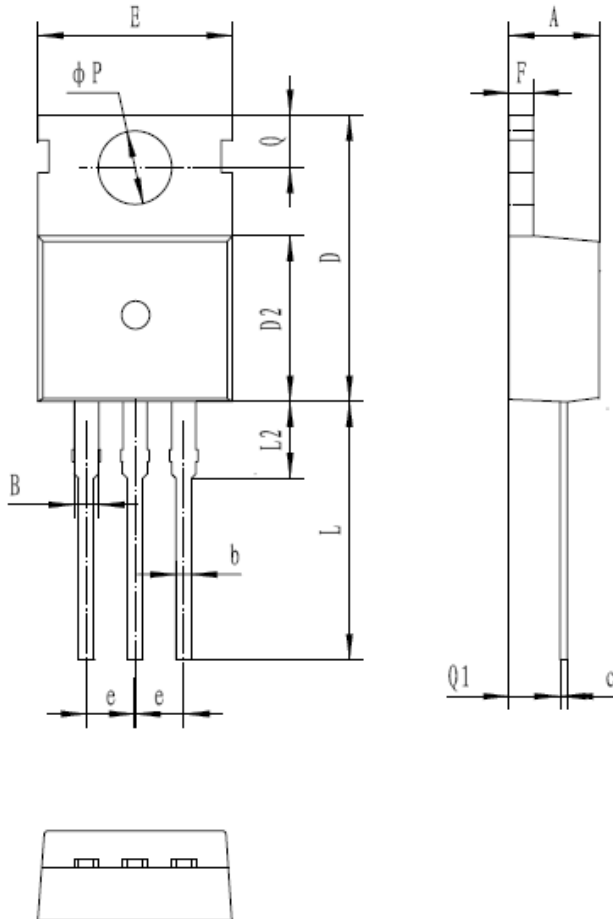


符号 symbol	MIN	MAX
A	4.50	4.90
B	1.20	1.40
D	8.40	8.80
E	9.50	10.50
F	1.20	1.40
F1	2.50	2.90
G	4.50	5.50
L1	1.30	1.60
Q	1.20	1.50
b	0.75	0.95
c	0.35	0.50
e	2.49	2.59
g	1.90	2.80
h	2.30	3.30





TO-220C

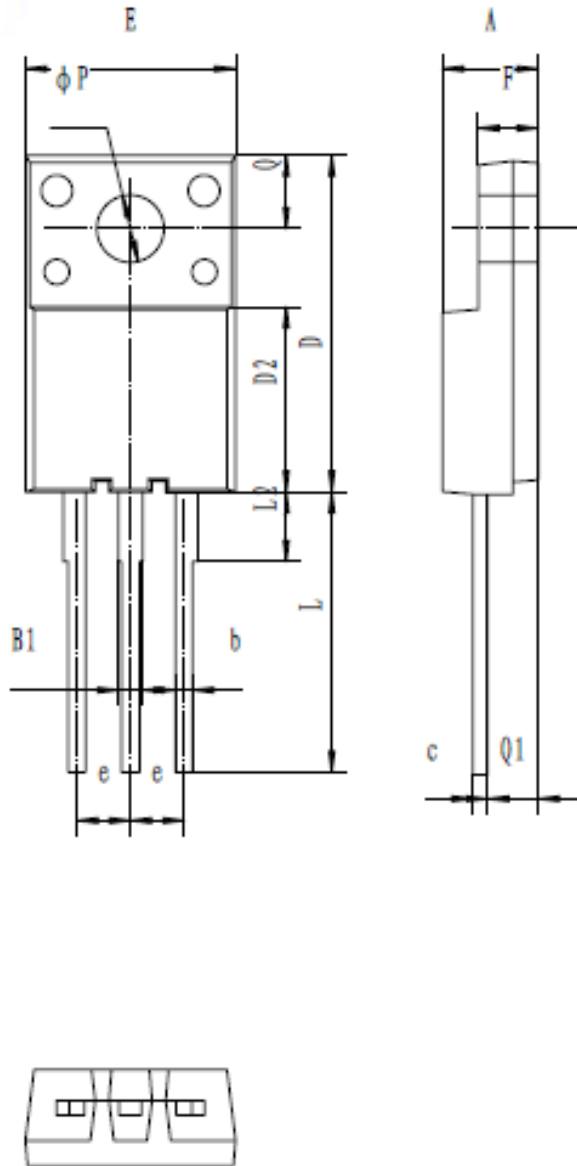


符号 symbol	MIN	MAX
A	4.30	4.70
B	1.10	1.40
b	0.70	0.95
c	0.40	0.65
D	15.20	16.20
D2	9.00	9.40
E	9.70	10.10
e	2.39	2.69
F	1.25	1.40
L	12.60	13.60
L2	2.80	3.20
Q	2.60	3.00
Q1	2.20	2.60
P	3.50	3.80





TO-220HF



符号 symbol	MIN	MAX
A	4	5
B1	0.87	1.27
b	0.72	0.92
c	0.5	0.7
D	15	16.5
D2	7.8	9.4
E	9.62	10.62
e	2.54TYP	
F	2.3	3.3
L	13	14
L2	3.1	3.5
ΦP	3	3.4
Q	3.15	3.55
Q1	2.2	2.5

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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
2010-7-5	200910C	201007D	增加 T0-251/252/262/263 封装外形
2011-3-23	201007D	201103E	增加 T0-220HF 封装外形



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