



3DG3020

主要参数 MAIN CHARACTERISTICS

I_C	1.5A
V_{CEO}	450V
$P_C(TO-92)$	1W
$P_C(TO-251)$	10W
$P_C(TO-126/252)$	20W

用途

- 充电器
- 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

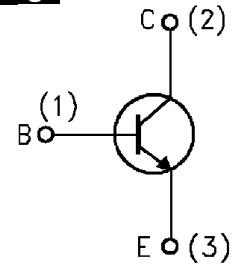
APPLICATIONS

- Battery charger
- Electronic ballasts
- High frequency switching power supply
- High frequency power transform
- Commonly power amplifier

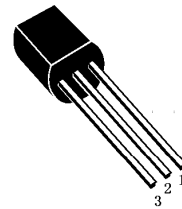
FEATURES

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

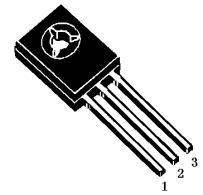
封装 Package



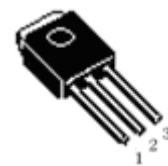
TO-92



TO-126



TO-251



TO-252



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
3DG3020-O-T-N-C	3020	否 NO	TO-92	袋装 Bag
3DG3020-R-T-N-C	3020	是 YES	TO-92	袋装 Bag
3DG3020-R-T-N-A	3020	是 YES	TO-92	编带 Brede
3DG3020-O-M-N-C	3020	否 NO	TO-126	袋装 Bag
3DG3020-O-I-N-C	3020	否 NO	TO-251	袋装 Bag
3DG3020-O-U-N-C	3020	否 NO	TO-252	袋装 Bag
3DG3020-O-U-N-A	3020	否 NO	TO-252	编带 Brede

印记 SIGIL



无卤素标记“R”
Halogen Free Sign “R”



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}	800	V
集电极—发射极直流电压 Collector- Emitter Voltage ($I_B=0$)	V_{CEO}	450	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	1.5	A
最大集电极脉冲电流 Collector Current (pulse)	I_{CP}	3.0	A
最大集电极耗散功率 Total Dissipation (TO-92)	P_C	1	W
最大集电极耗散功率 Total Dissipation (TO-251)	P_C	10	W
最大集电极耗散功率 Total Dissipation (TO-126/252)	P_C	20	W
最高结温 Junction Temperature	T_j	150	$^\circ\text{C}$
贮存温度 Storage Temperature	T_{stg}	-55~+150	$^\circ\text{C}$

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
$V_{(BR)CEO}$	$I_C=5\text{mA}, I_B=0$	450	500	-	V
$V_{(BR)CBO}$	$I_C=1\text{mA}, I_E=0$	800	900	-	V
$V_{(BR)EBO}$	$I_E=1\text{mA}, I_C=0$	9	14.5	-	V
I_{CBO}	$V_{CB}=800\text{V}, I_E=0$	-	-	0.1	mA
I_{CEO}	$V_{CE}=450\text{V}, I_B=0$	-	-	1	mA
I_{EBO}	$V_{EB}=9\text{V}, I_C=0$	-	-	0.1	mA
hFE	$V_{CE}=5\text{V}, I_C=200\text{mA}$	25	35	45	-
	$V_{CE}=5\text{V}, I_C=1.5\text{A}$	4.0	7.5	-	-
$V_{CE(sat)}$	$I_C=1\text{A}, I_B=0.2\text{A}$	-	0.3	1.0	V
$V_{BE(sat)}$	$I_C=1\text{A}, I_B=0.2\text{A}$	-	1.0	1.5	V
tf	$V_{CC}=24\text{V}, I_C=1\text{A}, I_{B1}=-I_{B2}=0.2\text{A}$	-	-	0.7	μs
fT	$V_{CE}=10\text{V}, I_C=0.1\text{A}$	5	-	-	MHz

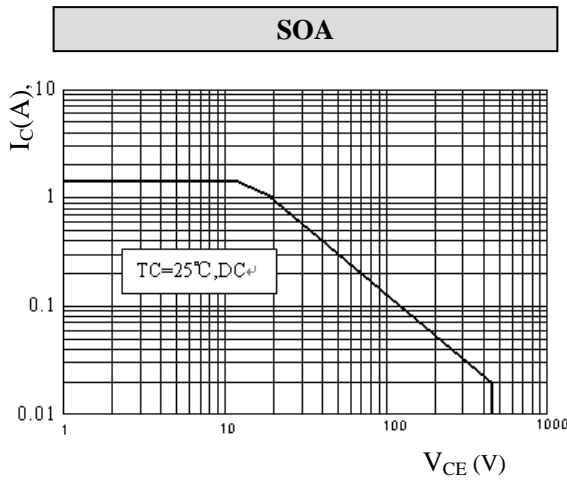
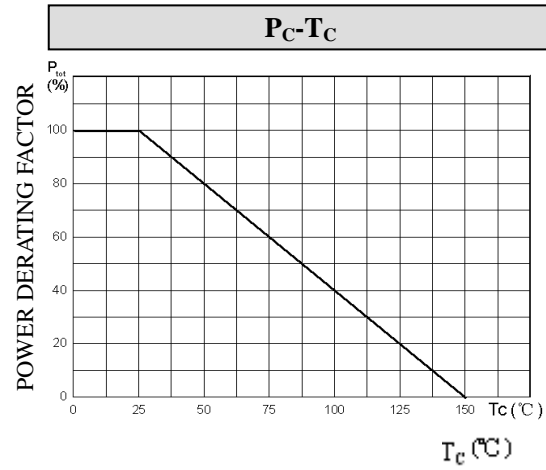
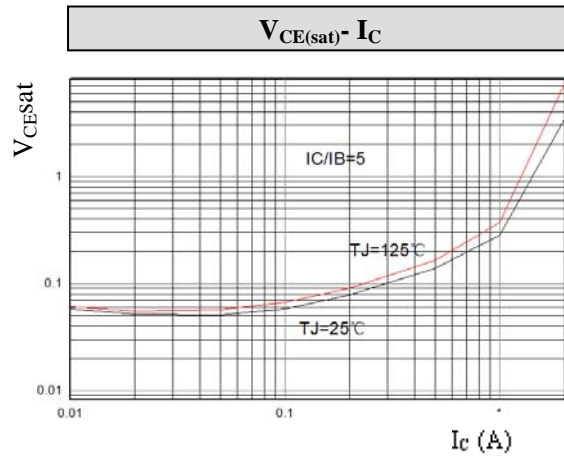
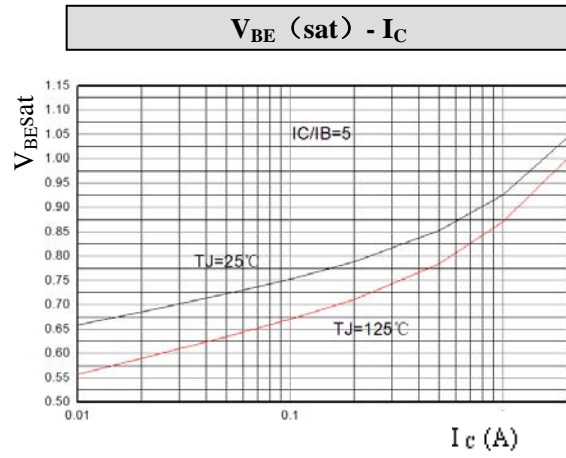
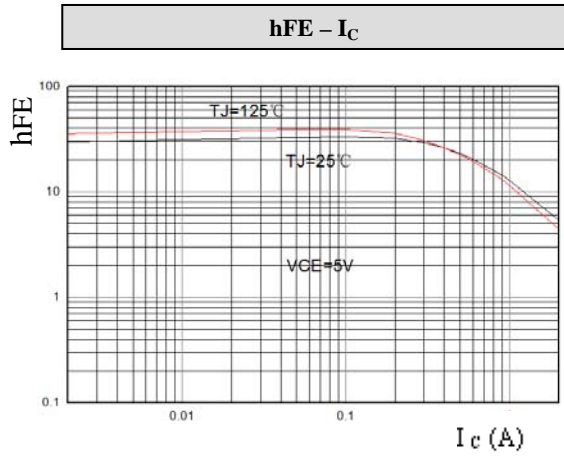
热特性 THERMAL CHARACTERISTIC

项 目 Parameter	符 号 Symbol	最小值 min	最大值 max	单 位 Unit
结到环境的热阻 Thermal Resistance Junction Ambient TO-92	$R_{th(j-a)}$	-	125	$^\circ\text{C}/\text{W}$
结到管壳的热阻 Thermal Resistance Junction Case TO-251	$R_{th(j-c)}$	-	12.5	$^\circ\text{C}/\text{W}$
结到管壳的热阻 Thermal Resistance Junction Case TO-126/252	$R_{th(j-c)}$	-	6.25	$^\circ\text{C}/\text{W}$





特征曲线 ELECTRICAL CHARACTERISTICS (curves)

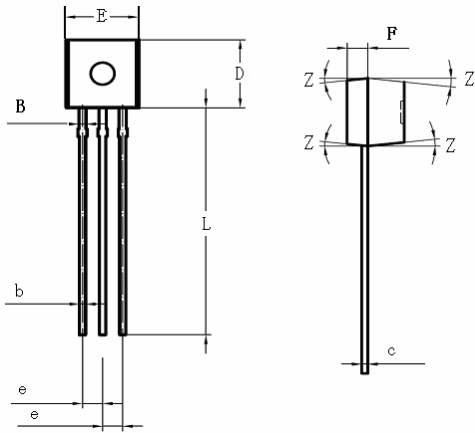




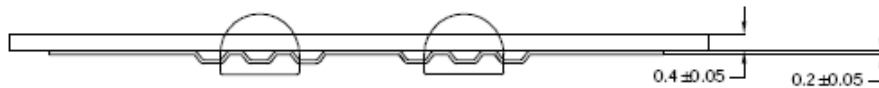
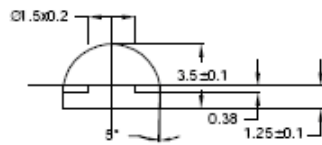
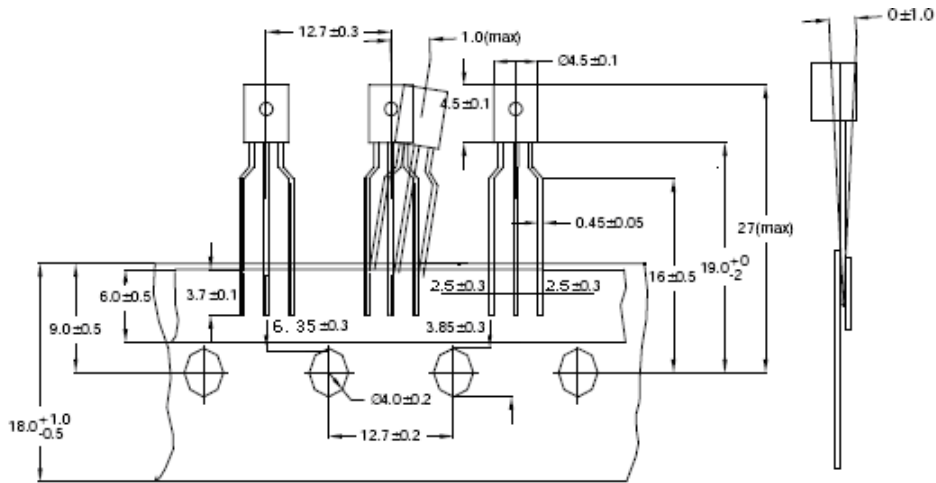
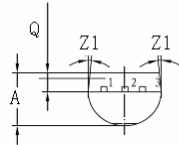
外形尺寸 PACKAGE MECHANICAL DATA

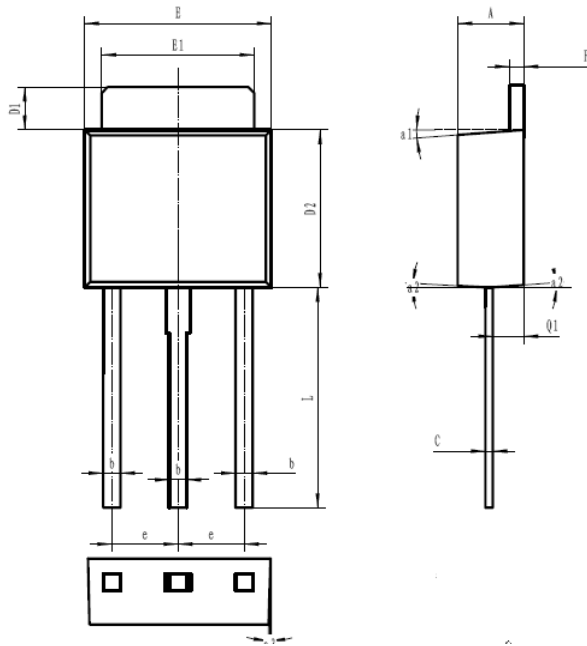
TO-92

单位 Unit : mm



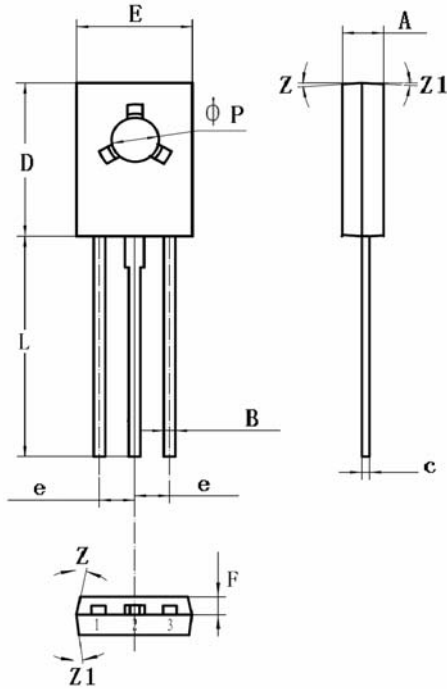
A	3.30-3.90
B	0.35-0.55
b	0.35-0.55
c	0.31-0.51
D	4.30-4.90
E	4.30-4.90
e	1.17-1.37
F	1.00-1.60
L	12.50-15.50
Q	1.00-1.60
Z	2°
Z1	5°





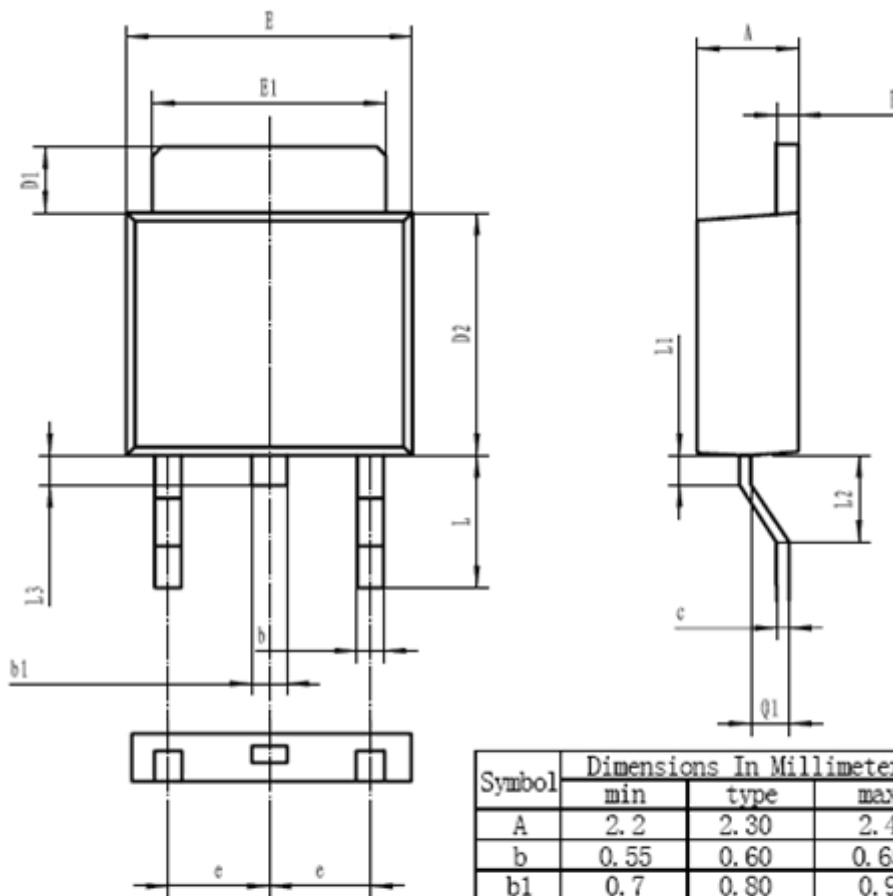
A	2.20-2.40
b	0.55-0.65
b1	0.70-0.90
C	0.45-0.55
D1	1.40-1.60
D2	5.40-5.60
E	6.40-6.60
E1	5.20-5.40
e	2.25-2.35
F	0.45-0.55
L	7.60-7.80
Q1	1.15-1.25
a1	4 [°] -6 [°]
a2	4 [°] -6 [°]
a3	4 [°] -6 [°]





A	2.50-2.90
B	0.60-0.90
c	0.30-0.70
D	10.50-11.10
E	7.10-8.10
e	2.19-2.39
L	14.0-17.0
F	1.07-1.47
Z	4 [°]
Z1	3 [°]
P	2.90-3.30





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



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- 2.购买时请认清公司商标，如有疑问请与公司本部联系。
- 3.在电路设计时请不要超过器件的绝对最大额定值，否则会影响整机的可靠性。
- 4.本说明书如有版本变更不另外告知

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2. We strongly recommend customers check carefully on the trademark when buying our product, if there is any question, please don't be hesitate to contact us.
3. Please do not exceed the absolute maximum ratings of the device when circuit designing.
4. Jilin Sino-microelectronics co., Ltd reserves the right to make changes in this specification sheet and is subject to change without prior notice.

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

市场营销部

地址：吉林省吉林市深圳街 99 号

邮编：132013

电话：86-432-64675588

64675688

64678411

传真：86-432-64671533

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

MARKET DEPARTMENT

ADD: No.99 Shenzhen Street, Jilin City, Jilin Province, China.

Post Code: 132013

Tel: 86-432-64675588

64675688

64678411

Fax: 86-432-64671533

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
2013-7-25		201307A	新版
2013-9-5	201307A	201309B	按照客户要求,更改放大测试条件,同时增加 TO-251 外形。
2013-12-20	201309B	201312C	增加 TO-252 外形。

