



# SBL1040

## 主要参数 MAIN CHARACTERISTICS

$I_{F(AV)}$	10 (2×5) A
$V_{RRM}$	40 V
$T_j$	125 °C
$V_{F(max)}$	0.48V (@ $T_j=125^{\circ}C$ )

### 用途

- 高频开关电源
- 低压续流电路和保护电路

### APPLICATIONS

- High frequency switch power supply
- Free wheeling diodes, polarity protection applications

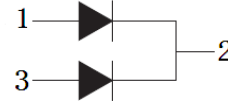
### 产品特性

- 共阴结构
- 低功耗，高效率
- 良好的高温特性
- 有过压保护环，高可靠性
- 环保（RoHS）产品

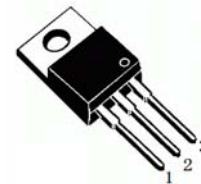
### FEATURES

- Common cathode structure
- Low power loss, high efficiency
- High Operating Junction Temperature
- Guard ring for overvoltage protection, High reliability
- RoHS product

### 封装 Package



TO-220



TO-220HF



## 订货信息 ORDER MESSAGE

订货型号 Order codes	印记 Marking	封装 Package	无卤素 Halogen Free	包装 Packaging	器件重量 Device Weight
SBL1040Z	SBL1040	TO-220	否 NO	条管 Tube	1.98 g(typ)
SBL1040ZR	SBL1040	TO-220	是 YES	条管 Tube	1.98 g(typ)
SBL1040HF	SBL1040	TO-220HF	否 NO	条管 Tube	1.70 g(typ)
SBL1040HFR	SBL1040	TO-220HF	是 YES	条管 Tube	1.70 g(typ)



**绝对最大额定值 ABSOLUTE RATINGS (Tc=25℃)**

项 目 Parameter		符 号 Symbol	数 值 Value	单 位 Unit
最大反向重复峰值电压 Repetitive peak reverse voltage		$V_{RRM}$	40	V
最大直流阻断电压 Maximum DC blocking voltage		$V_{DC}$	40	V
正向平均整流电流 Average forward current	T <sub>c</sub> =100℃ (TO-220, TO-220HF)	整个器件 per device  单 侧 per diode	10	A
			5	
正向峰值浪涌电流 Surge non repetitive forward current (额定负载 8.3ms 半正弦波—按 JEDEC 方法) 8.3 ms single half-sine-wave (JEDEC Method)		$I_{FSM}$	80	A
最高结温 Maximum junction temperature		$T_j$	125	℃
储存温度 Storage temperature range		$T_{STG}$	-40~+150	℃

**电特性 ELECTRICAL CHARACTERISTICS**

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
$I_R$	T <sub>j</sub> =25℃	$V_R=V_{RRM}$			100	μA
	T <sub>j</sub> =125℃				80	mA
$V_F$	T <sub>j</sub> =25℃	$I_F=5A$		0.49	0.58	V
	T <sub>j</sub> =125℃			0.44	0.48	V

**热特性 THERMAL CHARACTERISTICS**

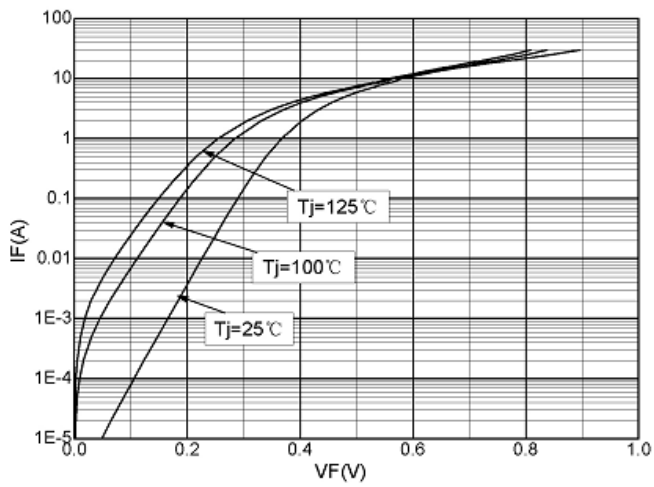
项 目 Parameter		符 号 Symbol	最小值 Value(min)	最大值 Value(max)	单 位 Unit
结到管壳的热阻 Thermal resistance from junction to case	TO-220 TO-220HF	$R_{th(j-c)}$		2.0 2.4	℃/W



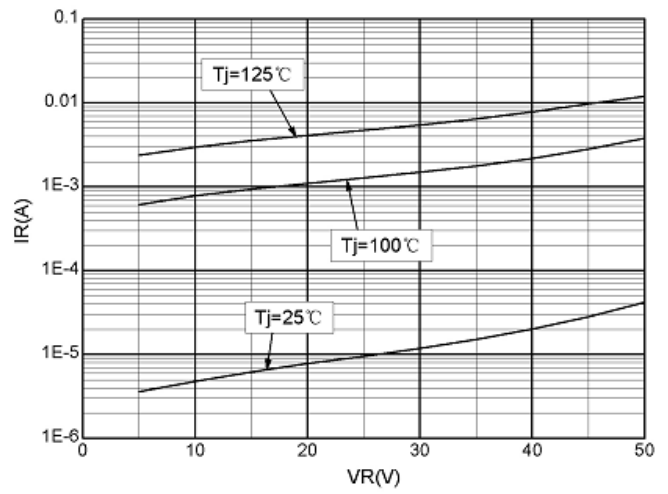


特征曲线 ELECTRICAL CHARACTERISTICS (curves)

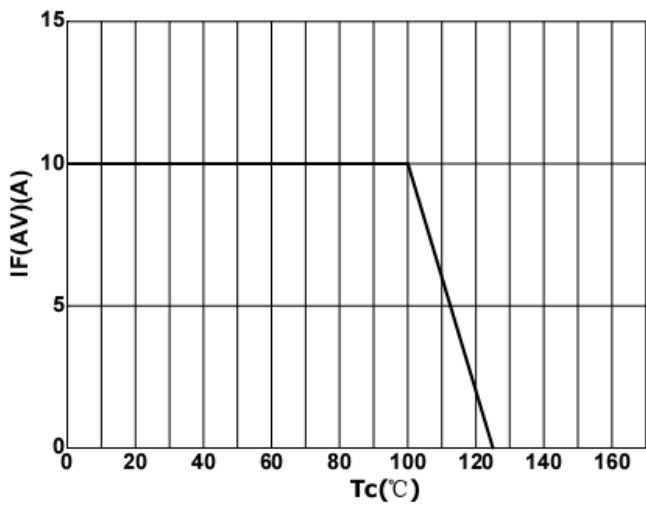
IF vs VF



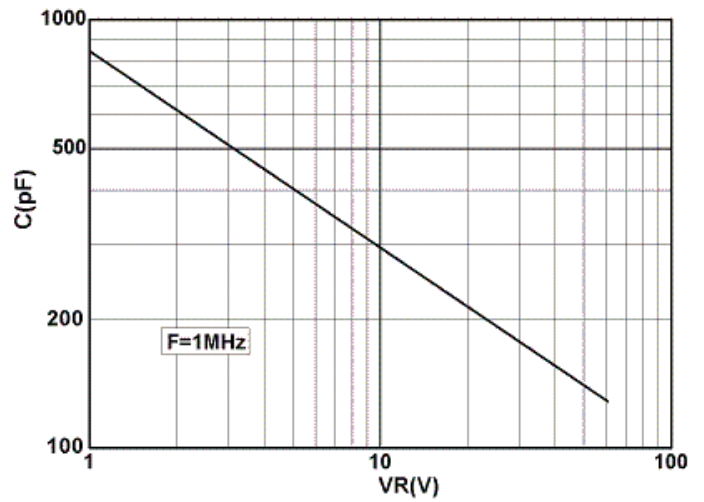
IR vs VR

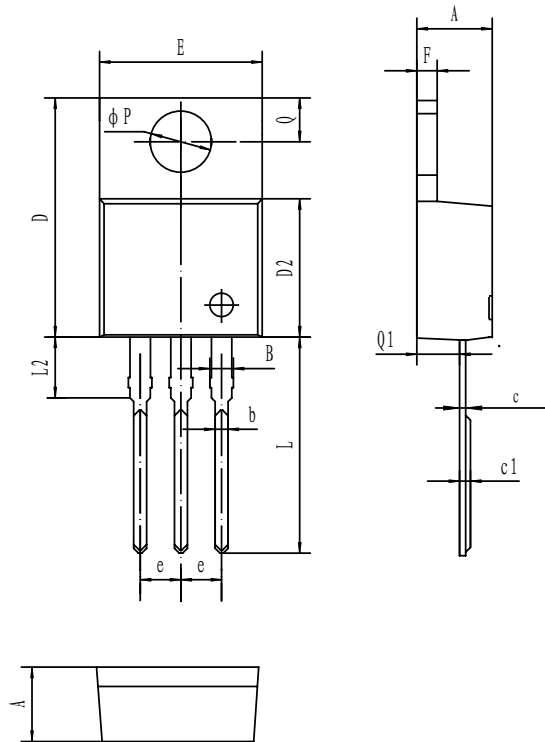


IF(AV) vs Tc



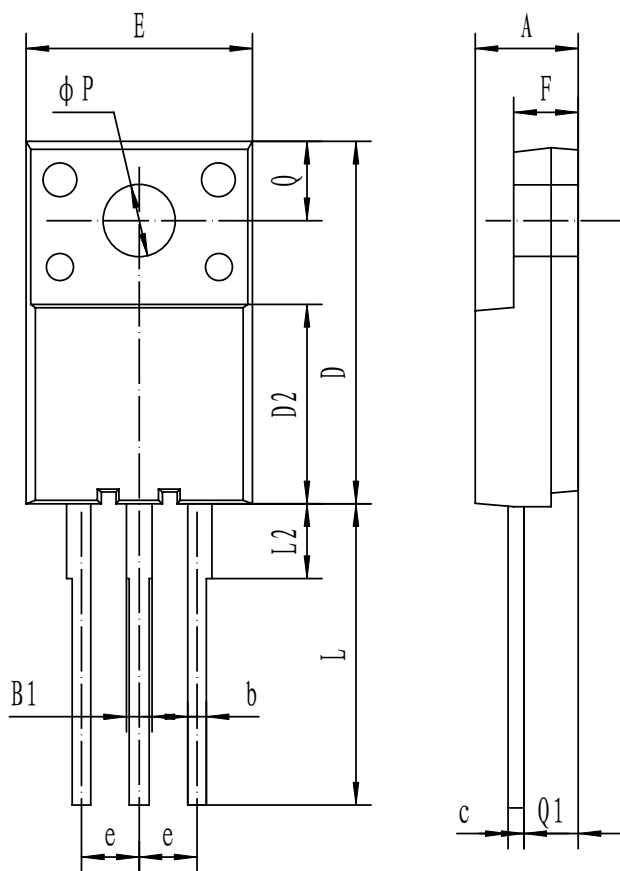
CT vs VR



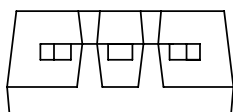


符号 symbol	MIN	MAX
A	4.40	4.80
B	1.10	1.40
b	0.70	0.95
c	0.28	0.48
c1	0.32	0.52
D	14.45	16.00
D2	8.20	9.20
E	9.60	10.40
e	2.39	2.69
F	1.20	1.35
L	13.05	14.05
L2	3.70	3.90
Q	2.40	3.00
Q1	2.20	2.90
P	3.50	4.00





符号 Symbol	Min	Max
A	4.0	5.0
B1	0.87	1.27
b	0.72	0.92
c	0.5	0.70
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	12.0	14.0
L2	3.1	3.5
$\phi P$	3.0	3.4
Q	3.15	3.55
Q1	2.2	2.5



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- 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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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](http://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

64678411-3098/3099

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

**MARKET DEPARTMENT**

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

Post Code: 132013

Tel: 86-432-64675588

64675688

64678411-3098/3099

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

