

2SC5200 SERIES

用途

- 应用于功率放大器

产品特性

- 高集电极电压: $V_{CE0}=230V$ (min)
 $V_{CE0}=250V$ (min)
- 与 2SA1943 互补
- 推荐用于 100W 音响频率放大器输出电路
- 环保 (RoHS) 产品

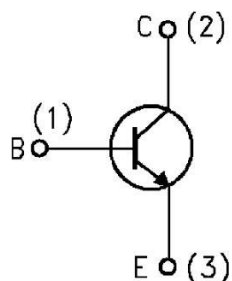
APPLICATIONS

- Power Amplifier Applications

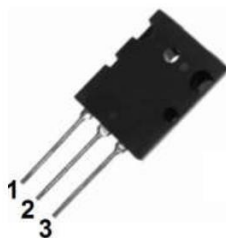
FEATURES

- High collector voltage: $V_{CE0}=230V$ (min)
 $V_{CE0}=250V$ (min)
- Complementary to 2SA1943
- Recommended for 100W audio frequency amplifier output
- RoHS product

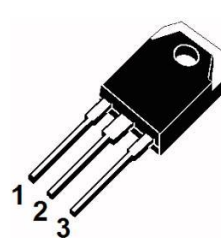
封装 Package



TO-3PL(T)



TO-3PB



- 1 基极 BASE 3 发射极 EMITTER
2 集电极 (热沉) COLLECTOR (HEAT SINK)

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	器件重量 Weight
2SC5200-O-AL-N-D	2SC5200	否 NO	TO-3PL(T)	泡沫盒 Foam Box	9.53g(typ)
2SC5200-O-AL-N-B	2SC5200	否 NO	TO-3PL(T)	条管 Tube	9.53g(typ)
2SC5200-O-AB -N-B	2SC5200	否 NO	TO-3PB	条管 Tube	6.03g(typ)
2SC5200A-O-AL-N-D	2SC5200	否 NO	TO-3PL(T)	泡沫盒 Foam Box	9.53g(typ)
2SC5200A-O-AL-N-B	2SC5200	否 NO	TO-3PL(T)	条管 Tube	9.53g(typ)
2SC5200A-O-AB -N-B	2SC5200	否 NO	TO-3PB	条管 Tube	6.03g(typ)
2SC5200B -O-AL-N-B	2SC5200	否 NO	TO-3PL(T)	条管 Tube	9.53g(typ)
2SC5200B -O-AL-N-D	2SC5200	否 NO	TO-3PL(T)	泡沫盒 Foam Box	9.53g(typ)
2SC5200B-O-AB -N-B	2SC5200	否 NO	TO-3PB	条管 Tube	6.03g(typ)
2SC5200C -O-AL-N-B	2SC5200	否 NO	TO-3PL(T)	条管 Tube	9.53g(typ)
2SC5200C -O-AL-N-D	2SC5200	否 NO	TO-3PL(T)	泡沫盒 Foam Box	9.53g(typ)
2SC5200C-O-AB -N-B	2SC5200	否 NO	TO-3PB	条管 Tube	6.03g(typ)

绝对最大额定值 **ABSOLUTE RATINGS** (Tc=25℃ unless otherwise noted)

项 目		符 号	数 值 Value				单 位
Parameter		Symbol	-	A	B	C	Unit
集电极—基极直流电压	Collector- Base Voltage	V _{CB0}	230	230	350	350	V
集电极—发射极直流电压	Collector- Emitter Voltage	V _{CEO}	230	230	250	250	V
发射极—基极直流电压	Emitter-Base Voltage	V _{EBO}	5				V
最大集电极电流	Collector Current	I _C	15	15	16	16	A
最大基极电流	Base Current	I _B	1.5		1.6		A
最大集电极耗散功率	TO-3PB Collector Dissipation(Tc=25℃)	P _C	120		150		W
最大集电极耗散功率	TO-3PL Collector Dissipation(Tc=25℃)	P _C	160		200		W
最高结温	Junction Temperature	T _j	150				℃
贮存温度	Storage Temperature	T _{stg}	-65~150				℃

电特性 ELECTRICAL CHARACTERISTIC

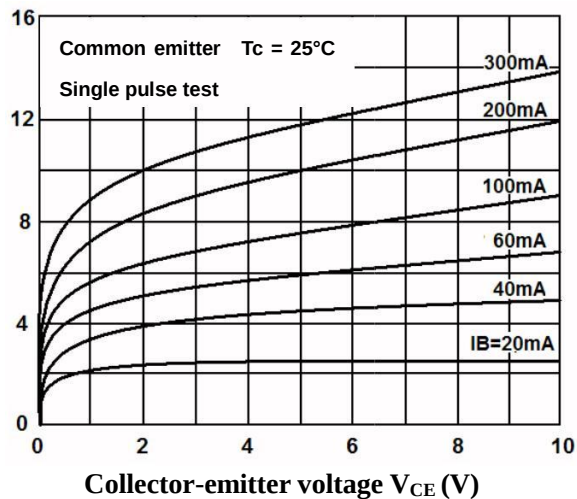
项 目		测试条件				典型值	最大值 Value(max)				单位
Parameter	Tests conditions	5200	A	B	C	Value(typ)	5200	A	B	C	Unit
I _{CBO}	V _{CB} =230(300)V,I _E =0	-				-	5.0@230V	5.0@300V			μA
I _{EBO}	V _{EB} =5V,I _C =0	-				-	5.0				mA
V _{(BR)CEO}	I _C =50mA,I _B =0	230	250		-	-				V	
hFE	V _{CE} =5V,I _C =0.5A	-	75		-	-	135				
	V _{CE} =5V,I _C =1.0A	80	75		-	160	135				
	V _{CE} =5V,I _C =3.0A	-	75		-	-	135				
	V _{CE} =5V,I _C =7.0A	35	-		-	-					
v _{CE(sat)}	I _C =5.0A,I _B =0.5A	-				-	1.0				V
	I _C =8.0A,I _B =0.8A	-				-	3.0	-			V
V _{BE}	V _{CE} =5V,I _C =7.0A	-				-	1.5				V
f _T	V _{CE} =5V, I _C =1.0A	10	30	10	30	-	-				MHz
C _{Ob}	V _{CE} =10V, I _E =0,f=1MHz	-				145	-				pF

热特性 THERMAL CHARACTERISTIC

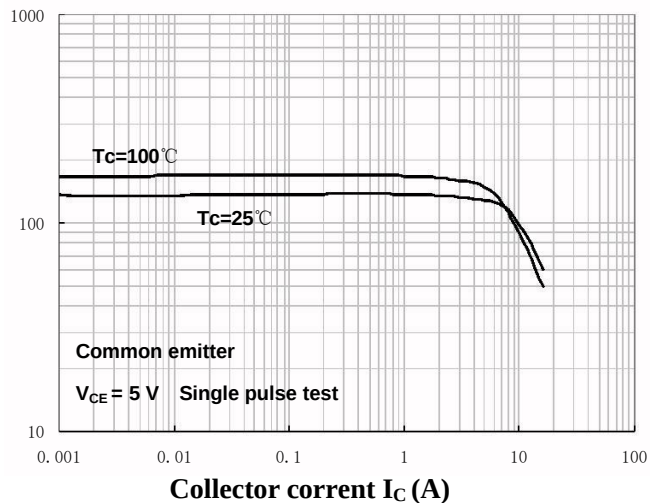
项 目 Parameter	符 号 Symbo	最小值 min	最大值 max	单 位 Unit
2SC5200 2SC5200A				
结到管壳的热阻 Thermal Resistance Junction Case TO-3PB	R _{th(j-c)}	-	1.042	℃/W
结到管壳的热阻 Thermal Resistance Junction Case TO-3PL(T)	R _{th(j-c)}	-	0.781	℃/W
2SC5200B 2SC5200C				
结到管壳的热阻 Thermal Resistance Junction Case TO-3PB	R _{th(j-c)}	-	0.83	℃/W
结到管壳的热阻 Thermal Resistance Junction Case TO-3PL(T)	R _{th(j-c)}	-	0.625	℃/W

特征曲线 ELECTRICAL CHARACTERISTICS (2SC5200 curves)

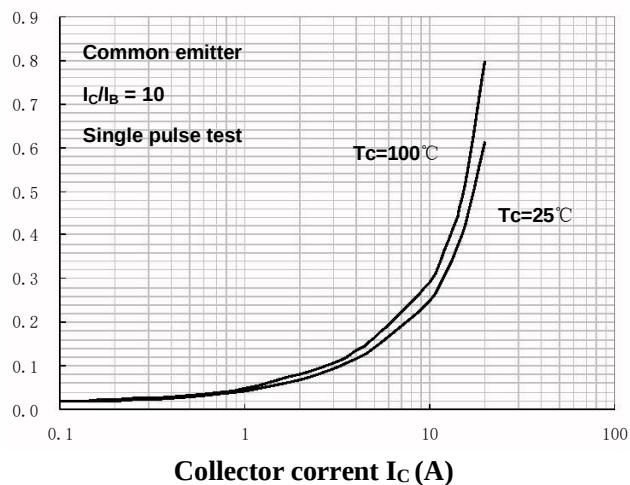
IC-VCE



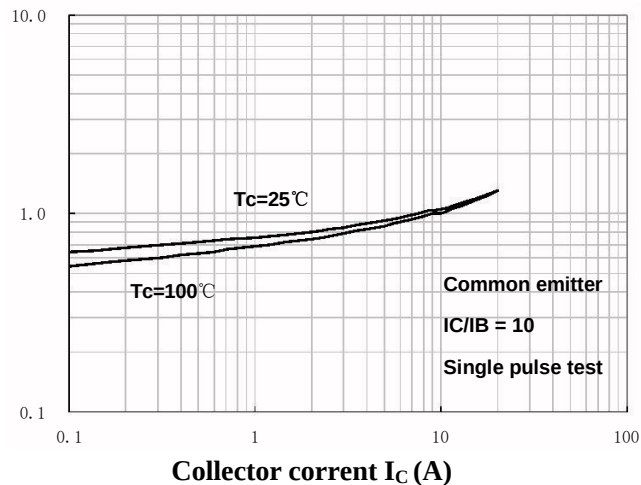
DC Current Gain



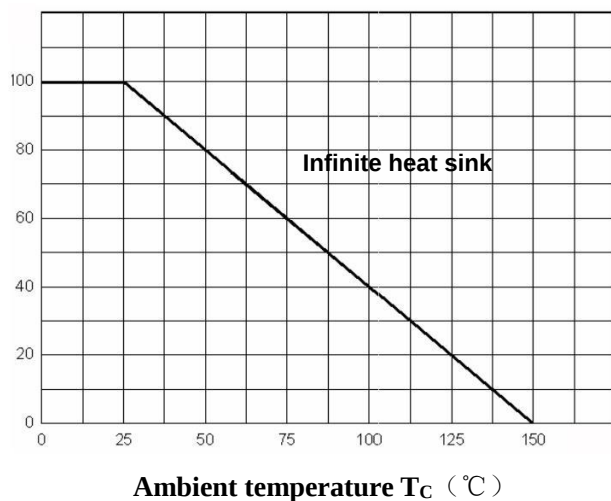
Saturation Voltage



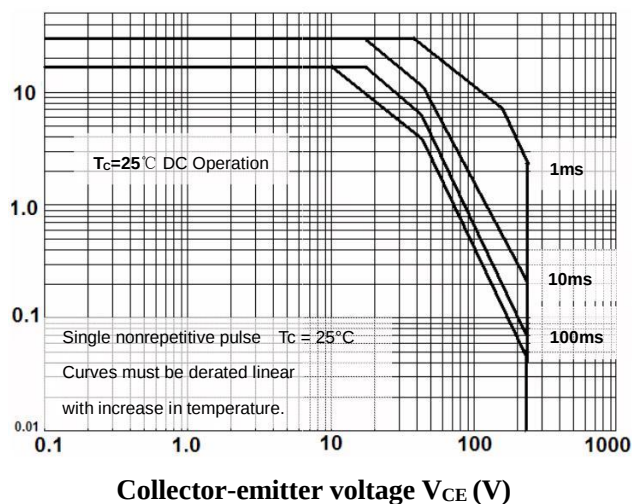
Base-Emitter Voltage



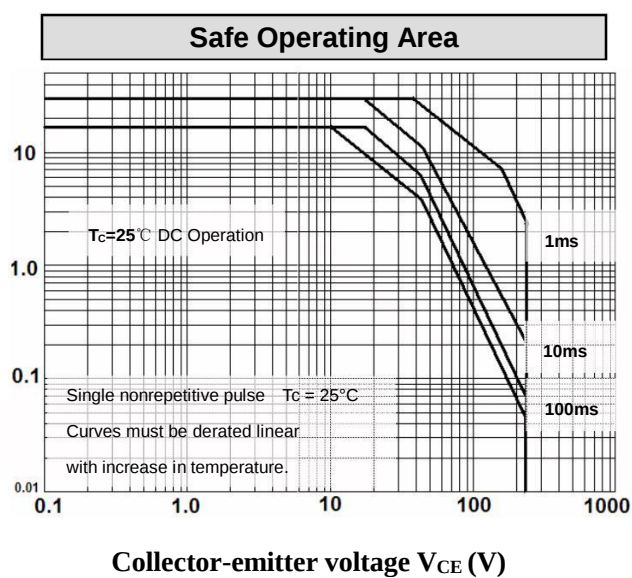
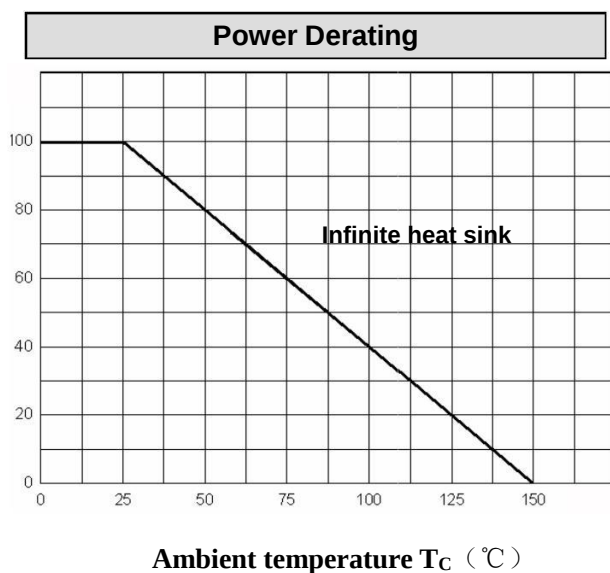
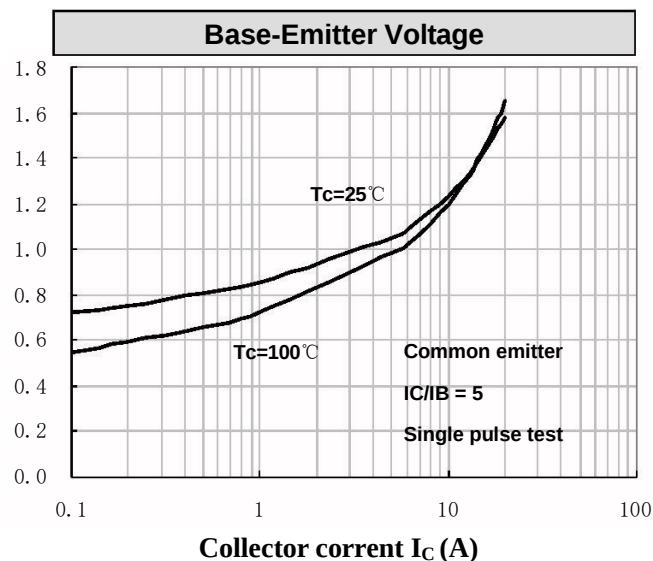
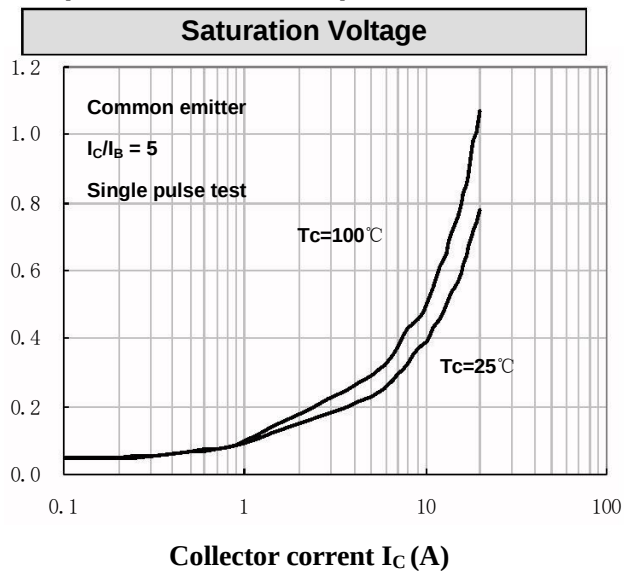
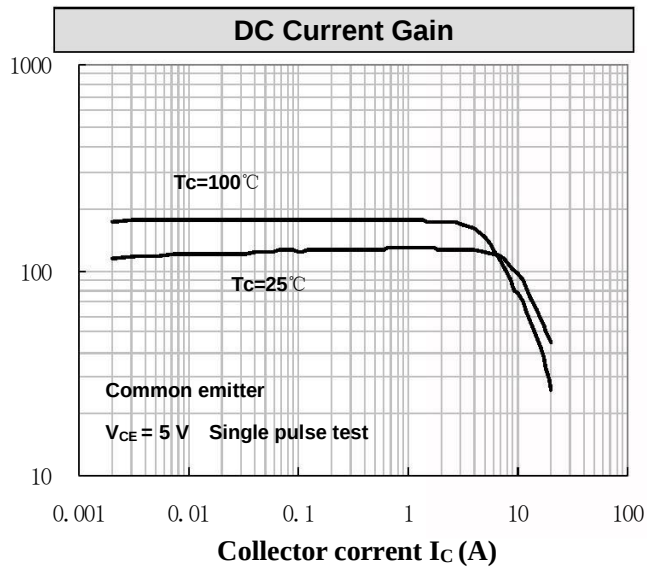
Power Derating



Safe Operating Area

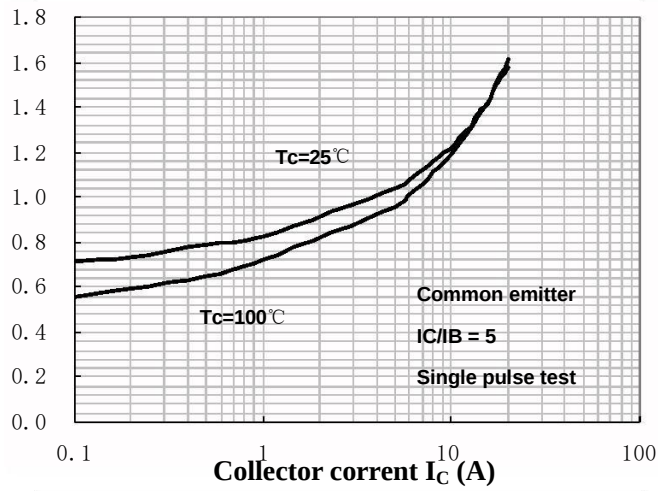


特征曲线 **ELECTRICAL CHARACTERISTICS (2SC5200A curves)**

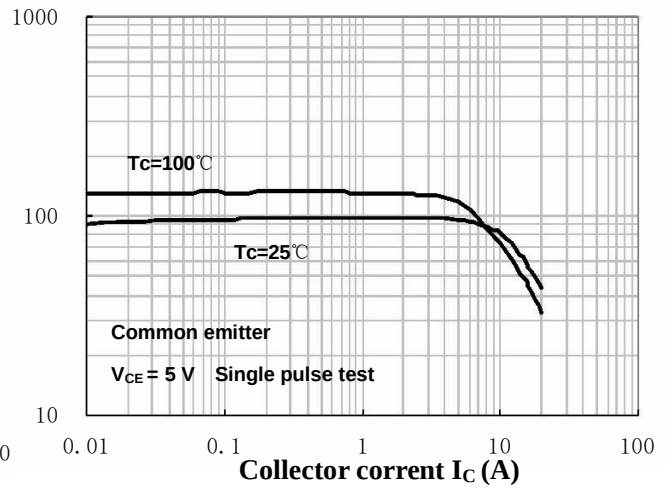


特征曲线 ELECTRICAL CHARACTERISTICS (2SC5200B curves)

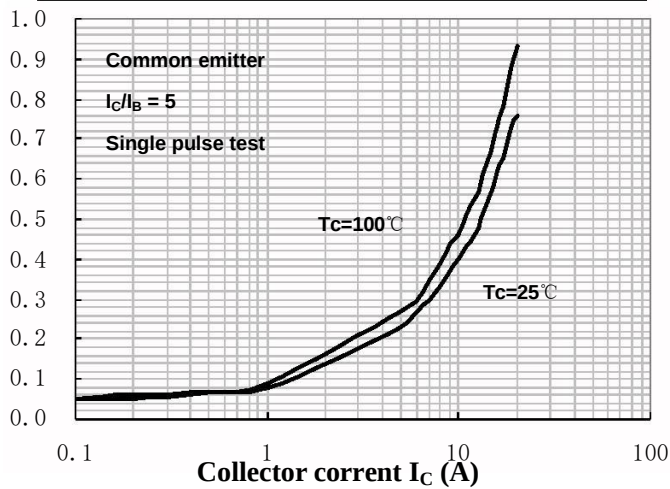
Base-Emitter Voltage



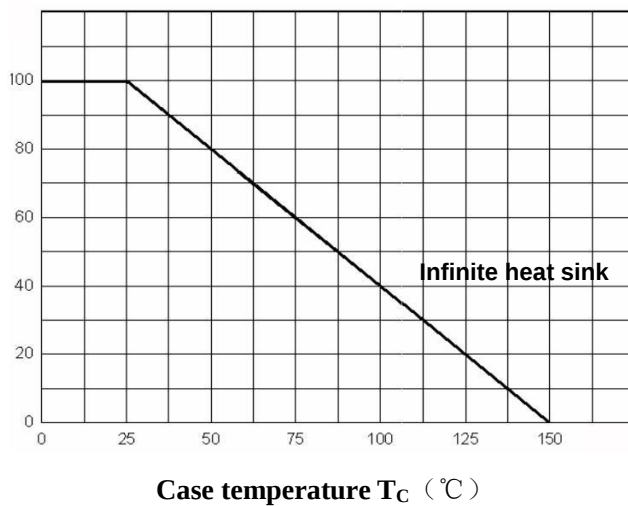
DC Current Gain



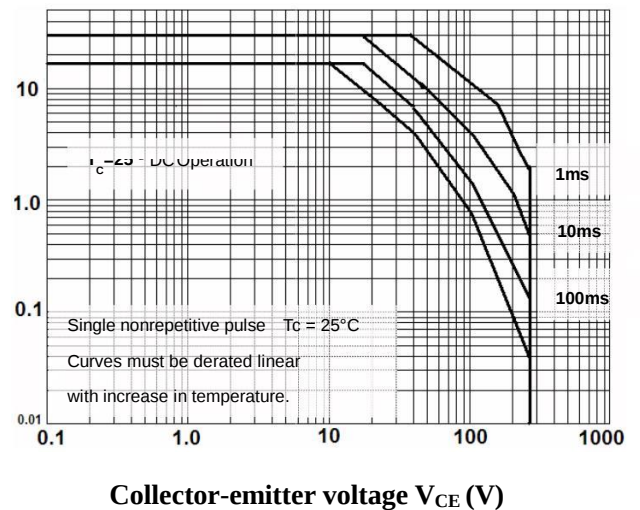
Saturation Voltage



Power Derating

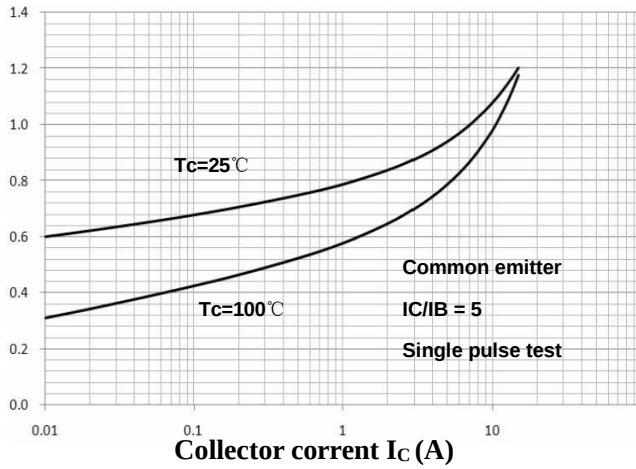


Safe Operating Area

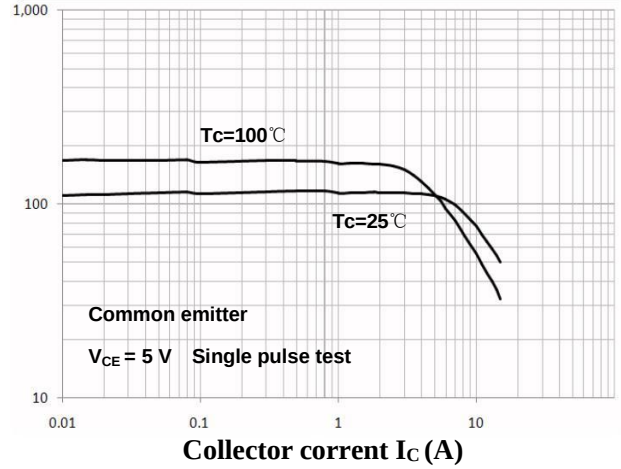


特征曲线 **ELECTRICAL CHARACTERISTICS (2SC5200C curves)**

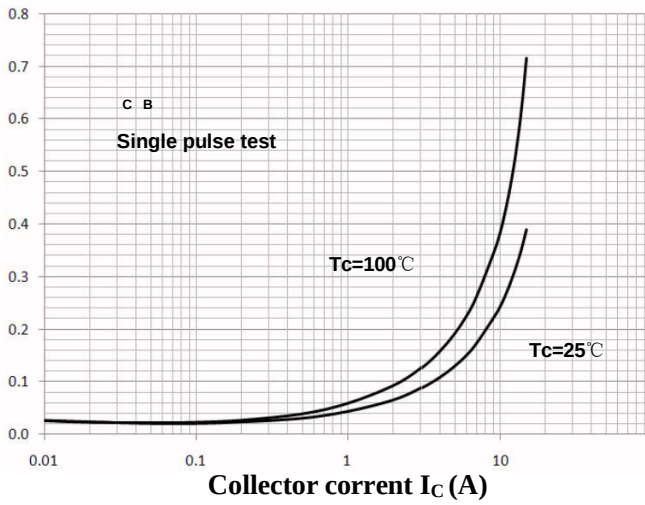
Base-Emitter Voltage



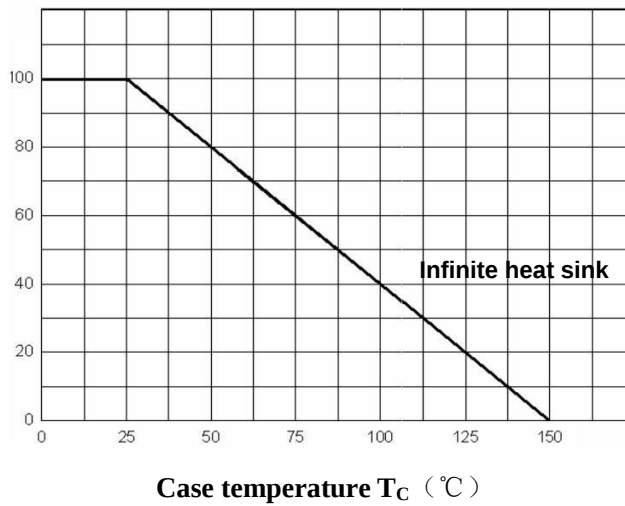
DC Current Gain



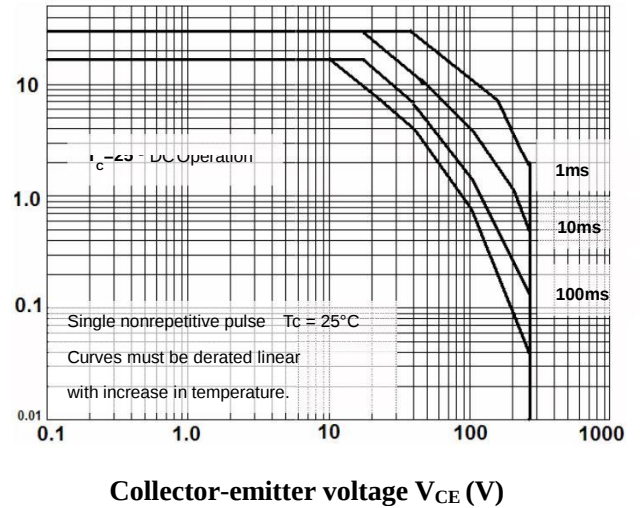
Saturation Voltage



Power Derating



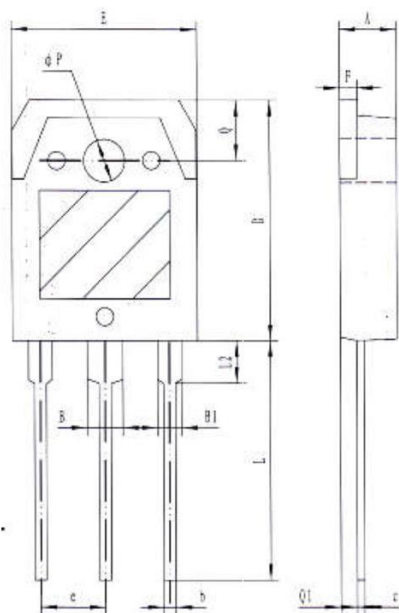
Safe Operating Area



外形尺寸 PACKAGE MECHANICAL DATA

TO-3PB

单位 Unit : mm

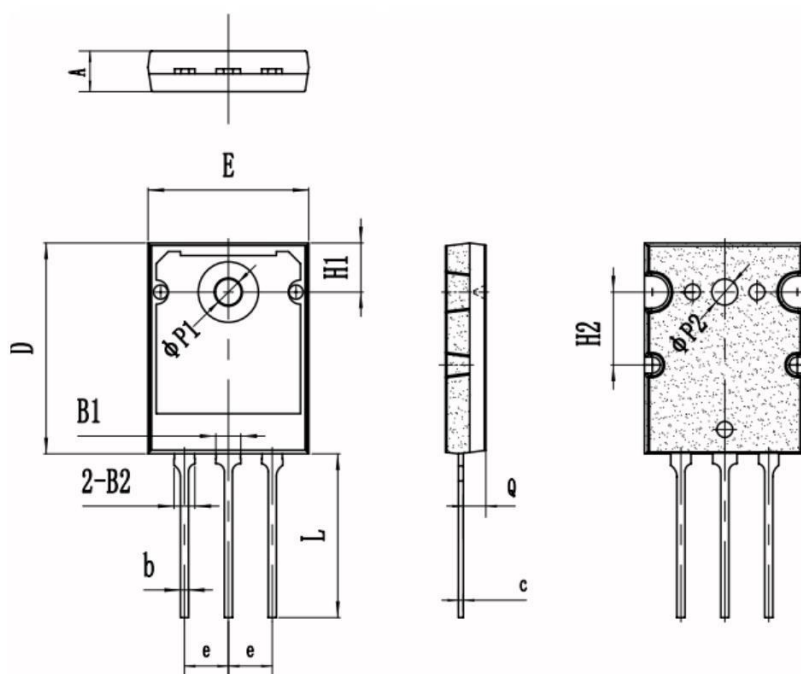


符号	尺寸 (mm)
A	4.60-5.00
B	2.90-3.20
B1	1.90-2.20
b	0.90-1.10
c	0.50-0.70
D	19.40-20.40
E	15.40-15.80
e	5.45(TYP)
F	1.40-1.60
L	19.50-20.50
L2	3.30-3.70
P	3.10-3.50
Q	4.90-5.10
Q1	1.30-1.50

外形尺寸 PACKAGE MECHANICAL DATA

TO-3PL(T)

单位 Unit : mm



符号	尺寸 (mm)
A	4.70-5.30
B1	2.80-3.20
B2	2.30-2.70
b	0.80-1.25
c	0.59-0.61
D	25.5-26.5
E	19.5-20.5
e	5.45(typ)
H1	6.00-6.10
H2	8.95-9.05
L	20.0-20.4
Q	2.75-2.85
P1	3.45-3.55
P2	3.20-3.30