

**/ Descriptions**

Silicon PNP transistor in a SOT-23 Plastic Package.

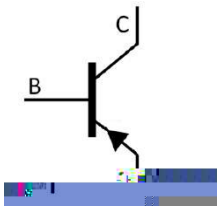
**/ Features**

Complementary pair with 2SD601A.

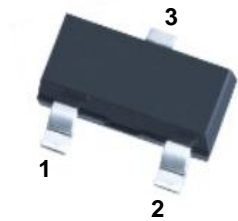
**/ Applications**

General power amplifier applications.

**/ Equivalent Circuit**



**/ Pinning**



PIN1 Base      PIN 2 Emitter      PIN 3 Collector

**/  $h_{FE}$  Classifications & Marking**

$h_{FE}$ Classifications Symbol	Q	R	S
$h_{FE}$ Range	160~260	210~340	290~460
Marking	H1BQ	H1BR	H1BS

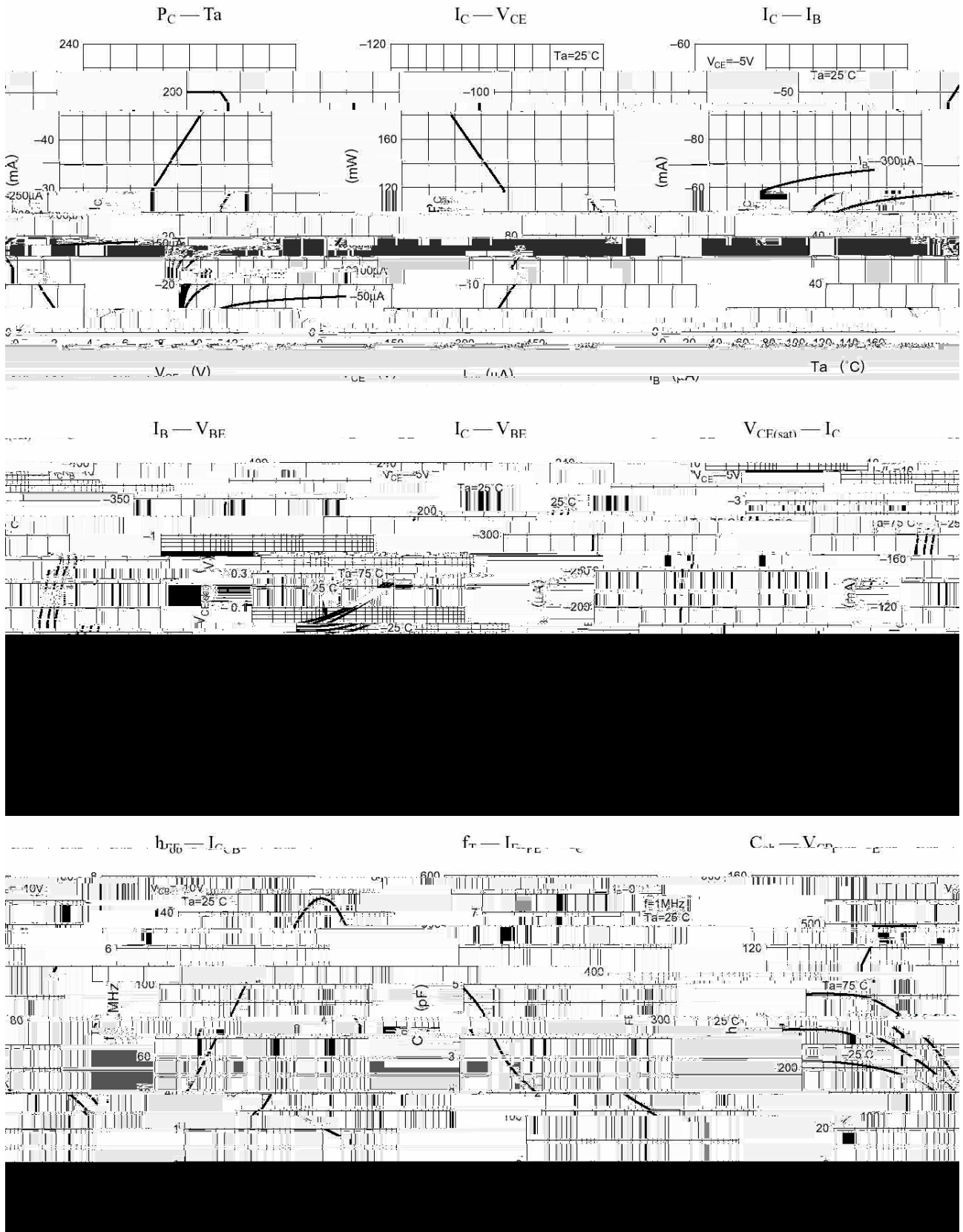
**/ Absolute Maximum Ratings(Ta=25 )**

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	$V_{CBO}$	-45	V
Collector to Emitter Voltage	$V_{CEO}$	-45	V
Emitter to Base Voltage	$V_{EBO}$	-7.0	V
Collector Current	$I_C$	-100	mA
Collector Current(pulse)	$I_{CP}$	-200	mA
Collector Power Dissipation	$P_C$	200	mW
Junction Temperature	$T_j$	150	
Storage Temperature Range	$T_{stg}$	-55 150	

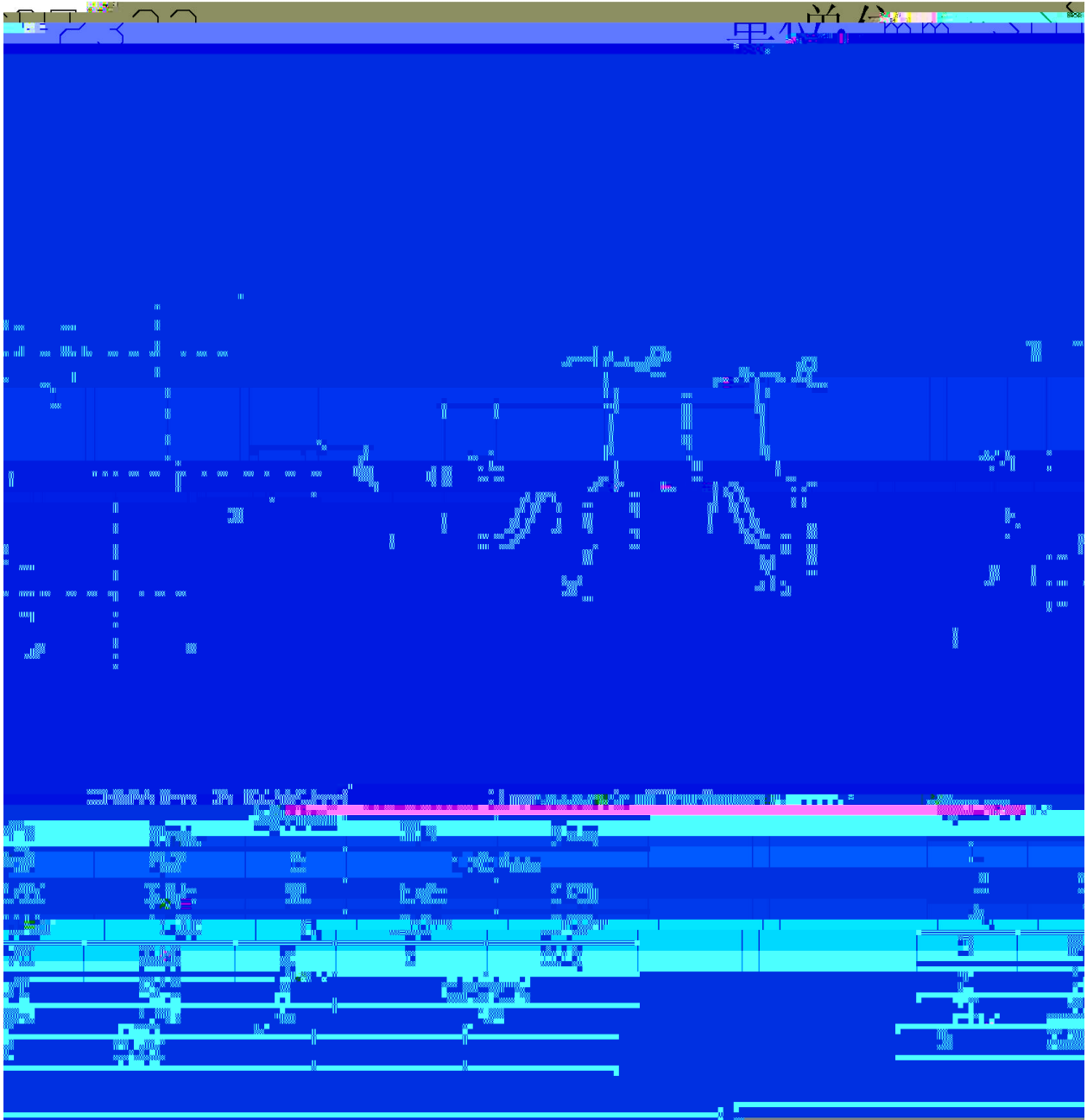
**/ Electrical Characteristics(Ta=25 )**

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	$V_{CBO}$	$I_C=-10\mu A$ $I_E=0$	-45			V
Collector to Emitter Breakdown Voltage	$V_{CEO}$	$I_C=-2mA$ $I_B=0$	-45			V
Emitter to Base Breakdown Voltage	$V_{EBO}$	$I_E=-10\mu A$ $I_C=0$	-7			V
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=-20V$ $I_E=0$			-0.1	$\mu A$
Emitter Base Cut-Off Current	$I_{EBO}$	$V_{CE}=-10V$ $I_B=0$			-100	$\mu A$
DC Current Gain	$h_{FE}$	$V_{CE}=-10V$ $I_C=-2mA$	160		460	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-100mA$ $I_B=-10mA$		-0.3	-0.5	V
Transition Frequency	$f_T$	$V_{CB}=-10V$ $I_C=-1mA$ $f=200MHz$		80		MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB}=-10V$ $I_E=0$ $f=1MHz$		2.7		pF

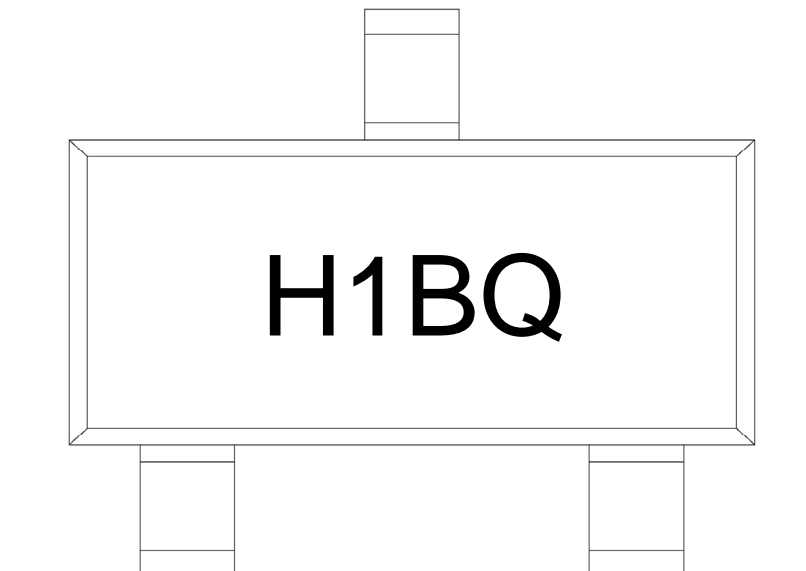
/ Electrical Characteristic Curve



/ Package Dimensions



/ Marking Instructions



$h_{FE}$

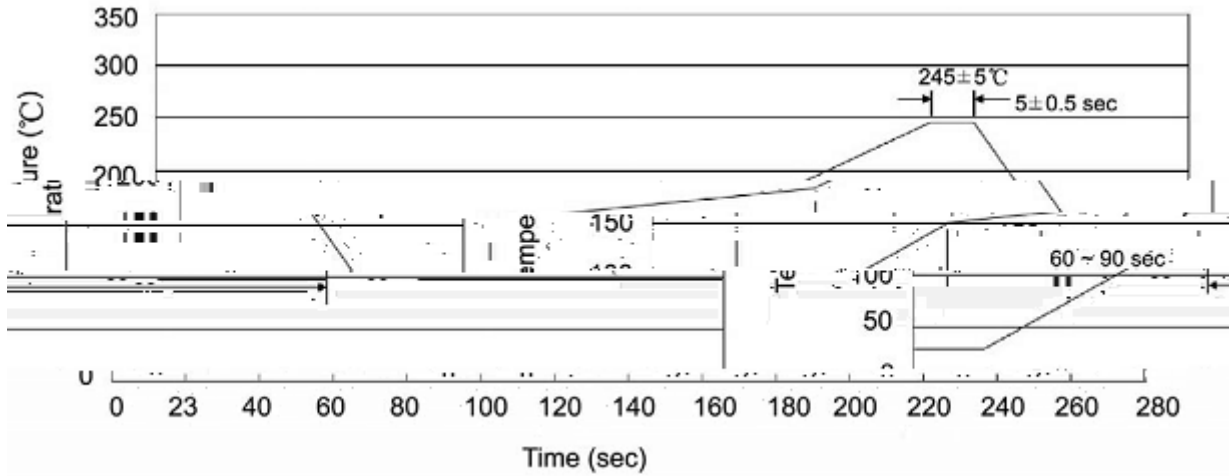
Note:

H: Company Code

1B: Product Type Code

Q:  $h_{FE}$  Classifications Symbol Code

( ) / Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

- |   |     |     |    |          |   |
|---|-----|-----|----|----------|---|
| 1 | 25  | 150 | 60 | 90sec;   | 1.Preheating:25~150 , Time:60~90sec.    |
| 2 | 245 | 5   | 5  | 0.5sec;  | 2.Peak Temp.:245 5 , Duration:5 0.5sec. |
| 3 |     |     | 2  | 10 /sec. | 3.                                      |