

/ Descriptions

SOT-89 NPN Silicon NPN transistor in a SOT-89 Plastic Package.

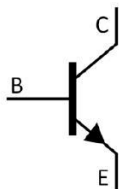
• / Features

2SB649TA
Complementary pair with 2SB649TA.

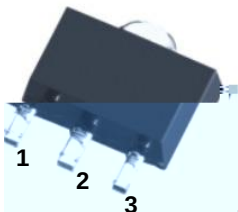
v / Applications

Low frequency power amplifier.

≡ / Equivalent Circuit



λ / Pinning



PIN1 Base PIN 2 Collector PIN 3 Emitter

⏏ / Marking

h_{FE} Classifications Symbol	B	C	D
h_{FE} Range	60 120	100 200	160 320
Marking	H669B*	H669C*	H669D*

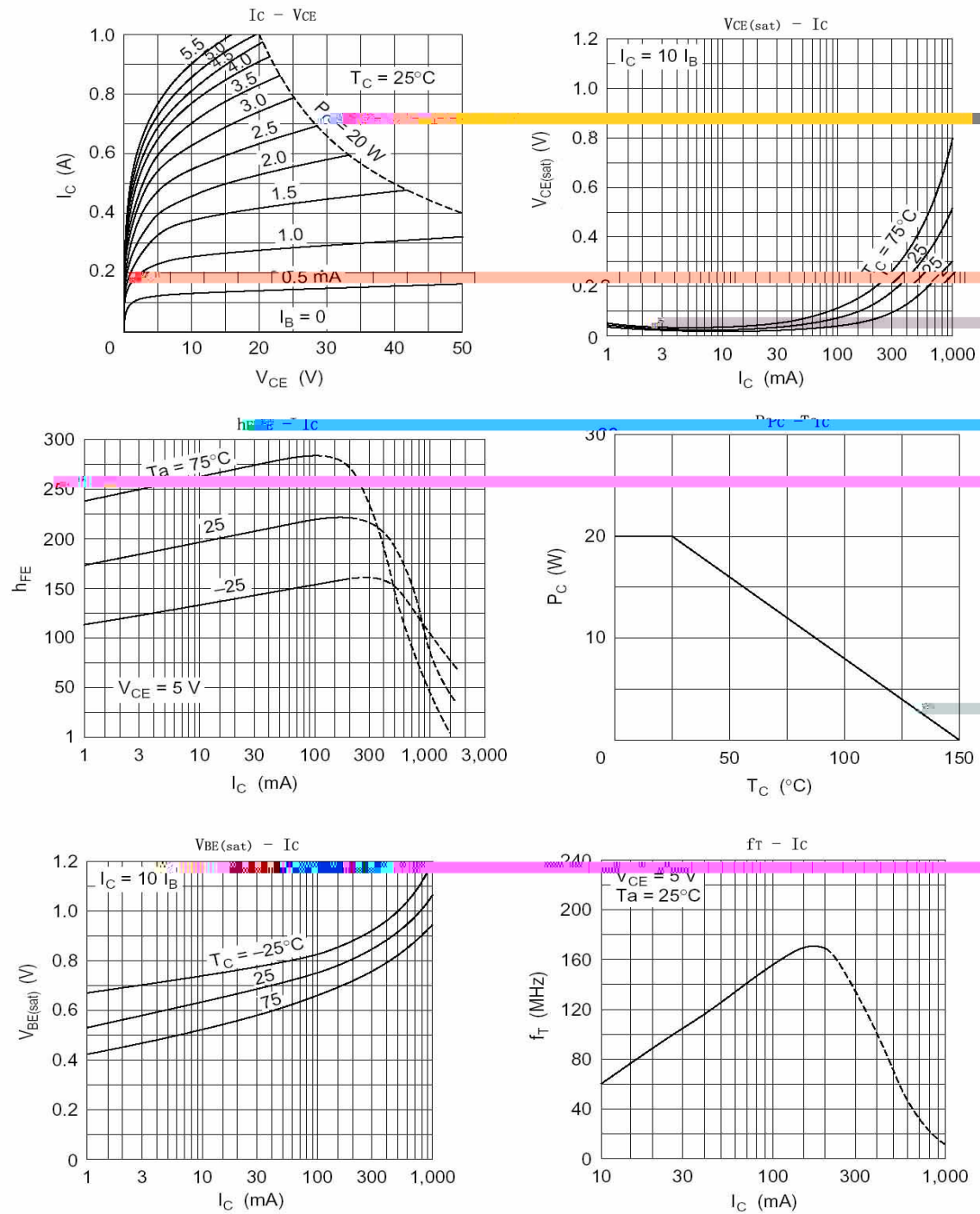
绝对最大额定值(Absolute Maximum Ratings)(Ta=25℃)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	180	V
Collector to Emitter Voltage	V_{CEO}	160	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current-Continuous	I_C	1.5	A
Collector Current-Continuous (Pluse)	I_{CP}	3.0	A
Collector Power Dissipation	P_C	500	mW
Collector Power Dissipation	$P_C(T_c=25^\circ\text{C})$	20	W
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 ~ 150	

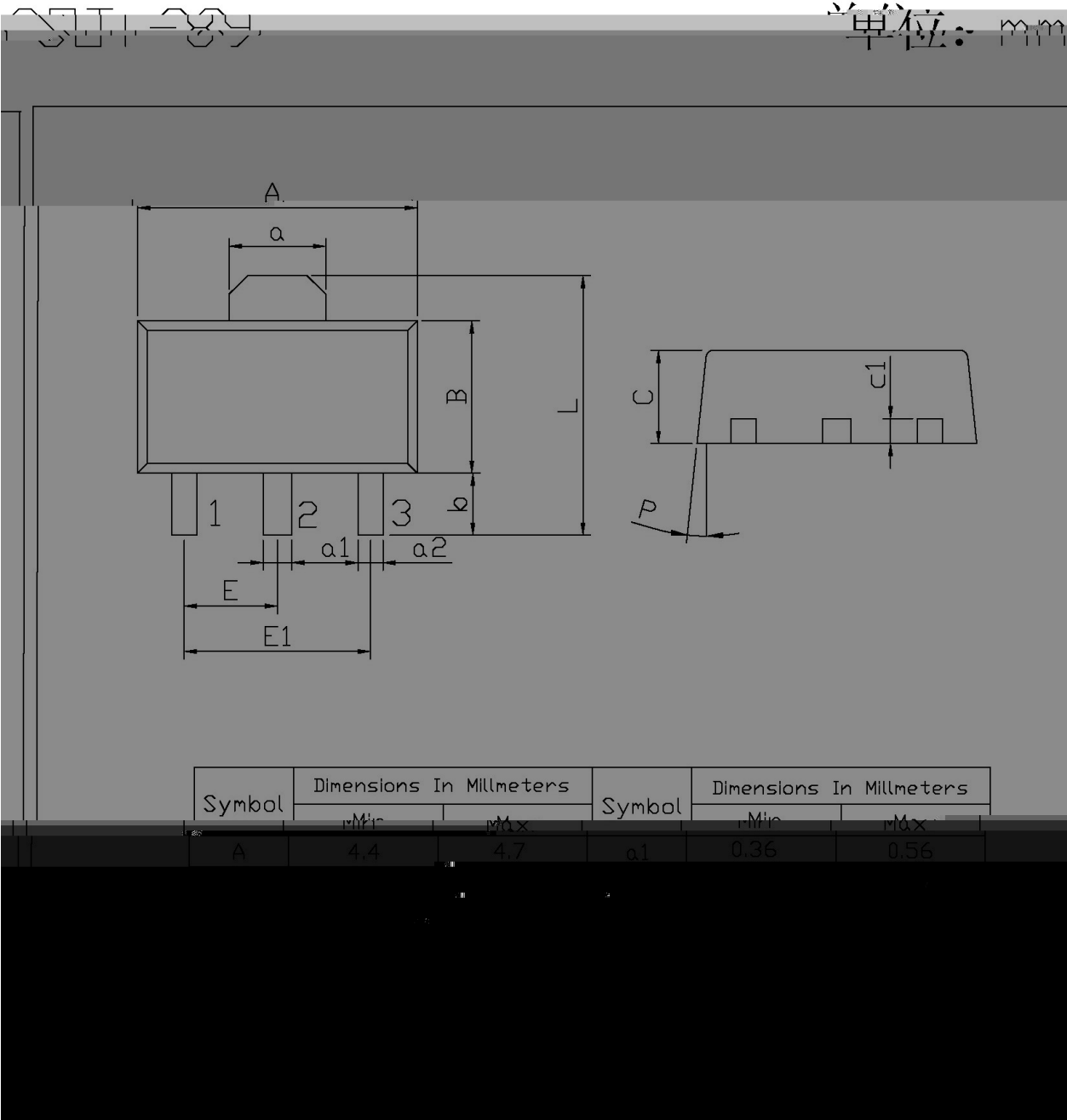
电 气 特 性 (Electrical Characteristics)(Ta=25℃)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V_{CBO}	$I_C=1.0\text{mA}$ $I_E=0$	180			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=10\text{mA}$ $R_{BE}=\infty$	160			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E=1.0\text{mA}$ $I_C=0$	5.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=160\text{V}$ $I_E=0$			10	A
DC Current Gain	$h_{FE(1)}$	$V_{CE}=5.0\text{V}$ $I_C=150\text{mA}$	60		320	
	$h_{FE(2)}$	$V_{CE}=5.0\text{V}$ $I_C=500\text{mA}$	30			
Base to Emitter Voltage	V_{BE}	$V_{CE}=5.0\text{V}$ $I_C=150\text{mA}$			1.5	V
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=500\text{mA}$ $I_B=50\text{mA}$			1.0	V
Transition Frequency	f_T	$V_{CE}=5.0\text{V}$ $I_C=150\text{mA}$		140		MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=10\text{V}$ $I_E=0$ $f=1.0\text{MHz}$		14		pF

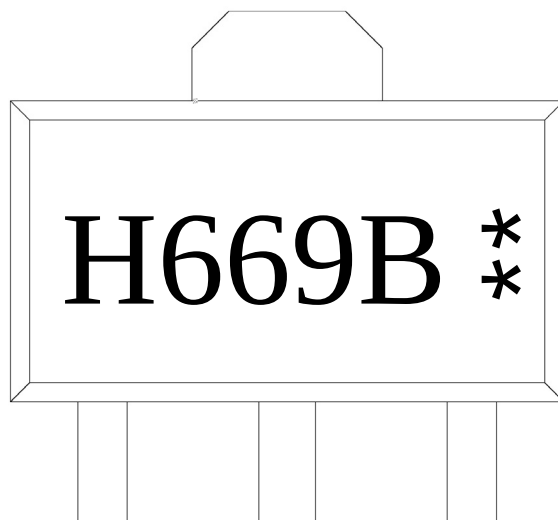
Electrical Characteristic Curve



/ Package Dimensions



/ Marking Instructions



H

669

B

h_{FE}

**

Note:

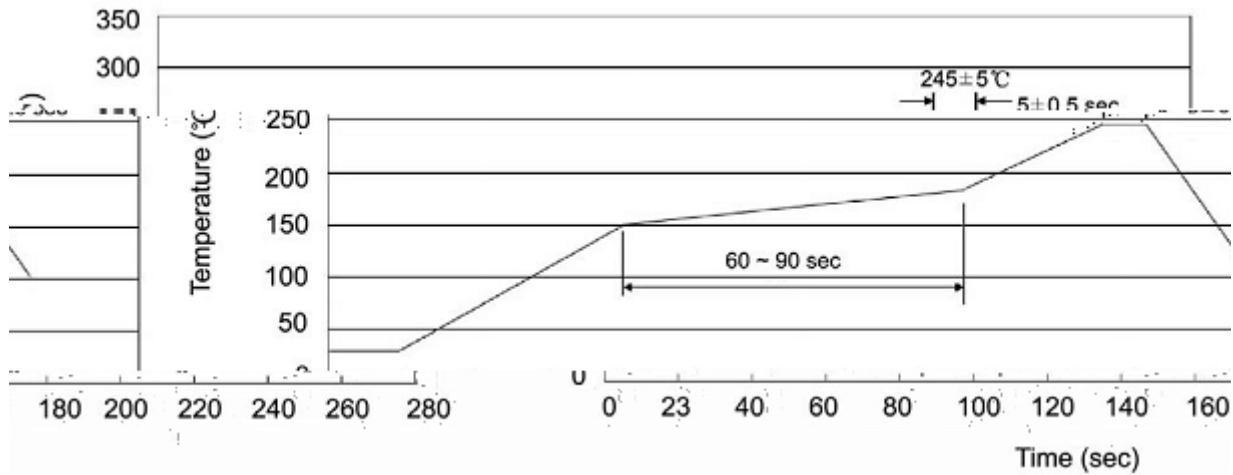
H: Company Code.

669: Product Type.

B h_{FE} Classifications Symbol

**: Lot No. Code, code change with Lot No.

1. Soldering Heat Conditions



Note:

1. Preheating: 25~150 °C, Time: 60~90sec.
2. Peak Temp.: 245±5 °C, Duration: 5±0.5sec.
3. Cooling Speed: 2~10 °C/sec.

2. Resistance to Soldering Heat Test Conditions

Temperature: 260±5 °C, Time: 10±1 sec.

3. Packaging SPEC.

/ REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Reel	Inner Box 盒	Outer Box 箱
SOT-89	1,000	7	7,000	8	56,000	7 ×12	180×120×180	385×257×392

4. Notices