"Yت / Descriptions

VRW0;< ṂṂ Ł SQS ÆṀ ч s ‖ ⁊ Silicon PNP transistor in a SOT-89 Plastic Package.

◕ È / Features

ت ⁻ я ∪ Ḥ ı ‖ Ḅ ⃞ ‖ ɔ ‖ щ ` ⁼ ó Ḅ

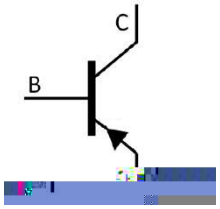
Low $V_{CE(sat)}$),excellent DC current gain characteristics.

४ ڍ / Applications

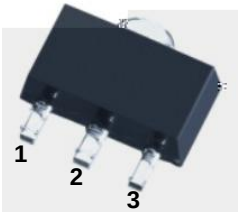
⃞ ˘ ۠ ⁼

General purpose amplifier.

Л ڤ ڇ ⁼ ع / Equivalent Circuit



ã ⁄ ŭ / Pinning



PIN1 χ Base PIN 2 χ Collector PIN 3 χ Emitter

ł. ʜ ɔ̀ / Marking

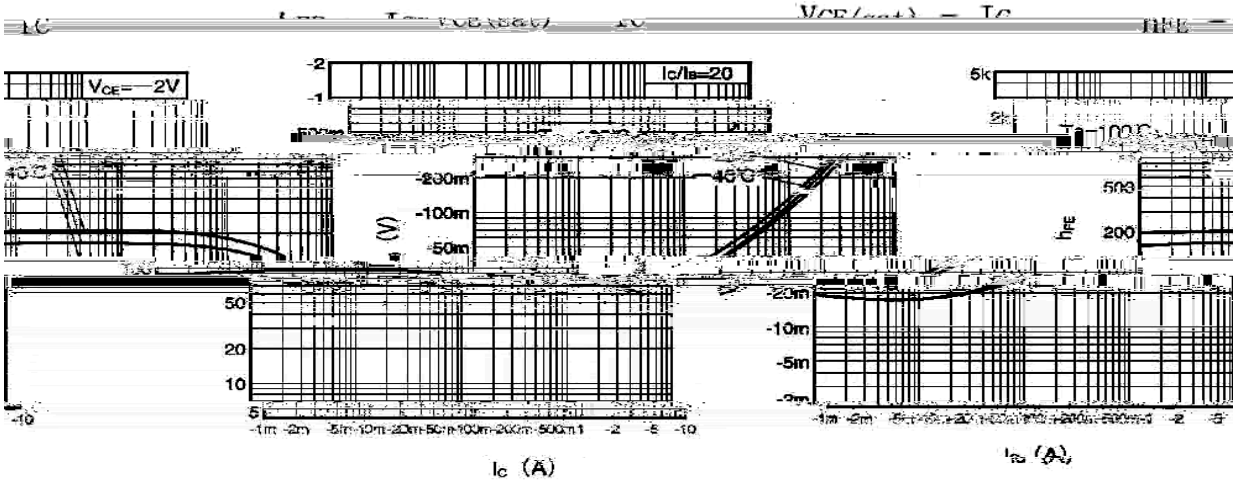
h_{FE} Classifications Symbol	Q	R
h_{FE} Range	120 270	180 390
Marking	HAEQ⁑	HAER⁑

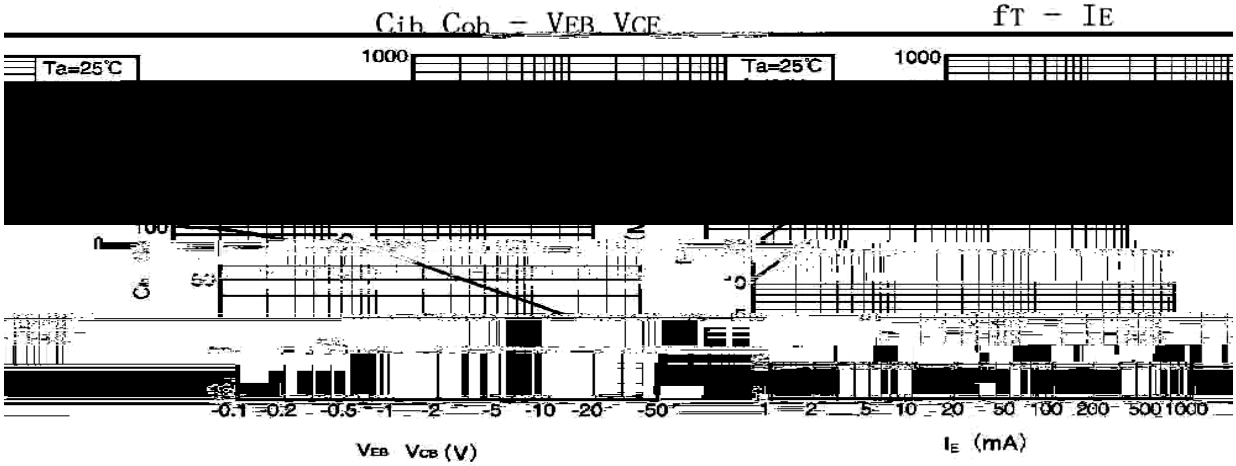
v ̈Ω̣ Parameter	ɬ N Symbol	̈Ω̣Ö Rating	D Ɉ Unit
Collector to Base Voltage	V_{CBO}	-20	V
Collector to Emitter Voltage	V_{CEO}	-20	V
Emitter to Base Voltage	V_{EBO}	-6.0	V
Collector Current-Continuous	I_C	-3.0	A
Collector Current -Continuous(Pulse)	I_{CP}	-5.0	A
Collector Power Dissipation	P_C	0.6	W
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	

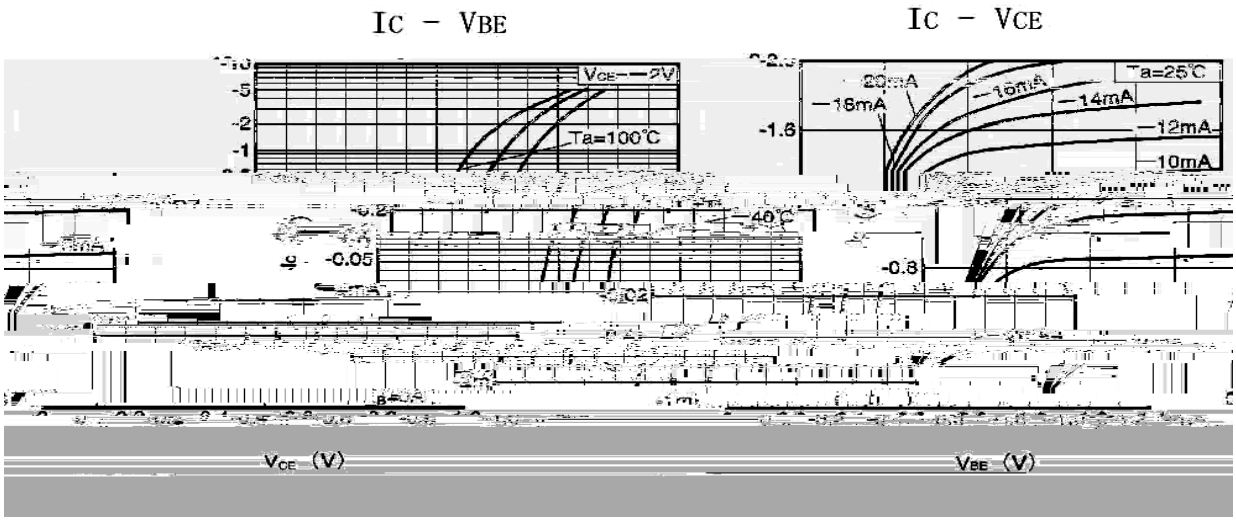
v ̈Ω̣ Parameter	ɬ N Symbol	⊥⊥ ;ǀ ǂ Ţ Test Conditions	ω̣ ṇ Ö Min	Ɛ ʒ Ö Typ	ω̣ ʑ Ö Max	D Ɉ Unit
Collector to Base Breakdown Voltage	V_{CBO}	I_C=-50μA I_E=0	-20			V
Collector to Emitter Breakdown Voltage	V_{CEO}	I_C=-1.0mA I_B=0	-20			V
Emitter to Base Breakdown Voltage	V_{EBO}	I_E=-50μA I_C=0	-6.0			V
Collector Cut-Off Current	I_{CBO}	V_{CB}=-20V I_E=0			-0.1	μA
Emitter Base Cut-Off Current	I_{EBO}	V_{EB}=-5.0V I_C=0			-0.1	μA
DC Current Gain	k_{IH}	V_{CE}=-2.0V I_C=-0.1A	120		390	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=-2.0A I_B=-0.1A			-0.5	V
Transition Frequency	i_W	V_{CE}=-2.0V I_C=-0.5A f=100MHz		240		MHz

Collector

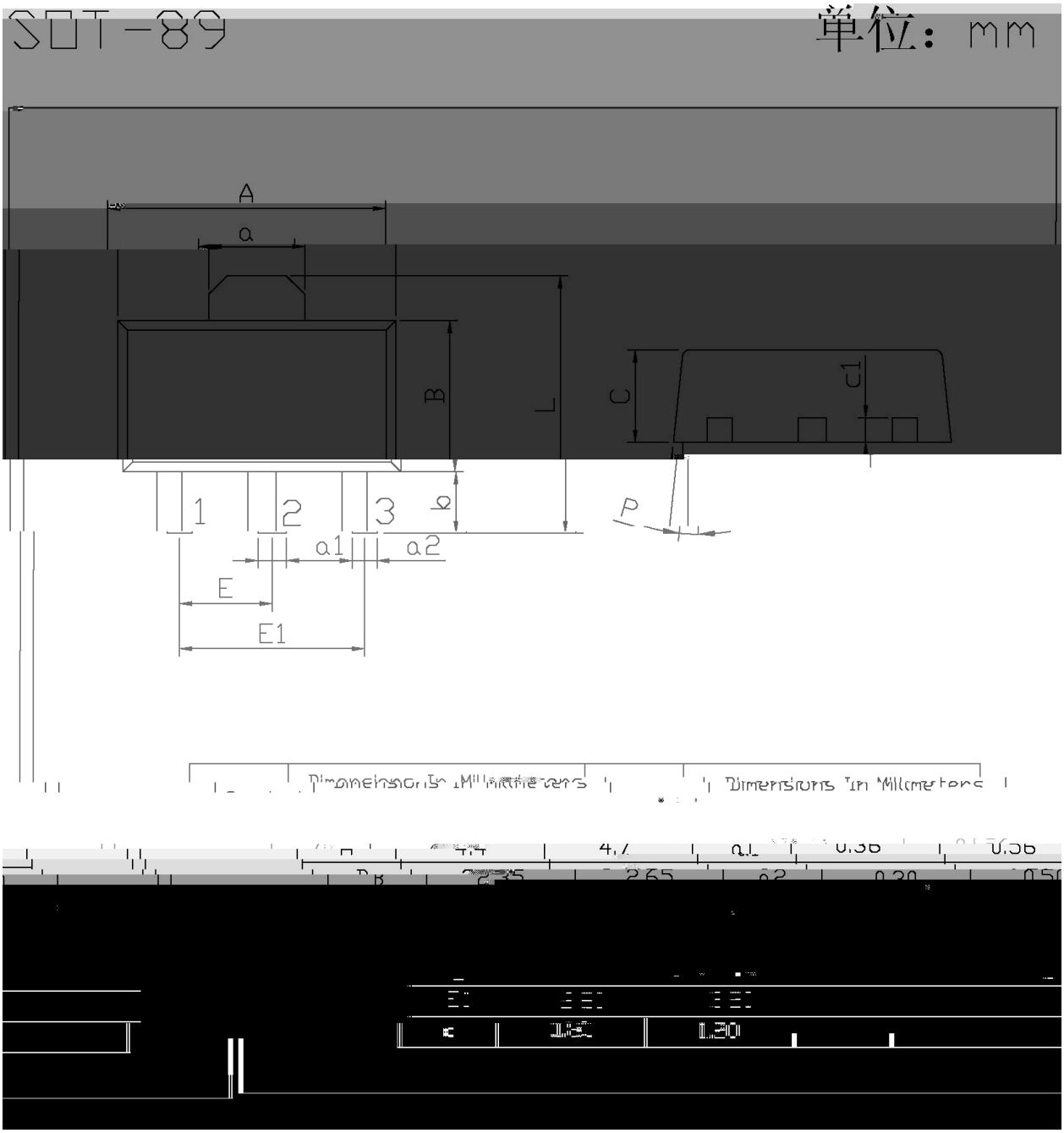
⁝ ƎĄ´E ⅵ ƒ / Electrical Characteristic Curve







ᵘ ĖÒĻ ƒ / Package Dimensions



Ł. Ľ˝Ω / Marking Instructions



ب ˝ χ

H χ ѭ ʒ ᴵ Ɱ

AE χ ѭ ʒ ᴺ Ɱ

Q: ѭ h_{FE} ʿ ᶠ Ɱ

-- χ ѭ ɨ ɾ ŋ̈ ᴺ Ɱ ɪ ɐ ɨ ɾ ŋ̈ ᴺ ψ ק

Note:

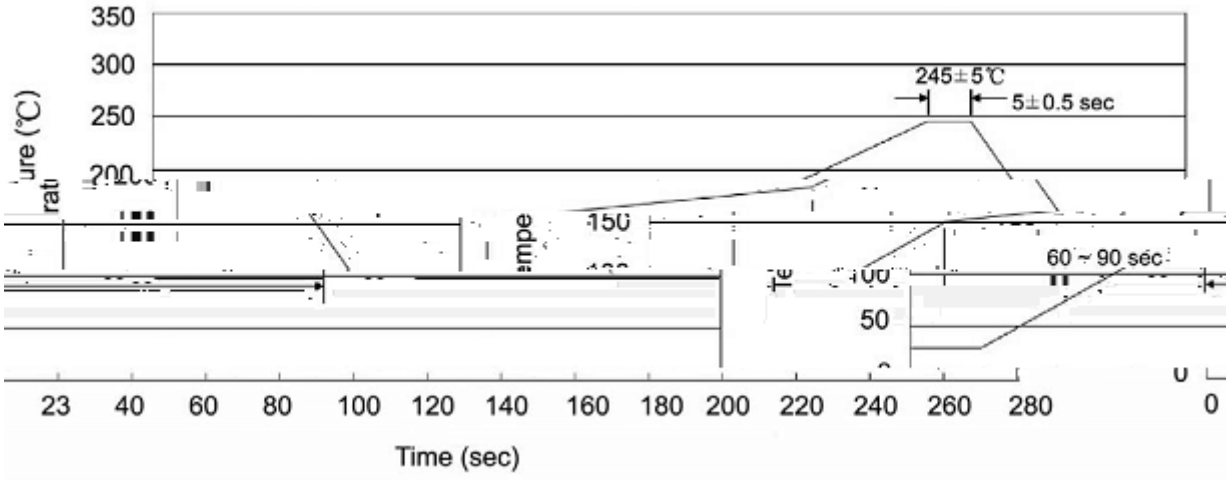
H: Company Code.

AE: Product Type.

Q: h_{FE} Classifications Symbol

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

ѫ ʃ ╕ ẘ ´E ⅵ ʃ (ᾠ ᴈ) / Wh p shudwxuh Suril oh i ru LU Uhi o r z Vr oghulq j +Se0 luhh,



ᄂ ˝ χ

1 Ĺ ♬ □ ẙ 25 Ḱ 150 ɬ ı ˋH ᴈ 60 Ḱ 90sec;

2 Š Ө □ ẙ 245 ° 5 ɬ ı ˋH ᴈ ˋY ⅄ ѭ 5 ° 0.5sec;

3 ì ˙ ⅄ ˛ ɔ ѡ ẙ ѭ 2 Ḱ 10 ɬ /sec.

Note:

1.Preheating:25~150 ɬ , Time:60~90sec.

2.Peak Temp.:245 ° 5 ɬ , Duration:5 ° 0.5sec.

3. Cooling Speed: 2~10 ɬ /sec.

⅄ ŭ ɋ ˉ ˋY Ţ / Resistance to Soldering Heat Test Conditions

□ ẙ χ 260 ° 5 ɬ	ˋH ᴈ χ 10 ° 1 sec.	Temp.:260±5	Time:10±1 sec

ɒ Ŀ ≮ — / Packaging SPEC.

ɔ ` ɣ Ŀ / REEL

Package Type	Units					Dimension		(unit mm^3)
	Units/Reel /	Reels/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Reel	Inner Box	Outer Box
SOT-89	1,000	7	7,000	8	56,000	7 ×12	180×120×180	385×257×392

ä ⅴ ŗ Ѿ / Notices