

一、 描述 / Descriptions

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

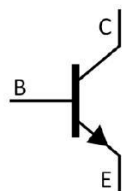
二、 特性 / Features

Low noise and high gain, large P_C in small package.

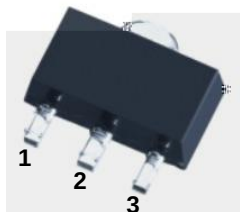
三、 应用 / Applications

low noise amplifier at VHF, UHF and CATV band applications.

四、 等效电路 / Equivalent Circuit



五、 引脚 / Pinning



PIN1 Base PIN 2 Collector PIN 3 Emitter

六、 标记 / Marking

h_{FE} Classifications Symbol	H	F	E	G
h_{FE} Range	50` 100	80` 160	125` 250	200` 300
Marking	HRH * *	HRF * *	HRE * *	HRG * *

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

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	20	V
Collector to Emitter Voltage	V_{CEO}	12	V
Emitter to Base Voltage	V_{EBO}	3.0	V
Collector Current - Continuous	I_C	100	mA
Collector Power Dissipation	P_C	350	mW
Collector Power Dissipation	$*P_C$	1.2	W
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55~150	

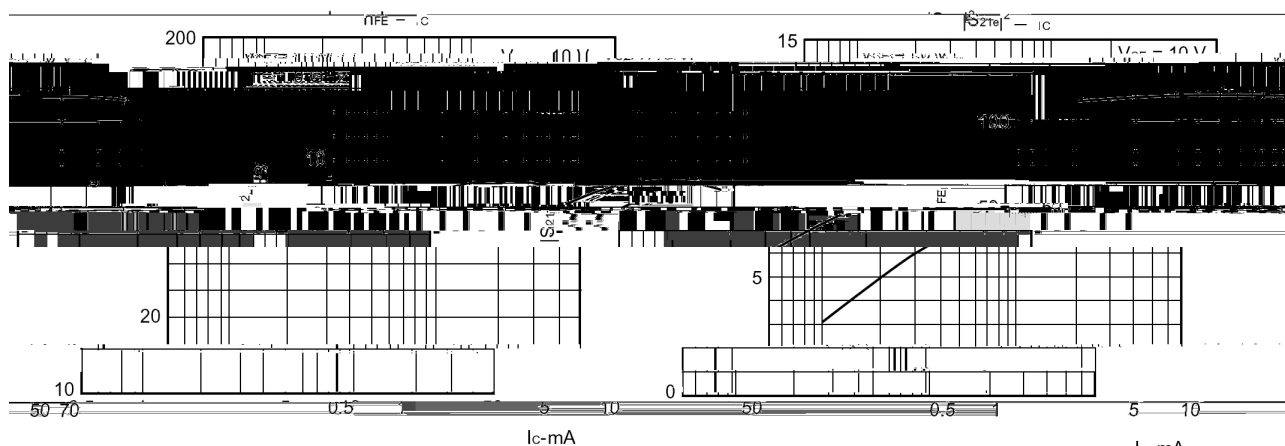
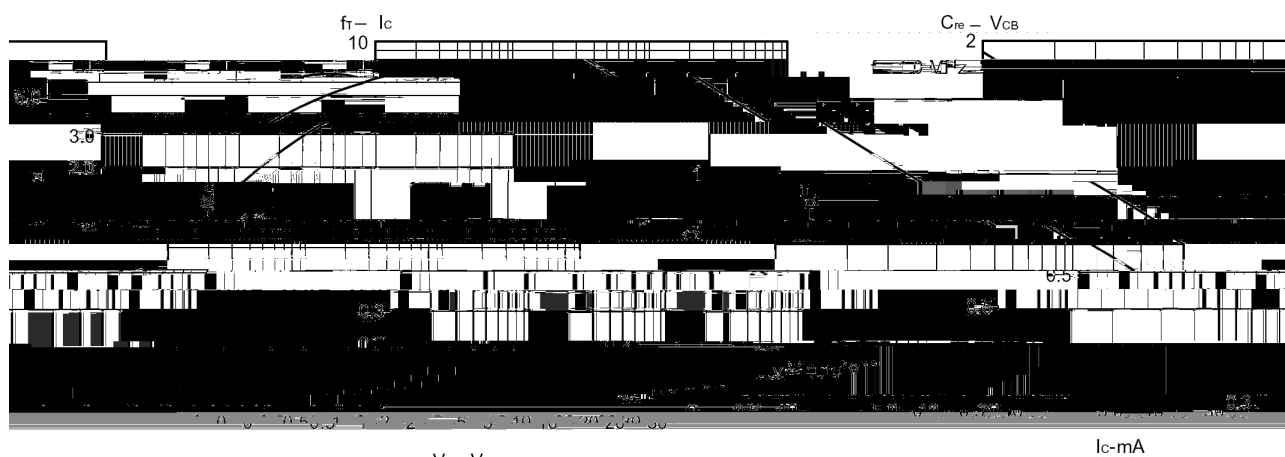
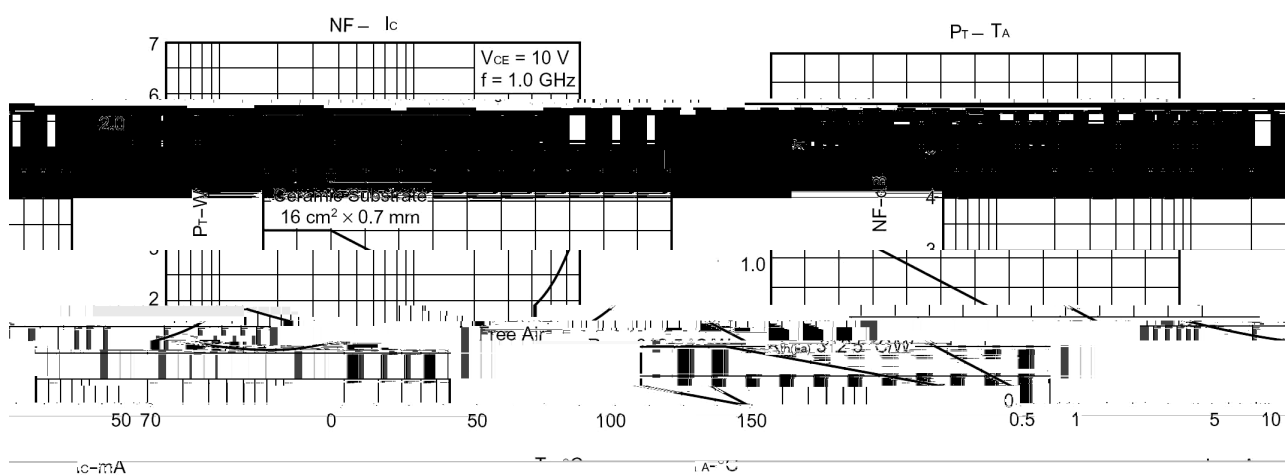
*:mounted on 16cm²×7mm ceramic substrate.

*: 16cm²×7mm

电气特性 / Electrical Characteristics(Ta=25℃)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cut-Off Current	I_{CBO}	$V_{CB}=10V$ $I_E=0$			1.0	μA
Emitter Base Cut-Off Current	I_{EBO}	$V_{EB}=1.0V$ $I_C=0$			1.0	μA
DC Current Gain	h_{FE}	$V_{CE}=10V$ $I_C=20mA$	50	120	300	
Transition Frequency	f_T	$V_{CE}=10V$ $I_C=20mA$		6.5		GHz
Feed-Back Capacitance	C_{re}	$V_{CB}=10V$ $f=1.0MHz$ $I_E=0$		0.65	1.0	pF
Noise Figure	$NF_{(1)}$	$V_{CE}=10V$ $f=1.0GHz$ $I_C=7.0mA$		1.1		dB
	$NF_{(2)}$	$V_{CE}=10V$ $f=1.0GHz$ $I_C=40mA$		1.8	3.0	dB

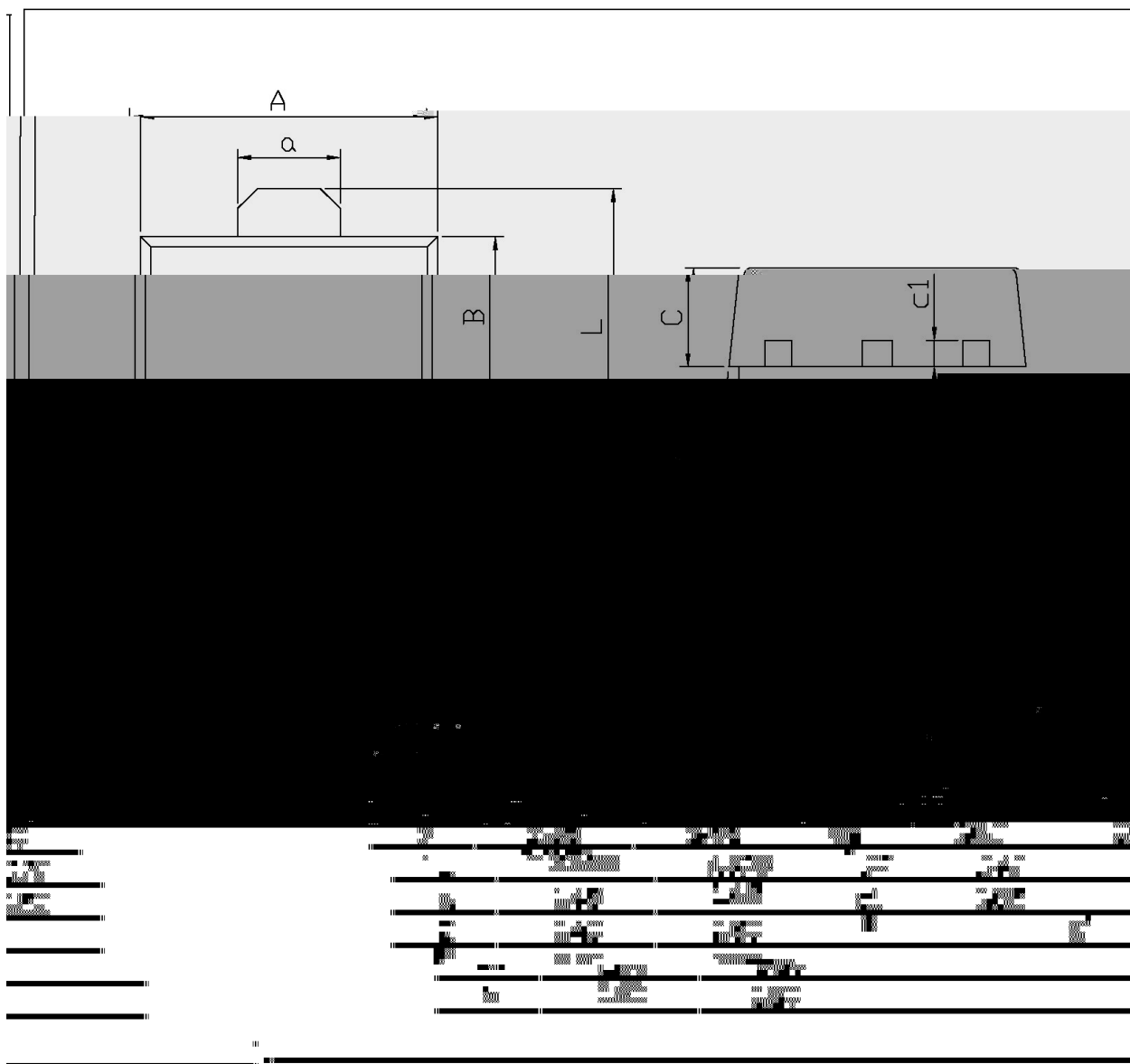
Electrical Characteristic Curve



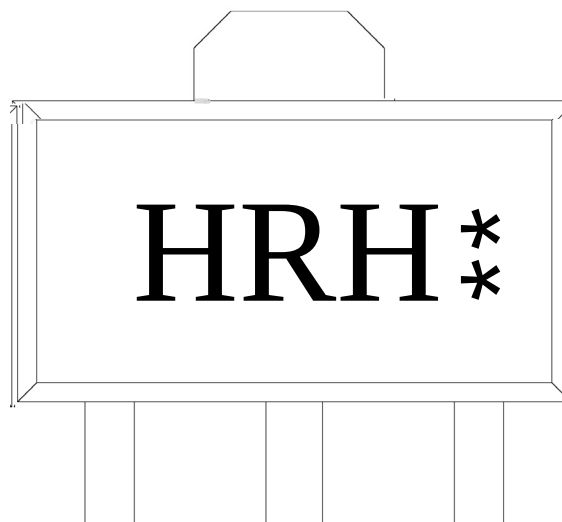
⊂ É Ò Ì f / Package Dimensions

STUT-89

单位: mm



4. 1. 1 / Marking Instructions



H

R

H

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Note:

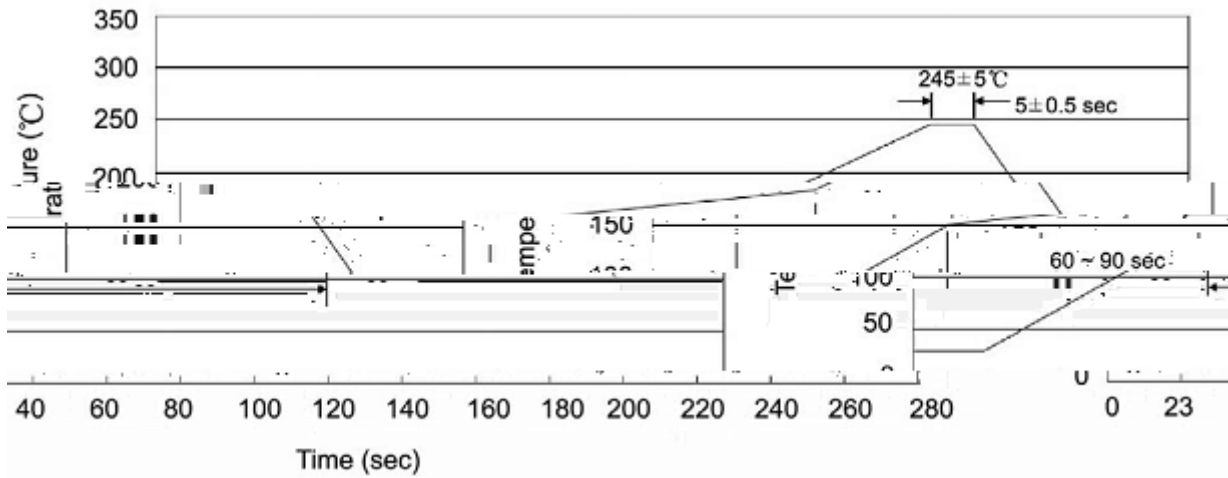
H: Company Code.

R: Product Type.

H h_{FE} Classifications Symbol

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

Thermal Test Conditions / Whp shudwxuh Suriloh i ru LU Uhior z Vroghulqj+Se0l uhh,



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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. Cooling Speed: 2~10 /sec. |

Resistance to Soldering Heat Test Conditions

Temp.:260±5 Time:10±1 sec.

Packaging SPEC.

/ 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 ρ ×12	180×120×180	385×257×392

Notices