

**/ Descriptions**

JF K\$) \*      E GE      Silicon NPN transistor in a SOT-23 Plastic Package.

**/ Features**

Low  $C_{ob}$ .

**/ Applications**

High-frequency amplifier applications.

**/ Equivalent Circuit**



**/ Pinning**



PIN1 Base      PIN 2 Emitter      PIN 3 Collector

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

$h_{FE}$ Classifications Symbol	N	P	Q
$h_{FE}$ Range	56 120	82 180	120 270
Marking	HAN	HAP	HAQ

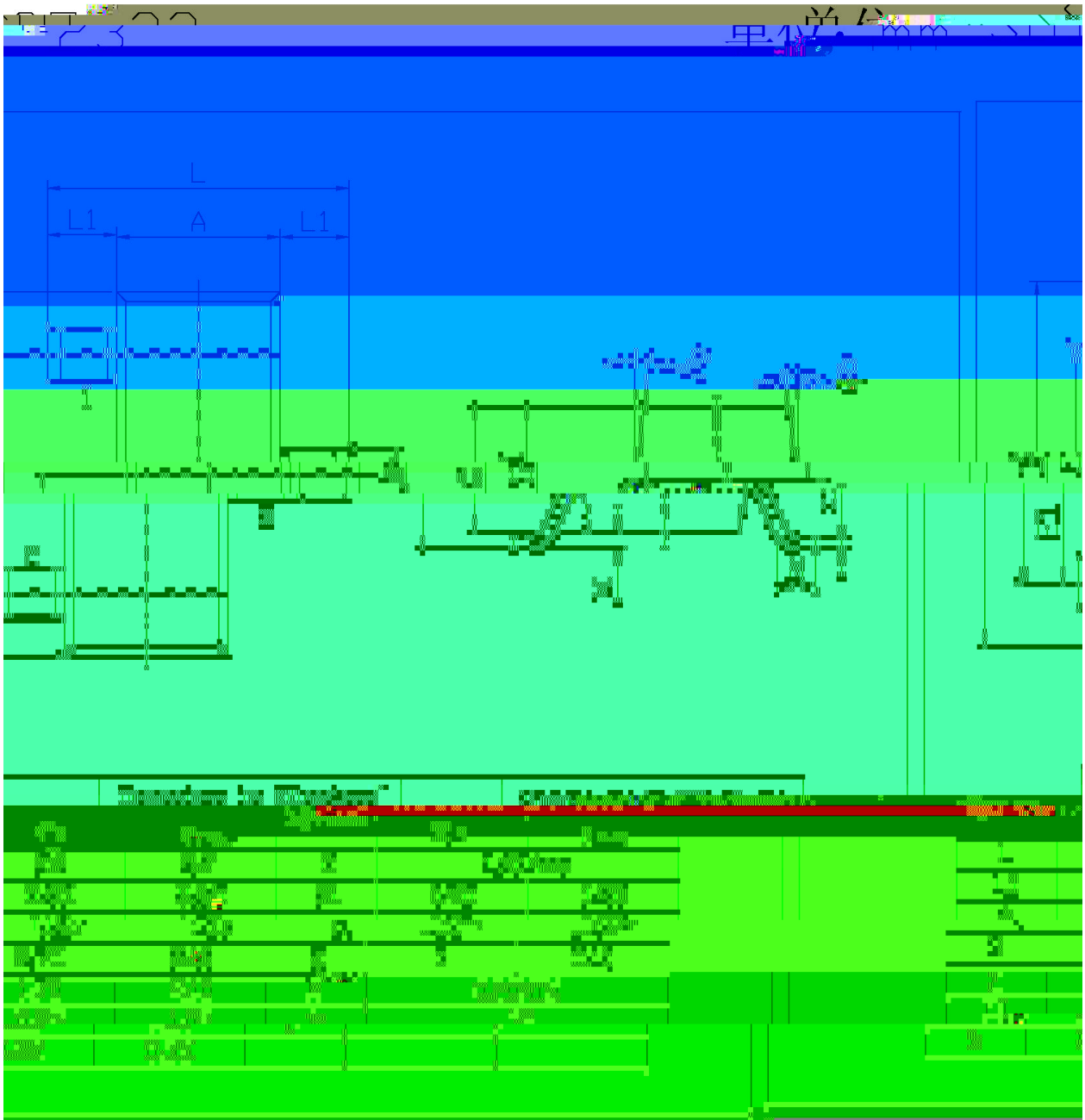
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	$V_{CBO}$	40	V
Collector to Emitter Voltage	$V_{CEO}$	25	V
Emitter to Base Voltage	$V_{EBO}$	5.0	V
Collector Current	$I_C$	50	mA
Collector Power Dissipation	$P_C$	200	mW
Junction Temperature	$T_j$	150	
Storage Temperature Range	$T_{stg}$	-55 150	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- Base Breakdown Voltage	$V_{CBO}$	$I_C = 50\mu A$ $I_E = 0$	40			V
Collector-Emitter Breakdown Voltage	$V_{CEO}$	$I_C = 1.0mA$ $I_B = 0$	25			V

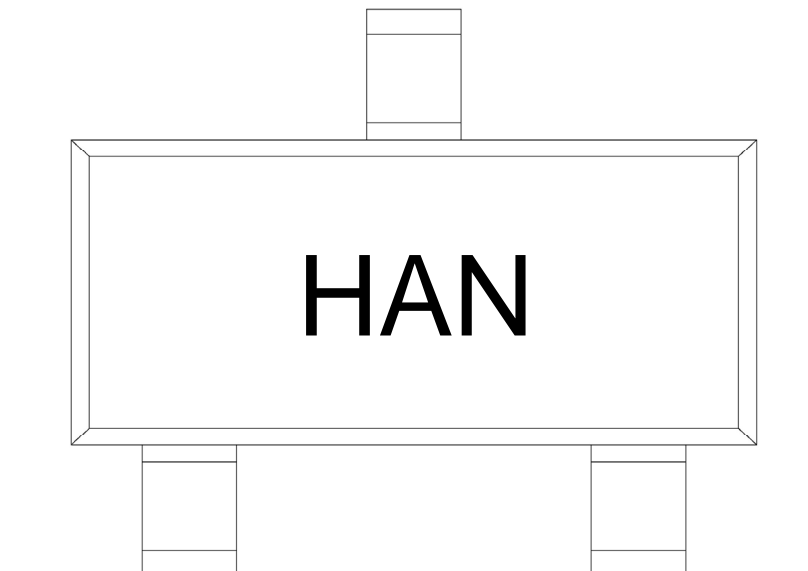
/ Electrical Characteristic Curve



/ Package Dimensions



/ Marking Instructions

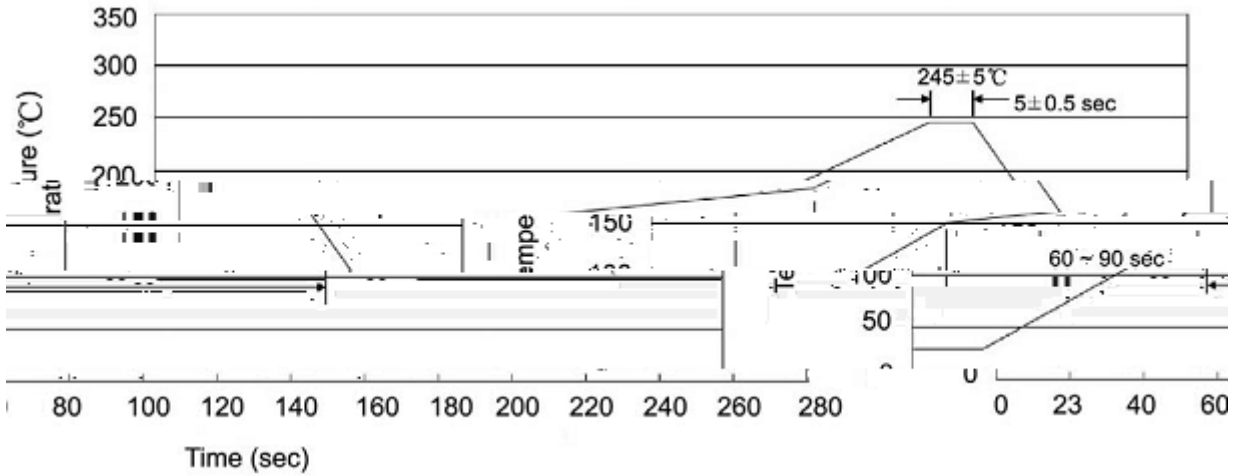


? . . . .  
8 . . . . .  
E . . . . .  $h_{FE}$

Note:

- ? Company Code
- 8 Product Type Code
- E  $h_{FE}$  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. Cooling Speed: 2~10 /sec.              |

/ Resistance to Soldering Heat Test Conditions

260..5                      10..1 sec.                      Temp.:260..5                      Time:10..1 sec

/ Packaging SPEC.

/ REEL

Package Type	Units					Dimension (unit mm <sup>3</sup> )		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
SOT-23	3,000	10	30,000	6	180,000	7 ×8	180×120×180	390×385×205

/ Notices