

**描述 / Descriptions**

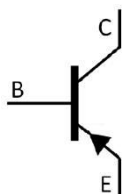
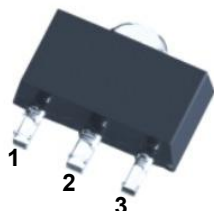
SOT-89 塑封封装 NPN 半导体三极管。  
 Silicon NPN transistor in a SOT-89 Plastic Package.

**特征 / Features**

与 KSB1116(A)T 互补。无卤产品。  
 Complementary pair with KSB1116(A)T. Halogen-free Product.

**用途 / Applications**

用于音频功率放大,中速开关。  
 Audio frequency power amplifier, medium speed switching.

**内部等效电路 / Equivalent Circuit****引脚排列 / Pinning**

PIN1 : Base      PIN 2 : Collector      PIN 3 : Emitter

**印章代码 / Marking**

$h_{FE}$ Classifications Symbol	Y	G	L
$h_{FE}$ Range	135~270	200~400	300~600

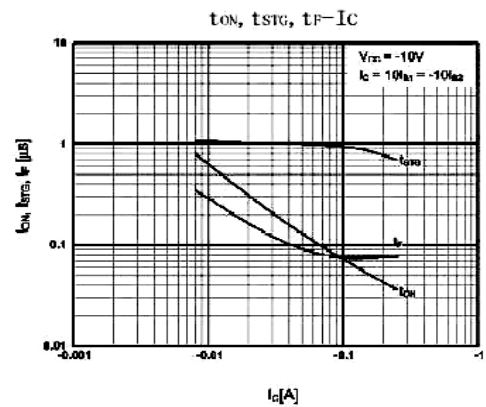
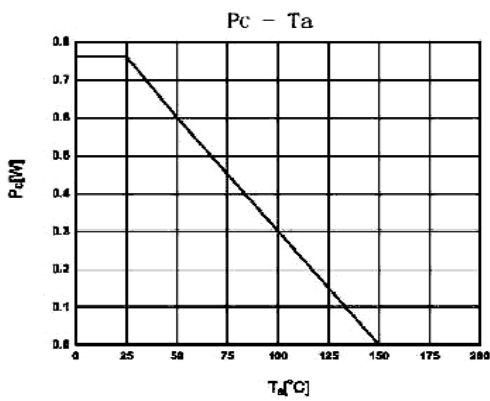
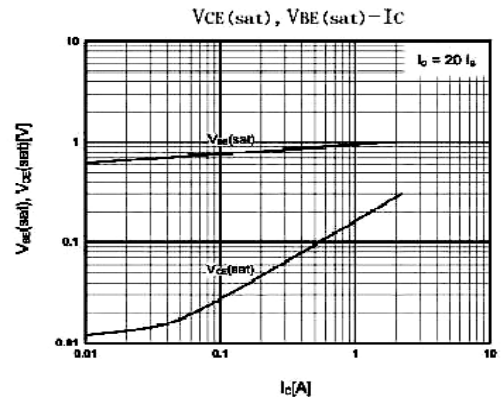
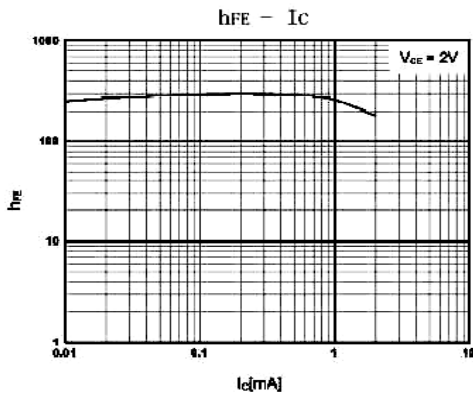
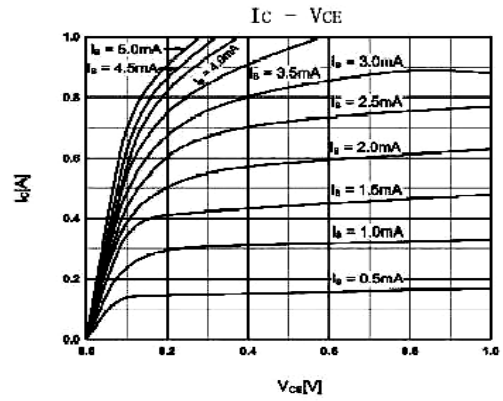
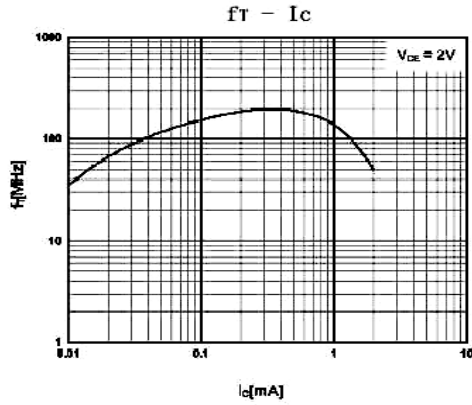
**极限参数 / Absolute Maximum Ratings(Ta=25°C)**

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit	
Collector to Base Voltage	V <sub>CBO</sub>	KSD1616T	60	V
		KSD1616AT	120	
Collector to Emitter Voltage	V <sub>CEO</sub>	KSD1616T	50	V
		KSD1616AT	60	
Emitter to Base Voltage	V <sub>EBO</sub>	6.0	V	
Collector Current - Continuous	I <sub>C</sub>	1.0	A	
Collector Current – Continuous(Pulse)	I <sub>CP</sub>	2.0	A	
Collector Power Dissipation	P <sub>C</sub>	500	mW	
Junction Temperature	T <sub>j</sub>	150	°C	
Storage Temperature Range	T <sub>stg</sub>	-55~150	°C	

**电性能参数 / Electrical Characteristics(Ta=25°C)**

参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Collector Cut-Off Current	I <sub>CBO</sub>	V <sub>CB</sub> =60V I <sub>E</sub> =0			0.1	μA
Emitter Cut-Off Current	I <sub>EBO</sub>	V <sub>EB</sub> =6.0V I <sub>C</sub> =0			0.1	μA
DC Current Gain	h <sub>FE(1)</sub>	V <sub>CE</sub> =2.0V I <sub>C</sub> =100mA	135		600	
			135		400	
	h <sub>FE(2)</sub>	V <sub>CE</sub> =2.0V I <sub>C</sub> =1.0A	81			
Collector to Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =1.0A I <sub>B</sub> =50mA		0.15	0.3	V
Base to Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =1.0A I <sub>B</sub> =50mA		0.9	1.2	V
Base to Emitter On Voltage	V <sub>BE(on)</sub>	V <sub>CE</sub> =2.0V I <sub>C</sub> =50mA	600	640	700	mV
Transition Frequency	f <sub>T</sub>	V <sub>CE</sub> =2.0V I <sub>C</sub> =100mA	100	160		MHz
Collector Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> =10V I <sub>E</sub> =0 f=1.0MHz		19		pF
Turn-On Time	t <sub>on</sub>	V <sub>CC</sub> =10V I <sub>C</sub> =100mA		0.07		μs
Storage Time	t <sub>stg</sub>	I <sub>B1</sub> =-I <sub>B2</sub> =10mA		0.95		μs
Turn-Off Time	t <sub>off</sub>	V <sub>BE(off)</sub> =-2V~-3V		0.07		μs

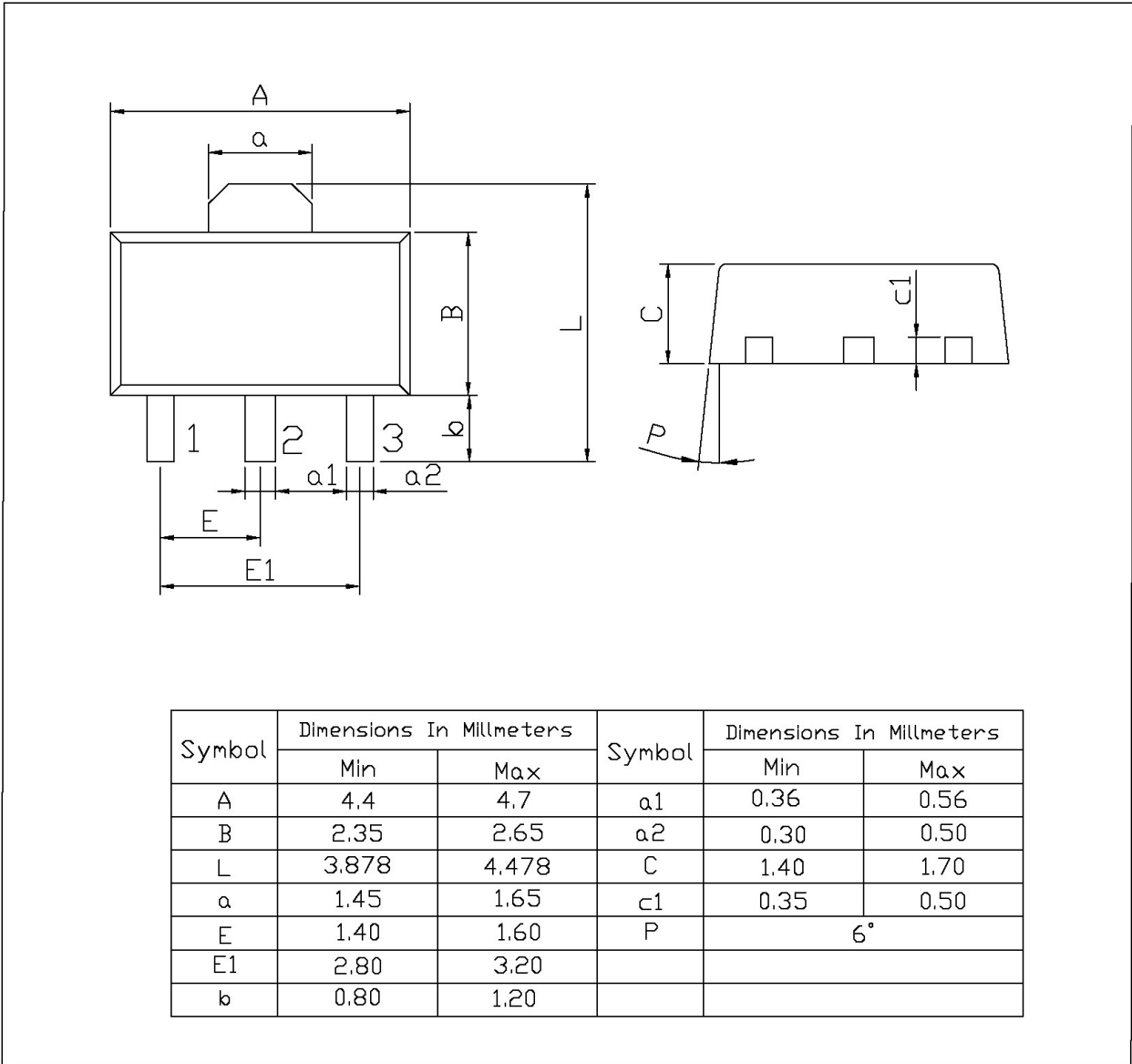
电参数曲线图 / Electrical Characteristic Curve



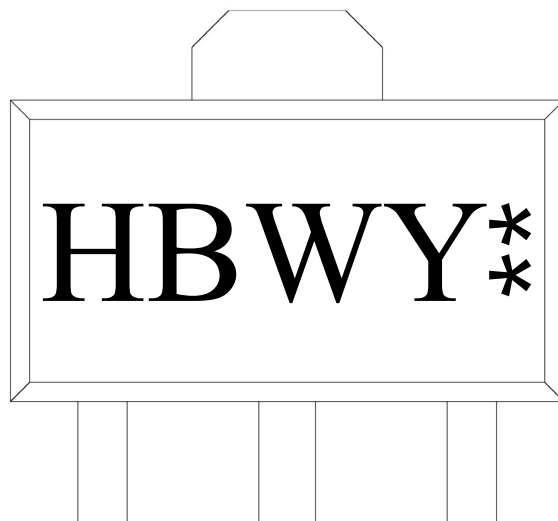
外形尺寸图 / Package Dimensions

SOT-89

单位: mm



印章说明 / Marking Instructions



说明：

H： 为公司代码

BW： 为型号代码

Y： 为  $h_{FE}$  分档代码

\*\*： 为生产批号代码，随生产批号变化。

Note:

H: Company Code.

BW: Product Type.

Y:  $h_{FE}$  Classifications Symbol

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

**回流焊温度曲线图(无铅) / Temperature Profile for IR Reflow Soldering(Pb-Free)**



说明：

- 1、预热温度 25~150°C，时间 60~90sec;
- 2、峰值温度 245±5°C，时间持续为 5±0.5sec;
- 3、焊接制程冷却速度为 2~10°C/sec.

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.

**耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions**

温度：260±5°C

时间：10±1 sec.

Temp.:260±5°C

Time:10±1 sec

**包装规格 / Packaging SPEC.**

卷盘包装 / REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm <sup>3</sup> )		
	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

**使用说明 / Notices**