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

饱和压降低,开关时间快，体积小，可与互补 KTA1666。

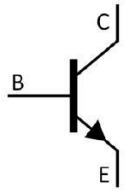
Low saturation voltage, high speed switching time, small flat package Complementary to KTA1666.

用途 / Applications

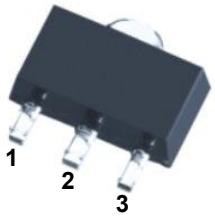
用于功率放大和开关。

Power amplifier and switching applications.

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	O	Y
h_{FE} Range	70～140	120～240
Marking	HMO **	HMY **

极限参数 / Absolute Maximum Ratings(Ta=25℃)

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Collector to Base Voltage	V_{CBO}	50	V
Collector to Emitter Voltage	V_{CEO}	50	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current - Continuous	I_C	2.0	A
Collector Base – Continuous	I_B	0.4	A
Collector Power Dissipation	P_C	500	mW
Collector Power Dissipation*	$*P_C$	1	W
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-55～150	℃

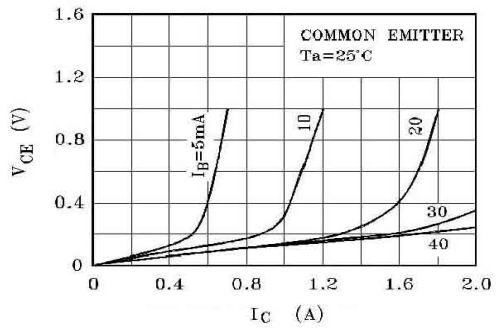
* KTC4379 mounted on ceramic substrate(250mm^2×0.8t).

电性能参数 / Electrical Characteristics(Ta=25℃)

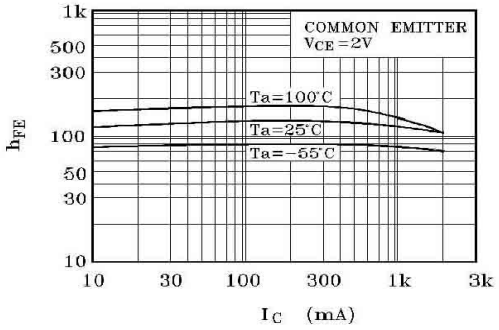
参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Collector Cut-Off Current	I_{CBO}	V_{CB}=50V I_E=0			0.1	μA
Emitter Base Cut-Off Current	I_{EBO}	V_{EB}=5.0V I_C=0			0.1	μA
Collector to Emitter Breakdown Voltage	V_{CEO}	I_C=10mA I_B=0	50			V
DC Current Gain	$h_{FE(1)}$	V_{CE}=2.0V I_C=0.5A	70		240	
	$h_{FE(2)}$	V_{CE}=2.0V I_C=1.5A	40			
Collector to Emitter Saturation Voltage	$V_{CE(sat)\ (1)}$	I_C=1.0A I_B=0.05A			0.5	V
	$V_{CE(sat)\ (2)}$	I_C=1.0A I_B=0.05A			1.2	V
Transition Frequency	f_T	V_{CE}=2.0V I_C=0.5A		120		MHz
Collector Output Capacitance	C_{ob}	V_{CB}=10V I_E=0 f=1MHz		30		pF
Turn-on Time	t_{on}	I_{B1}=-I_{B2}=0.05A		0.1		μS
Storage Time	t_{stg}			1.0		μS
Turn-off Time	t_f			0.1		μS

电参数曲线图 / Electrical Characteristic Curve

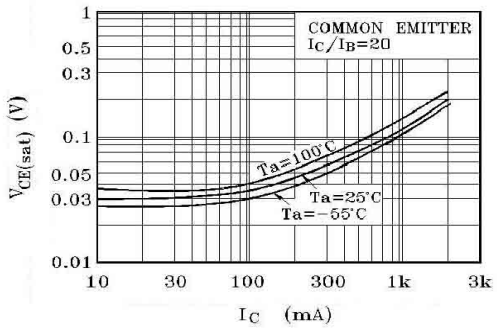
V_{CE} – I_C



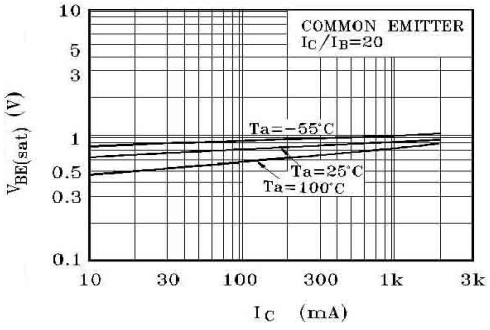
h_{FE} – I_C



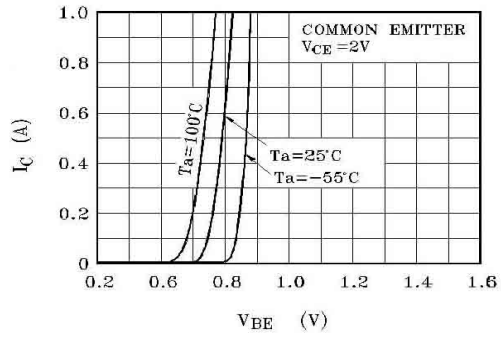
$V_{CE(sat)}$ – I_C



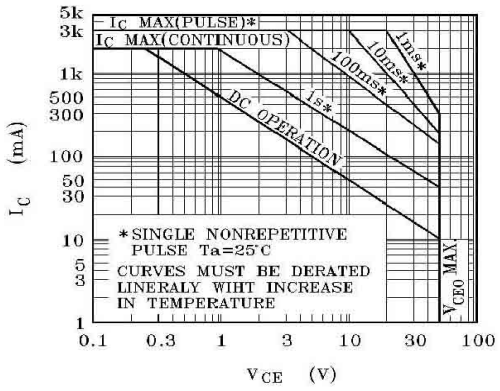
$V_{BE(sat)}$ – I_C



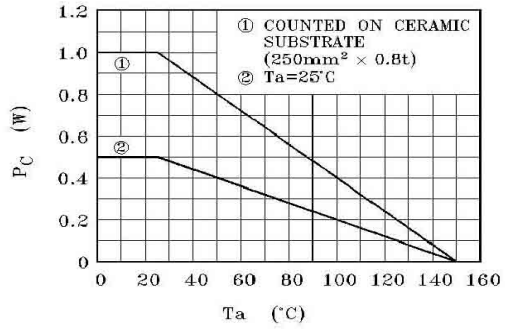
I_C – V_{BE}



SAFE OPERATING AREA



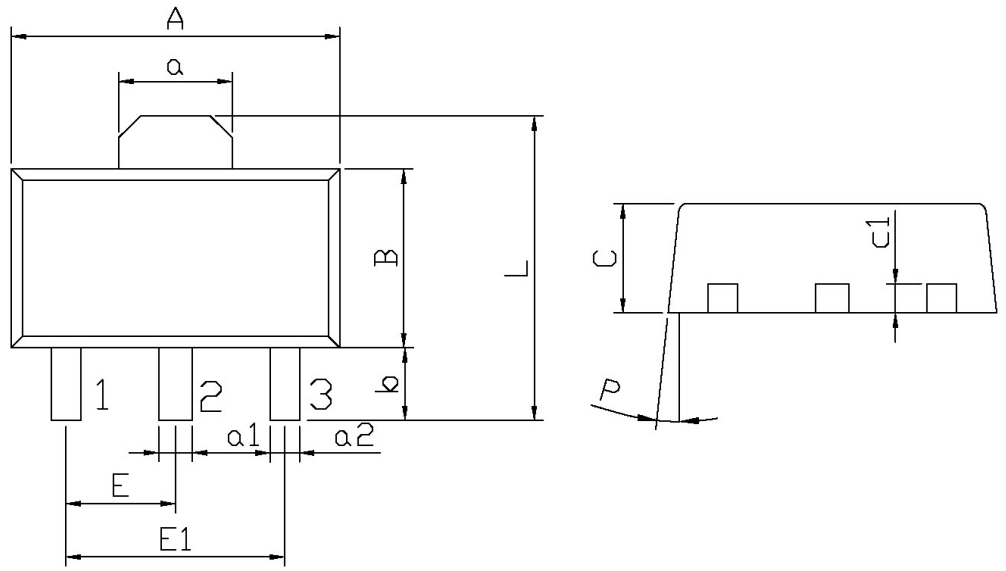
P_C – Ta



外形尺寸图 / Package Dimensions

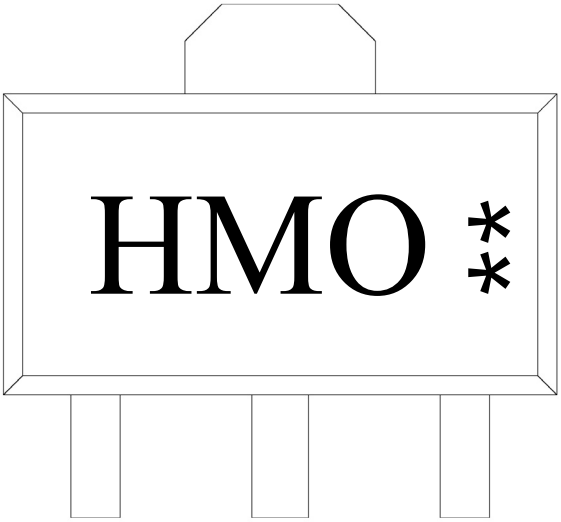
SOT-89

单位：mm



Symbol	Dimensions In Millmeters		Symbol	Dimensions In Millmeters	
	Min	Max		Min	Max
A	4.4	4.7	a1	0.36	0.56
B	2.35	2.65	a2	0.30	0.50
L	3.878	4.478	C	1.40	1.70
a	1.45	1.65	c1	0.35	0.50
E	1.40	1.60	P	6°	
E1	2.80	3.20			
b	0.80	1.20			

印章说明 / Marking Instructions



说明：

H： 为公司代码

M： 为型号代码

O： 为 h_{FE} 档次代码

**： 为生产批号代码，随生产批号变化。

Note:

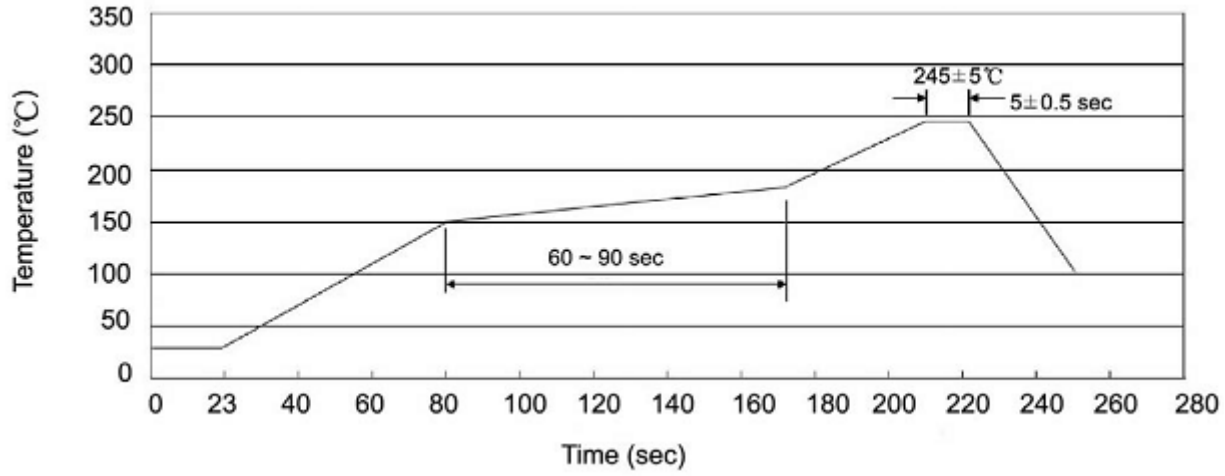
H: Company Code.

M: Product Type.

O： 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℃，时间 60～90sec;

2、峰值温度 245±5℃，时间持续为 5±0.5sec;

3、焊接制程冷却速度为 2～10℃/sec.

Note:

1.Preheating:25~150℃, Time:60~90sec.

2.Peak Temp.:245±5℃, Duration:5±0.5sec.

3. Cooling Speed: 2~10℃/sec.

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

温度：260±5℃　　时间：10±1 sec.　　Temp.:260±5℃　　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^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

使用说明 / Notices