

/ Descriptions

Silicon PNP transistor in a SOT-89 Plastic Package.

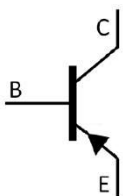
/ Features

Low $V_{CE(sat)}$, excellent h_{FE} linearity, complements the 2SD999.

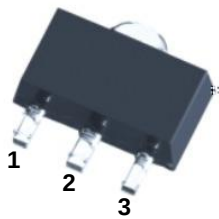
/ Applications

Audio frequency power amplifier applications.

/ Equivalent Circuit



/ Pinning



PIN1 Base PIN 2 Collector PIN 3 Emitter

/ Marking

h_{FE} Classifications Symbol	M	L	K
h_{FE} Range	90 180	135 270	200 400
Marking	HDM	HDL	HDK

/ Absolute Maximum Ratings(Ta=25)

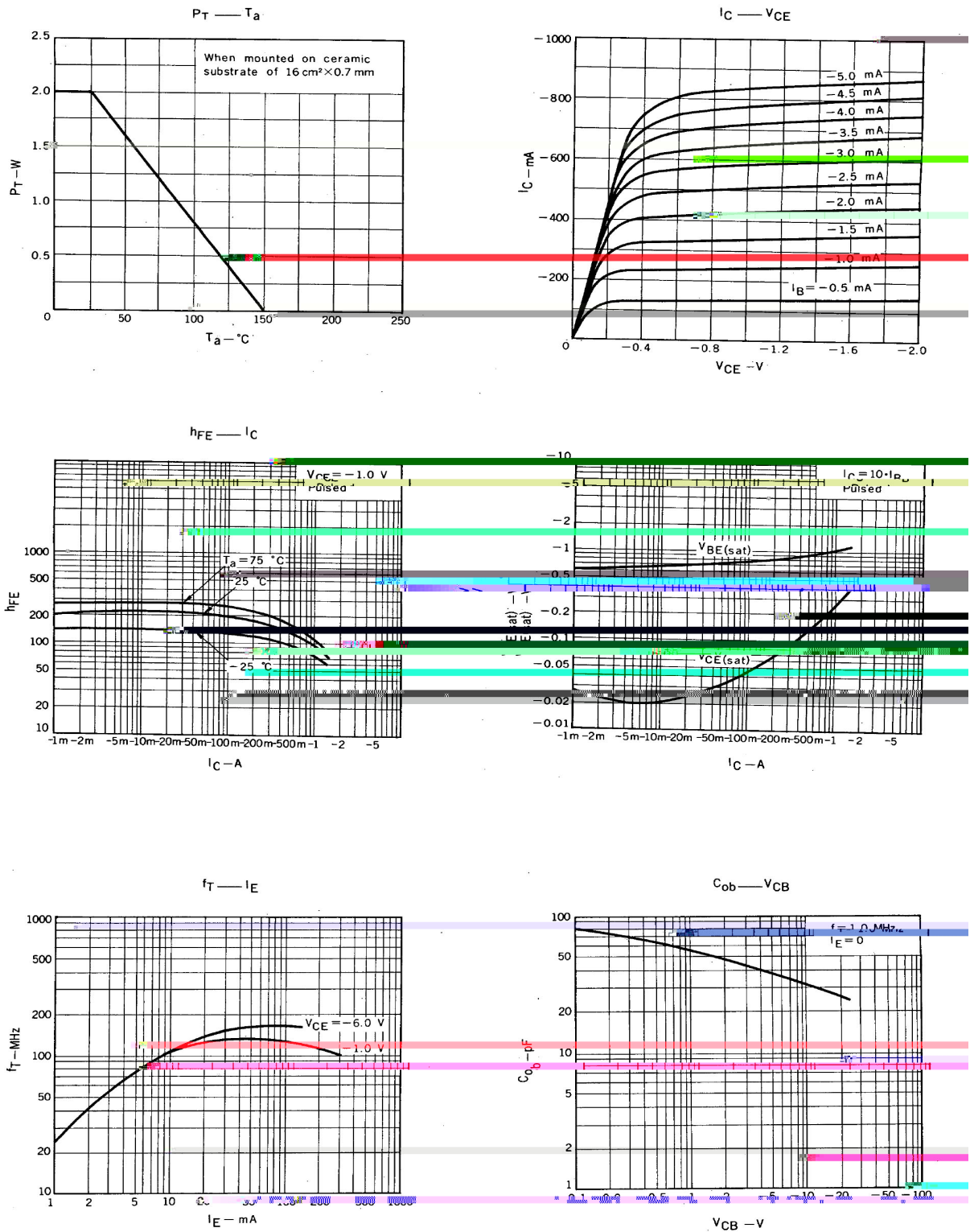
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	-30	V
Collector to Emitter Voltage	V_{CEO}	-25	V
Emitter to Base Voltage	V_{EBO}	-5.0	V
Collector Current-Continuous	I_C	-1.0	A
Collector Current-Continuous(Pulse)	I_{CP}	-1.5	A
Collector Power Dissipation	P_C	500	mW
Collector Power Dissipation*	$*P_C$	2.0	W
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	

*mounted on ceramic substrate(16cm²×0.7mm)

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cut-Off Current	I_{CBO}	$V_{CB}=-30V$ $I_E=0$			-0.1	μA
Emitter Base Cut-Off Current	I_{EBO}	$V_{EB}=-5.0V$ $I_C=0$			-0.1	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=-1.0V$ $I_C=-100mA$	90	200	400	
	$h_{FE(2)}$	$V_{CE}=-1.0V$ $I_C=-1.0A$	50	100		
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-1.0A$ $I_B=-100mA$		-0.25	-0.4	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-1.0A$ $I_B=-100mA$		-1.0	-1.2	V
Base to Emitter Voltage	V_{BE}	$V_{CE}=-6.0V$ $I_C=-10mA$	-600	-640	-700	mV
Transition Frequency	f_T	$V_{CE}=-6.0V$ $I_C=-10mA$		110		MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=-6.0V$ $I_E=0$ $f=1.0MHz$		36		pF

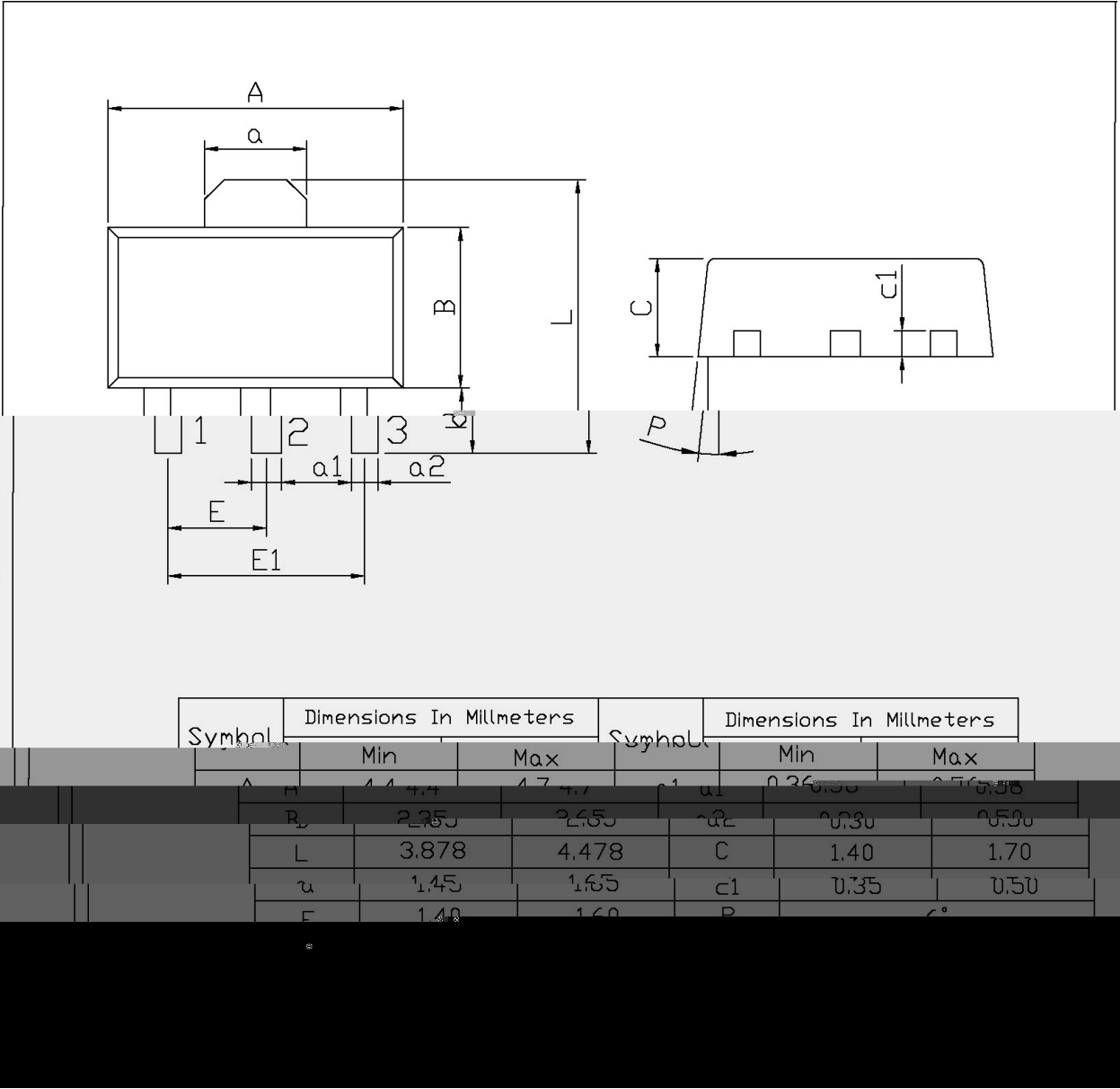
/ Electrical Characteristic Curve



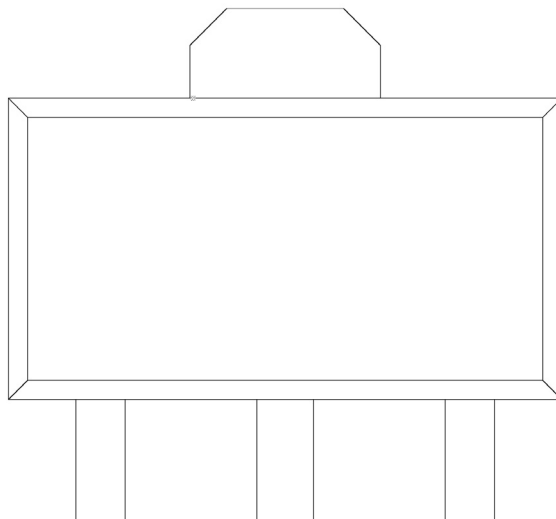
/ Package Dimensions

SOT-89

单位: mm



/ Marking Instructions



Note:

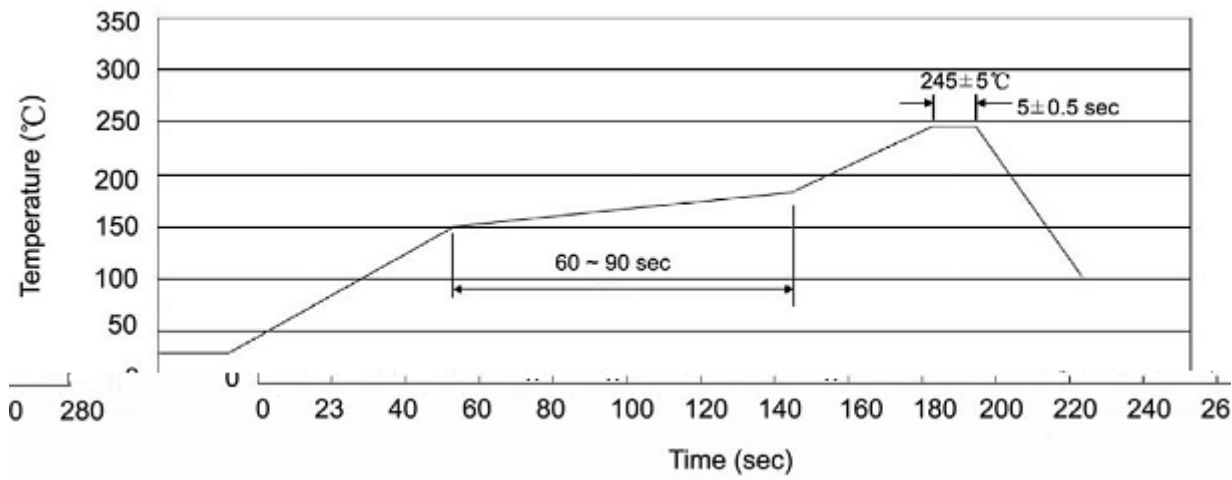
H: Company Code.

D: Product Type.

M h_{FE} Classifications Symbol

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

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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

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

/ Packaging SPEC.

/ 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

/ Notices