



# HM1300

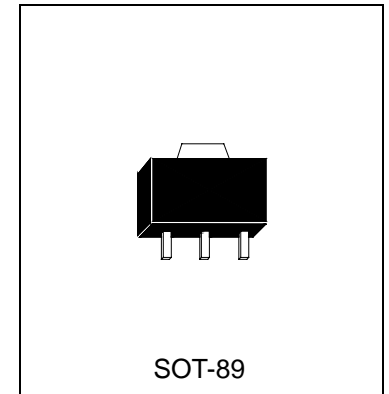
SILICON PNP EPITAXIAL TYPE

## Description

- Strobe Flash Applications
- Medium Power Amplifier Applications

## Features

- High DC Current Gain and Excellent hFE Linearity
- $hFE(1)=140-1000$ , ( $V_{CE}=-1V$ ,  $I_C=-0.5A$ )
- $hFE(2)=60(\text{Min.})$ , ( $V_{CE}=-1V$ ,  $I_C=-2A$ )
- Low Saturation Voltage
- $V_{CE}(\text{sat})=-0.5V(\text{Max.})$ , ( $I_C=-2A$ ,  $I_E=-50mA$ )



## Absolute Maximum Ratings (Ta=25°C)

Characteristic		Symbol	Ratios	Unit
Collector-Base Voltage		VCBO	-20	V
Collector-Emitter Voltage		VCES	-20	V
		VCEO	-10	
Emitter-Base Voltage		VEBO	-6	V
Collector Current	DC	IC	-2	A
	Pulsed (Note1)	ICP	-5	
Base Current		IB	-0.2	A
Collector Power Dissipation		PC	1	W
Junction Temperature		Tj	150	°C
Storage Temperature Range		Tstg	-53~150	°C

Note 1: Pulse Width=10ms (Max.), Duty Cycle=30%(Max.)

## Electrical Characteristics (Ta=25°C)

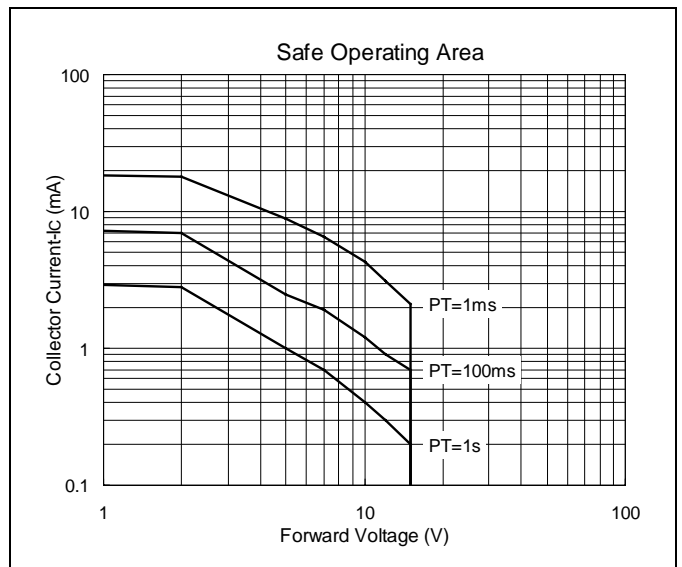
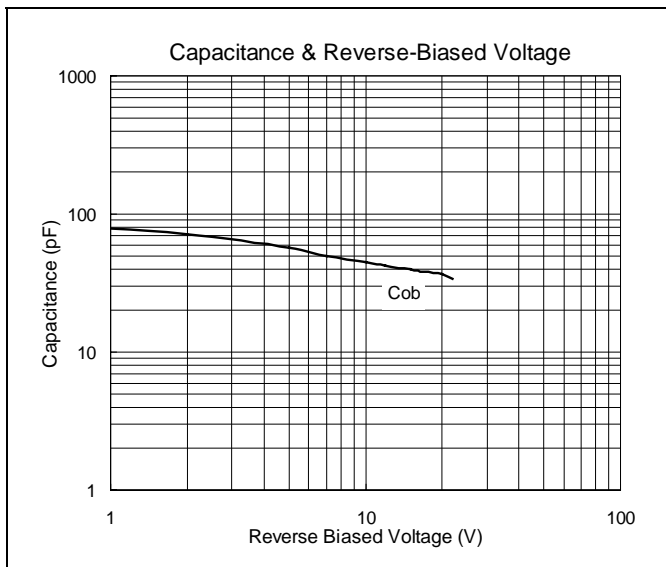
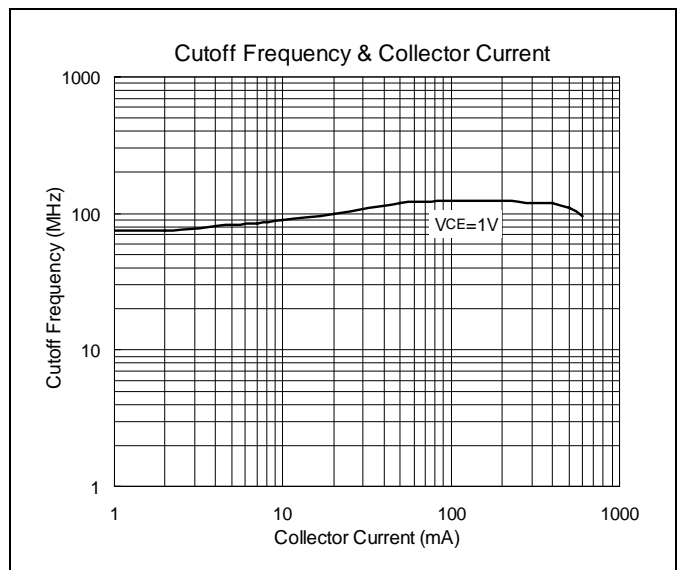
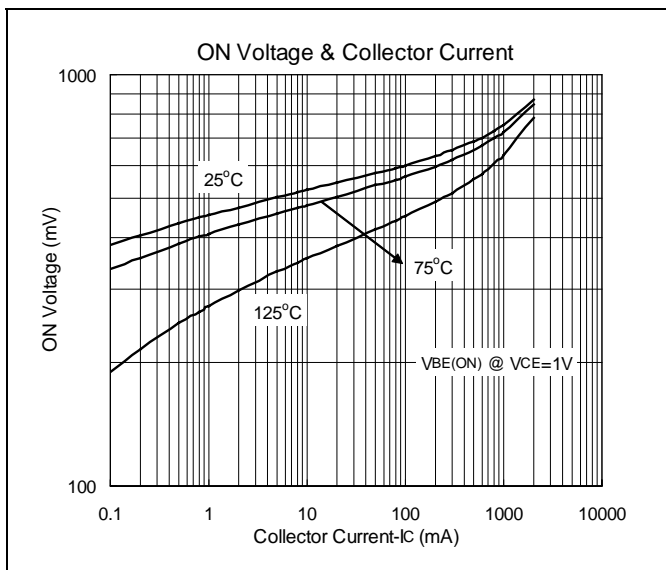
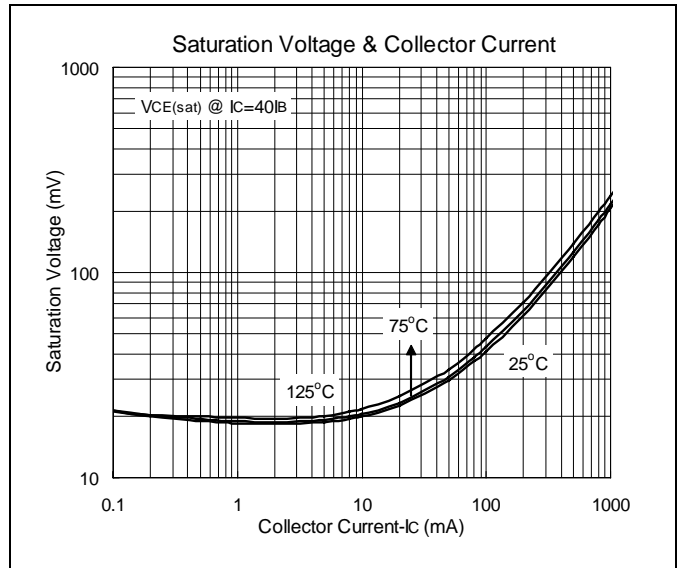
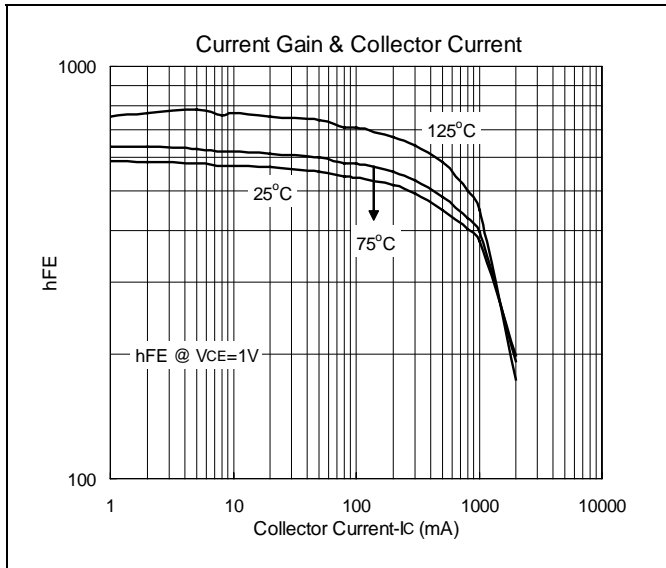
Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector Cut-off Current	ICBO	$V_{CE}=-20V$ , $I_E=0$	-	-	-100	nA
Emitter Cut-off Current	IEBO	$V_{BE}=-6V$ , $I_C=0$	-	-	-100	nA
Collector – Emitter Breakdown Voltage	V(BR)CEO	$I_C=10mA$ , $I_B=0$	-10	-	-	V
Emitter – Base Breakdown Voltage	V(BR)EBO	$I_E=-1mA$ , $I_C=0$	-6	-	-	V
*DC Current Gain	$hFE(1)$ (Note2)	$V_{CE}=-1V$ , $I_C=-0.5A$	140	-	1000	
	$hFE(2)$	$V_{CE}=-1V$ , $I_C=-2A$	60	-	-	
*Collector – Emitter Saturation Voltage	$V_{CE}(\text{sat})$	$I_C=-2A$ , $I_B=-50mA$	-	-0.3	-0.5	V
Base – Emitter Voltage	VBE	$V_{CE}=-1V$ , $I_C=-2A$	-	-0.83	-1.5	V
Cutoff Frequency	FT	$V_{CE}=-1V$ , $I_C=-0.5A$	-	140	-	MHz
Collector Output Capacitance	Cob	$V_{CE}=-10V$ , $I_E=0$ , $F=1KHz$	-	50	-	pF

Note 2:  $hFE(1)$  Classification Y:140~280, GR:200~400, BL:300~600, PE:500~1000

\*Pulse Test: Pulse Width  $\leq 380\mu s$ , Duty Cycle  $\leq 2\%$

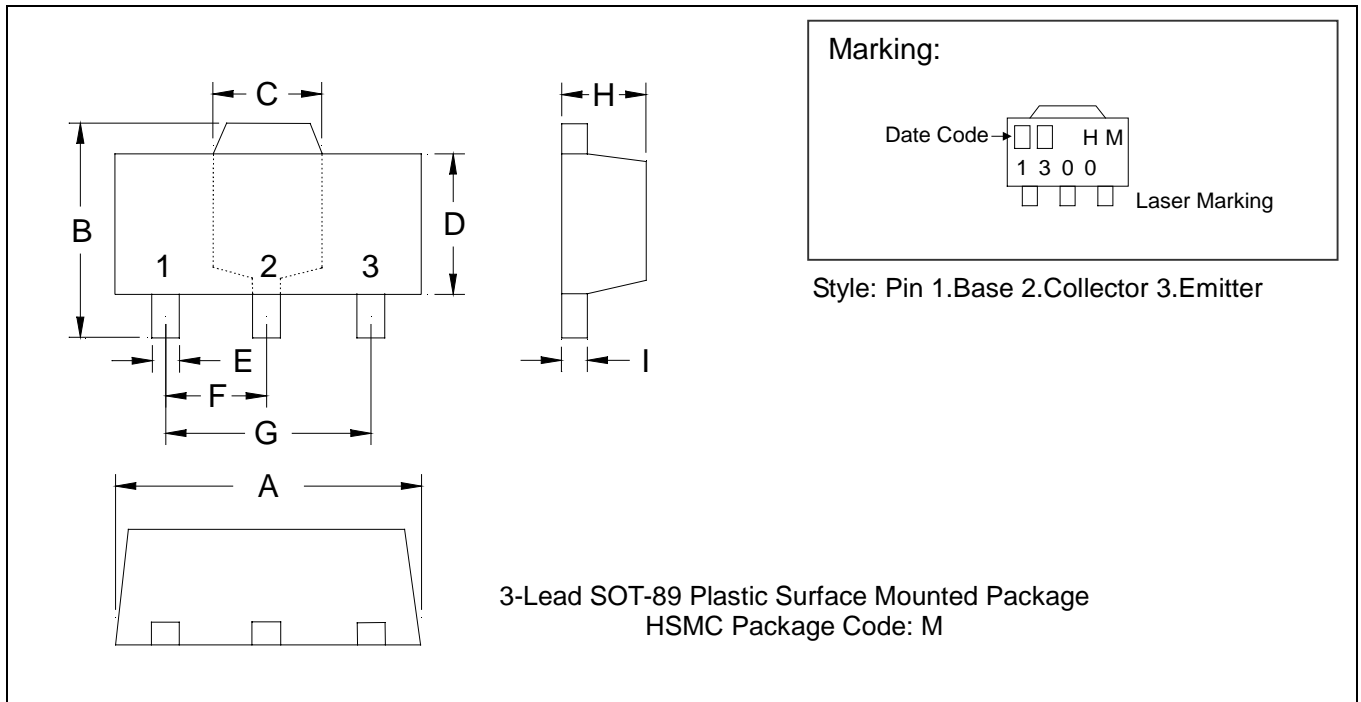


### Characteristics Curve





### SOT-89 Dimension



\*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.1732	0.1811	4.40	4.60	F	0.0583	0.0598	1.48	1.52
B	0.1594	0.1673	4.05	4.25	G	0.1165	0.1197	2.96	3.04
C	0.0591	0.0663	1.50	1.70	H	0.0551	0.0630	1.40	1.60
D	0.0945	0.1024	2.40	2.60	I	0.0138	0.0161	0.35	0.41
E	0.0141	0.0201	0.36	0.51					

- Notes:**
- 1.Dimension and tolerance based on our Spec. dated May. 05,1996.
  - 2.Controlling dimension: millimeters.
  - 3.Maximum lead thickness includes lead finish thickness, and minimum lead thickness is the minimum thickness of base material.
  - 4.If there is any question with packing specification or packing method, please contact your local HSMC sales office.

**Material:**

- Lead: 42 Alloy; solder plating
- Mold Compound: Epoxy resin family, flammability solid burning class: UL94V-0

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