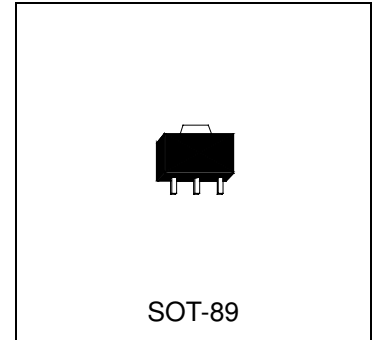




HM882

NPN EPITAXIAL PLANAR TRANSISTOR



Description

The HM882 is suited for the output stage of 0.75W audio, voltage regulator, and relay driver.

Absolute Maximum Ratings

- Maximum Temperatures
 - Storage Temperature -55 ~ +150 °C
 - Junction Temperature +150 °C Maximum
- Maximum Power Dissipation
 - Total Power Dissipation (T_A=25°C) 0.6 W (Note1)
 - Total Power Dissipation (T_A=25°C) 2 W (Note2)
 - Total Power Dissipation (T_C=25°C) 1.3 W (Note1)
 - Total Power Dissipation (T_C=25°C) 3.4 W (Note2)
- Maximum Voltages and Currents (T_A=25°C)
 - V_{CBO} Collector to Base Voltage 70 V
 - V_{CEO} Collector to Emitter Voltage 30 V
 - V_{EBO} Emitter to Base Voltage 5 V
 - I_C Collector Current 3 A

Thermal Characteristic

Characteristic	Symbol	Max.	Unit
Thermal Resistance, junction to ambient (Note1)	R _{θja}	208	°C/W
Thermal Resistance, junction to ambient (Note2)	R _{θja}	62.5	°C/W
Thermal Resistance, junction to case (Note1)	R _{θjc}	86	°C/W
Thermal Resistance, junction to case (Note2)	R _{θjc}	36.8	°C/W

Note1: When tested in free air condition, without heat sinking.
 Note2: When mounted on a 40X40X1mm ceramic board.

Electrical Characteristics (T_A=25°C)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV _{CBO}	40	-	-	V	I _C =100uA, I _E =0
BV _{CEO}	30	-	-	V	I _C =1mA, I _B =0
BV _{EBO}	5	-	-	V	I _E =10uA, I _C =0
I _{CBO}	-	-	1	uA	V _{CB} =30V, I _E =0
I _{EBO}	-	-	1	uA	V _{EB} =3V, I _B =0
*V _{CE(sat)}	-	-	0.5	V	I _C =2A, I _B =0.2A
*V _{BE(sat)}	-	-	2	V	I _C =2A, I _B =0.2A
*h _{FE1}	30	-	-		V _{CE} =2V, I _C =20mA
*h _{FE2}	160	-	500		V _{CE} =2V, I _C =1A
f _T	-	90	-	MHz	V _{CE} =5V, I _C =0.1A, f=100MHz
Cob	-	45	-	pF	I _E =0, V _{CB} =10V, f=1MHz

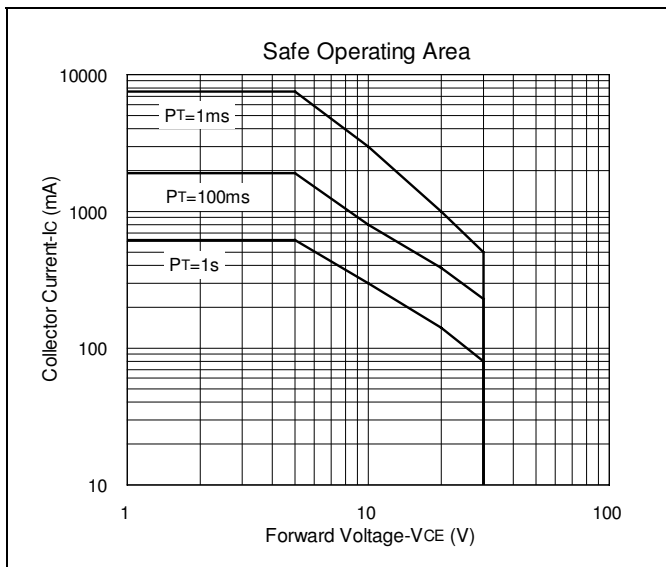
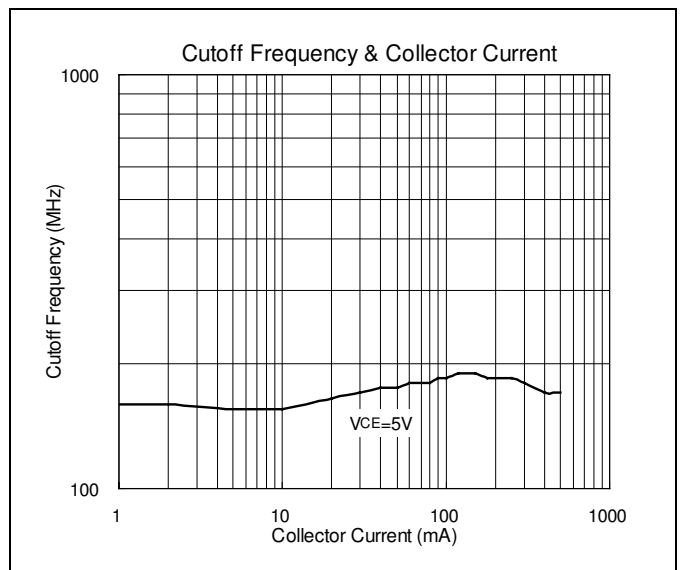
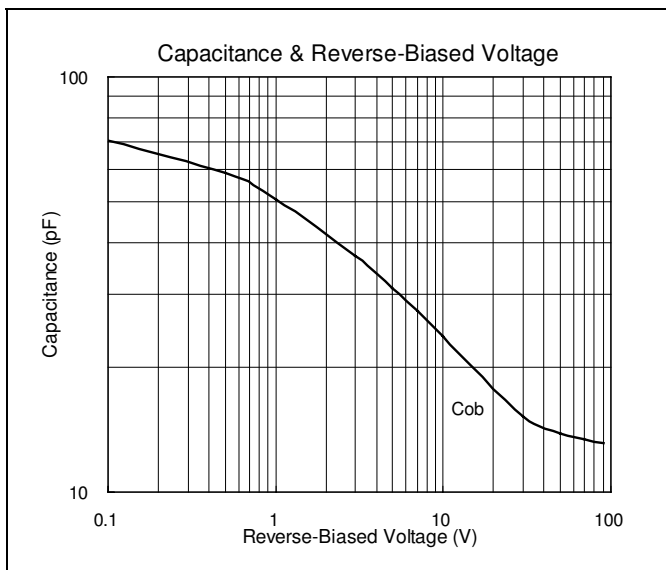
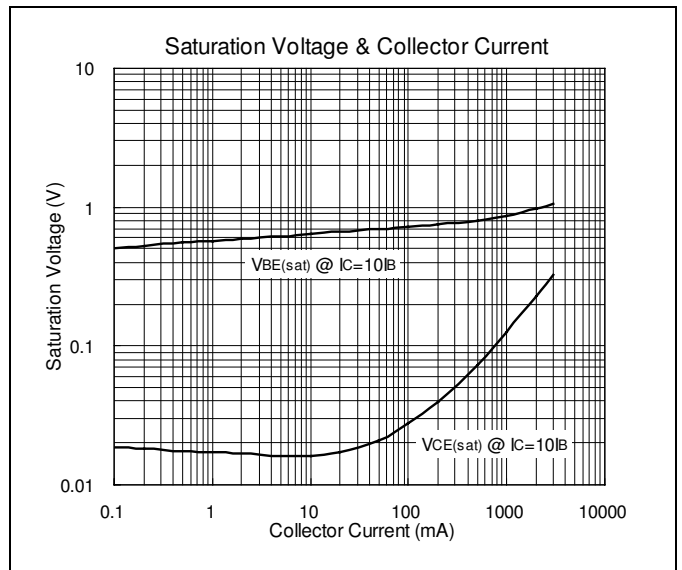
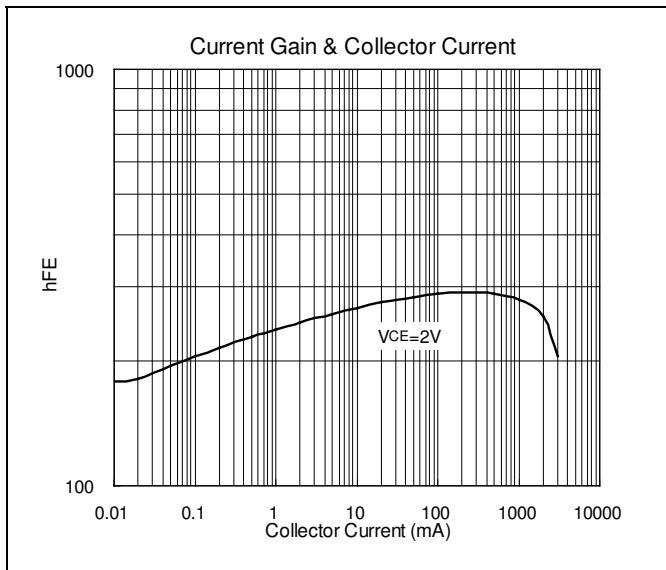
*Pulse Test: Pulse Width ≤380us, Duty Cycle≤2%

Classification Of hFE2

Rank	P	E
Range	160-320	250-500



Characteristics Curve





SOT-89 Dimension

3-Lead SOT-89 Plastic
Surface Mounted Package
HSMC Package Code: M

Marking:

Date Code Control Code

H 8 8 2

Pb Free Mark
Pb-Free: "●" (Note)
Normal: None

Note: Green label is used for pb-free packing

Pin Style: 1.Base 2.Collector 3.Emitter

Material:

- Lead solder plating: Sn60/Pb40 (Normal), Sn/3.0Ag/0.5Cu or Pure-Tin (Pb-free)
- Mold Compound: Epoxy resin family, flammability solid burning class: UL94V-0

DIM	Min.	Max.
A	4.40	4.60
B	4.05	4.25
C	1.50	1.70
D	2.40	2.60
E	0.36	0.51
F	*1.50	-
G	*3.00	-
H	1.40	1.60
I	0.35	0.41

*: Typical, Unit: mm

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Head Office And Factory:

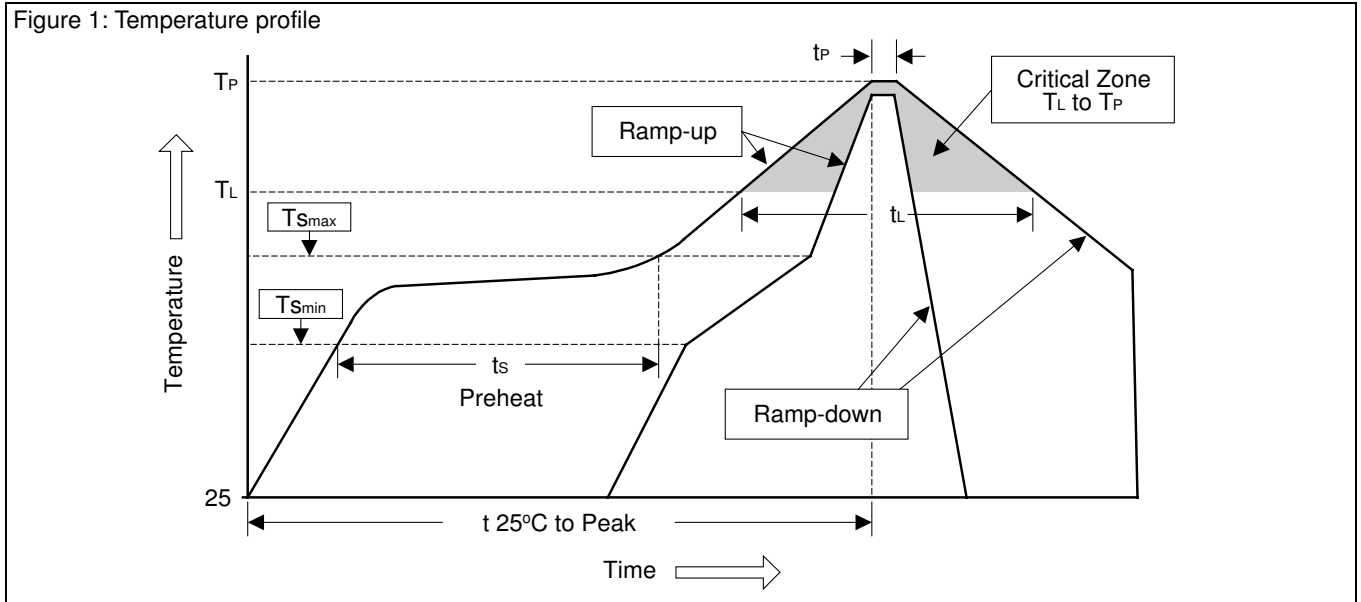
- **Head Office** (Hi-Sincerity Microelectronics Corp.): 10F., No. 61, Sec. 2, Chung-Shan N. Rd. Taipei Taiwan R.O.C.
Tel: 886-2-25212056 Fax: 886-2-25632712, 25368454
- **Factory 1:** No. 38, Kuang Fu S. Rd., Fu-Kou Hsin-Chu Industrial Park Hsin-Chu Taiwan. R.O.C
Tel: 886-3-5983621~5 Fax: 886-3-5982931



Soldering Methods for HSMC's Products

1. Storage environment: Temperature=10°C~35°C Humidity=65%±15%
2. Reflow soldering of surface-mount devices

Figure 1: Temperature profile



Profile Feature	Sn-Pb Eutectic Assembly	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	<3°C/sec	<3°C/sec
Preheat		
- Temperature Min (T_{Smin})	100°C	150°C
- Temperature Max (T_{Smax})	150°C	200°C
- Time (min to max) (t_s)	60~120 sec	60~180 sec
T_{Smax} to T_L		
- Ramp-up Rate	<3°C/sec	<3°C/sec
Time maintained above:		
- Temperature (T_L)	183°C	217°C
- Time (t_L)	60~150 sec	60~150 sec
Peak Temperature (T_P)	240°C +0/-5°C	260°C +0/-5°C
Time within 5°C of actual Peak Temperature (t_p)	10~30 sec	20~40 sec
Ramp-down Rate	<6°C/sec	<6°C/sec
Time 25°C to Peak Temperature	<6 minutes	<8 minutes

3. Flow (wave) soldering (solder dipping)

Products	Peak temperature	Dipping time
Pb devices.	245°C ±5°C	10sec ±1sec
Pb-Free devices.	260°C ±5°C	10sec ±1sec