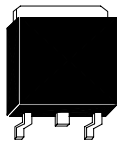
HSB857J

PNP EPITAXIAL PLANAR TRANSISTOR



TO-252

Description

Low frequency power amplifier.

Absolute Maximum Ratings (T_A=25°C)

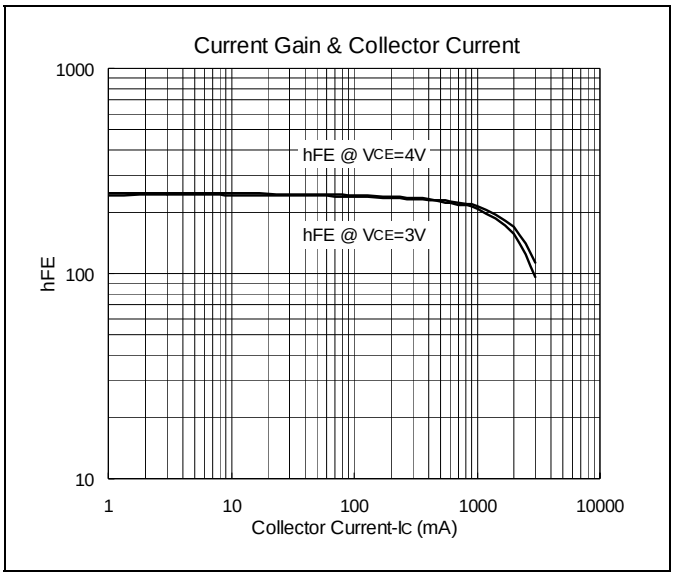
- Maximum Temperatures
  - Storage Temperature ..... -50~+150 °C
  - Junction Temperature ..... +150 °C Maximum
- Maximum Power Dissipation
  - Total Power Dissipation (T_C=25°C) ..... 20 W
- Maximum Voltages and Currents
  - BV_{CBO} Collector to Base Voltage ..... -60 V
  - BV_{CEO} Collector to Emitter Voltage ..... -50 V
  - BV_{EBO} Emitter to Base Voltage ..... -5 V
  - I_C Collector Current ..... -3 A
  - I_C Collector Current (I_C Peak) ..... -4.5 A

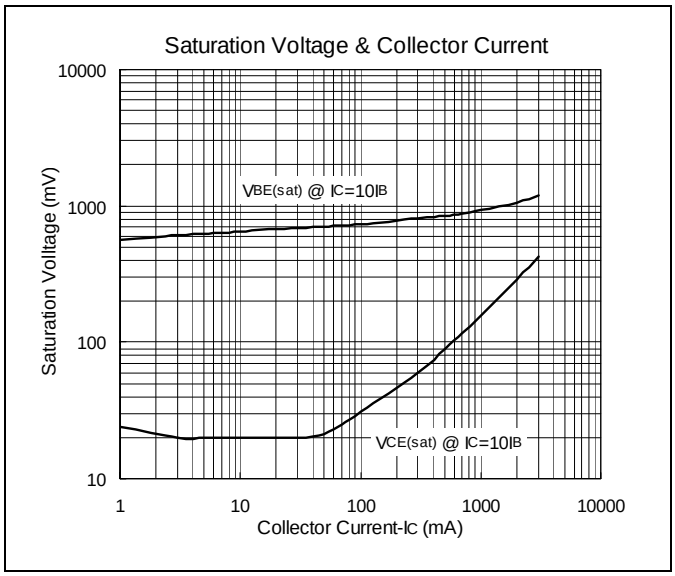
Electrical Characteristics (T_A=25°C)

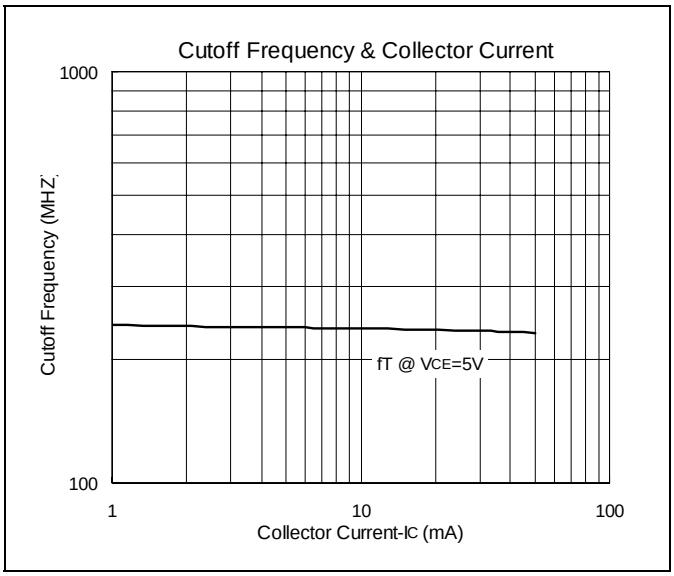
Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV_{CBO}	-60	-	-	V	I_C=-50uA
BV_{CEO}	-50	-	-	V	I_C=-1mA
BV_{EBO}	-5	-	-	V	I_E=-50uA
I_{CBO}	-	-	-1	uA	V_{CB}=-50V
I_{CEO}	-	-	-1	uA	V_{CE}=-40V
I_{EBO}	-	-	-1	uA	V_{EB}=-4V
*$V_{CE(sat)}$	-	-0.3	-1	V	I_C=-2A, I_B=-0.2A
*$V_{BE(sat)}$	-	-	-1.5	V	I_C=-2A, I_B=-0.2A
*h_{FE}	170	-	400		I_C=-500mA, V_{CE}=-3V
f_T	-	15	-	MHz	V_{CE}=-5V, I_C=-500mA, f=100MHz

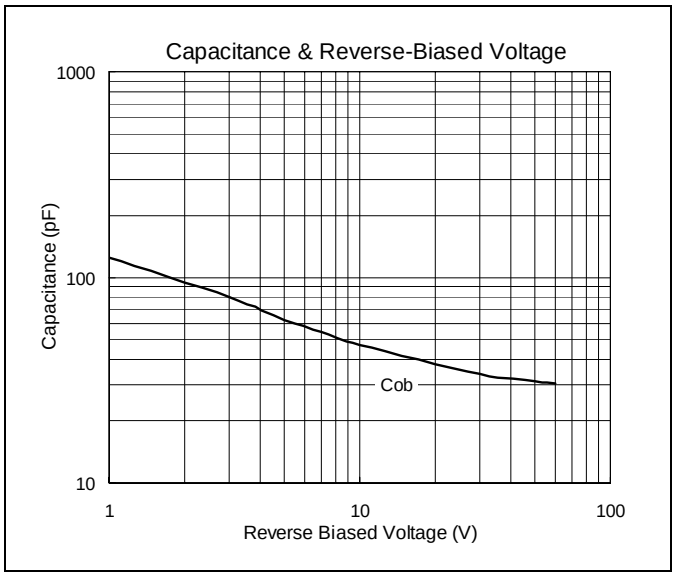
*Pulse Test: Pulse Width ≤380us, Duty Cycle≤2%

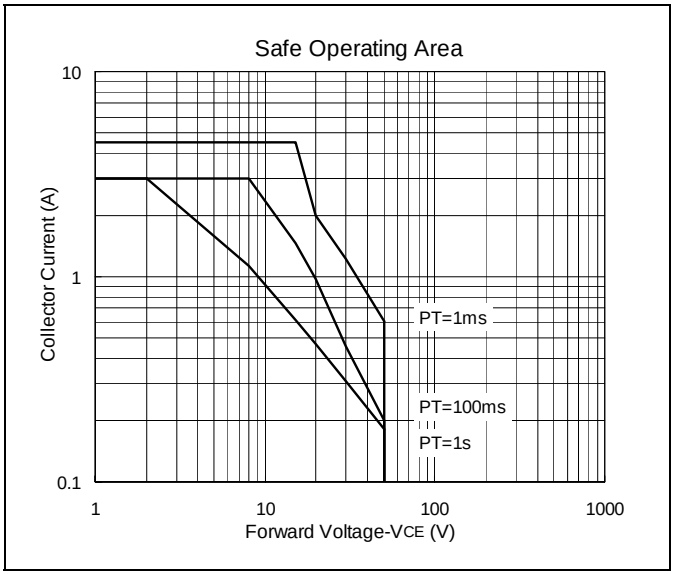
Characteristics Curve



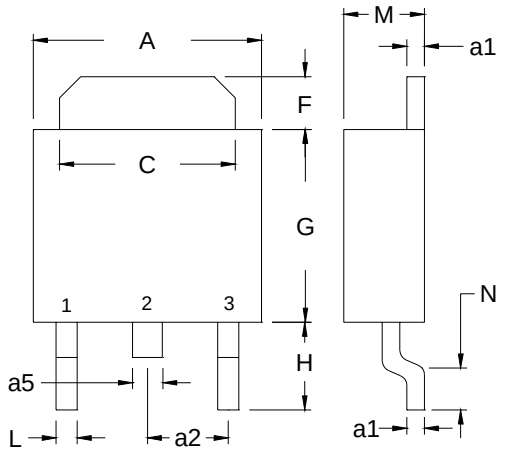






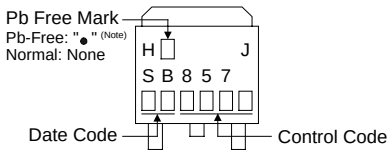


TO-252 Dimension



3-Lead TO-252 Plastic
Surface Mount Package
HSMC Package Code: J

Marking:



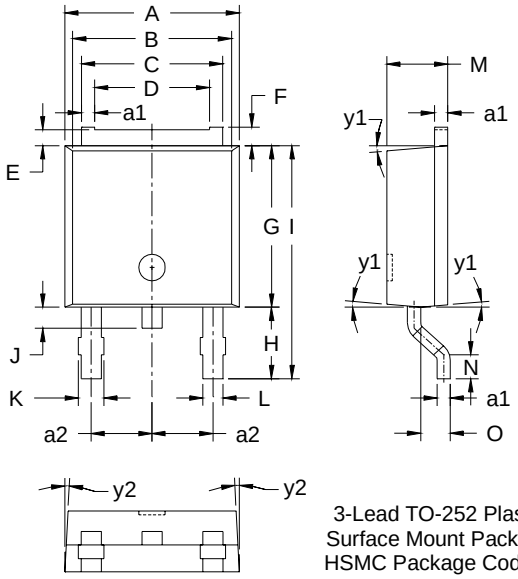
Note: Green label is used for pb-free packing

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

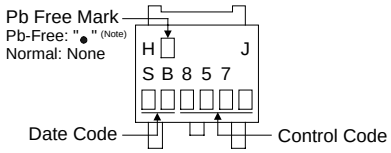
DIM	Min.	Max.
A	6.35	6.80
C	4.80	5.50
F	1.30	1.70
G	5.40	6.25
H	2.20	3.00
L	0.40	0.90
M	2.20	2.40
N	0.90	1.50
a1	0.40	0.65
a2	-	*2.30
a5	0.65	1.05

*: Typical, Unit: mm



3-Lead TO-252 Plastic
Surface Mount Package
HSMC Package Code: J

Marking:



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	6.40	6.80
B	-	6.00
C	5.04	5.64
D	-	*4.34
E	0.40	0.80
F	0.50	0.90
G	5.90	6.30
H	2.50	2.90
I	9.20	9.80
J	0.60	1.00
K	-	0.96
L	0.66	0.86
M	2.20	2.40
N	0.70	1.10
O	0.82	1.22
a1	0.40	0.60
a2	2.10	2.50
y1	-	5°
y2	-	3°

*: Typical, Unit: mm

Important Notice:

- All rights are reserved. Reproduction in whole or in part is prohibited without the prior written approval of HSMC.
- HSMC reserves the right to make changes to its products without notice.
- ***HSMC semiconductor products are not warranted to be suitable for use in Life-Support Applications, or systems.***
- HSMC assumes no liability for any consequence of customer product design, infringement of patents, or application assistance.

Head Office And Factory:

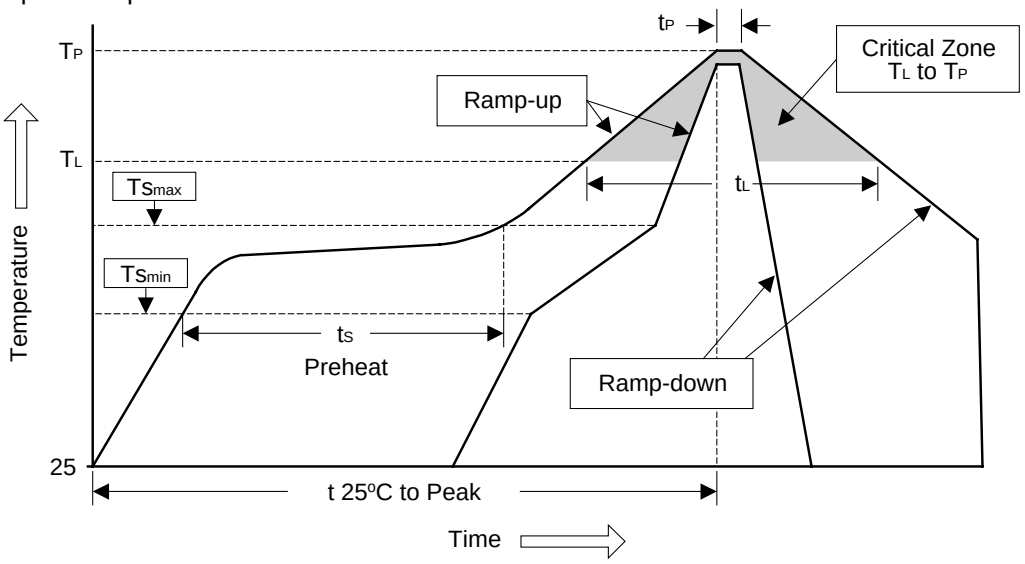
- **Head Office** (Hi-Sincerity Microelectronics Corp.): 10F.,No. 61, Sec. 2, Chung-Shan N. Rd. Taipei Taiwan R.O.C.
  Tel: 886-2-25212056 Fax: 886-2-25632712, 25368454
- **Factory 1:** No. 38, Kuang Fu S. Rd., Fu-Kou Hsin-Chu Industrial Park Hsin-Chu Taiwan. R.O.C
  Tel: 886-3-5983621~5 Fax: 886-3-5982931

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 (Ts_{min}) - Temperature Max (Ts_{max}) - Time (min to max) (ts)	 100°C 150°C 60~120 sec	 150°C 200°C 60~180 sec
Tsmax to T_L - Ramp-up Rate	 <3°C/sec	 <3°C/sec
Time maintained above: - Temperature (T_L) - Time (t_L)	 183°C 60~150 sec	 217°C 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	5sec ±1sec
Pb-Free devices.	260°C +0/-5°C	5sec ±1sec