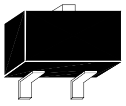
HI-SINCERITY
MICROELECTRONICS CORP.

HMBT8550

PNP EPITAXIAL TRANSISTOR



SOT-23

Description

The HMBT8550 is designed for general purpose amplifier applications.

Features

- High DC Current: h_{FE}=150-400 at I_C=150mA
- Complementary to HMBT8050

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) .... 225 mW
- Maximum Voltages and Currents (T_A=25°C)
  - V_{CBO} Collector to Base Voltage .... -25 V
  - V_{CEO} Collector to Emitter Voltage .... -20 V
  - V_{EBO} Emitter to Base Voltage .... -5 V
  - I_C Collector Current .... -700 mA

Electrical Characteristics (T_A=25°C)

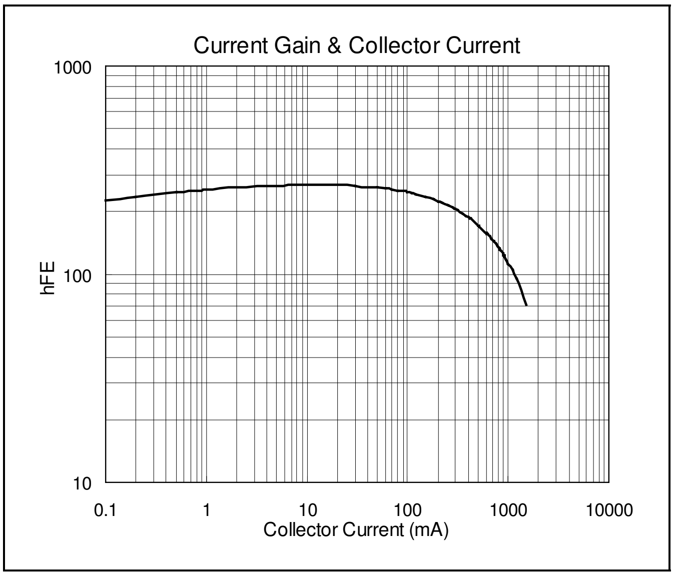
Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV_{CBO}	-25	-	-	V	I_C=-10uA
BV_{CEO}	-20	-	-	V	I_C=-1mA
BV_{EBO}	-5	-	-	V	I_E=-10uA
I_{CBO}	-	-	-1	uA	V_{CB}=-20V
I_{EBO}	-	-	-100	nA	V_{EB}=-6V
*$V_{CE(sat)}$	-	-	-500	mV	I_C=-500mA, I_B=-50mA
$V_{BE(on)}$	-	-	-1	V	V_{CE}=-1V, I_C=-150mA
*h_{FE}	100	-	500		V_{CE}=-1V, I_C=-150mA
f_T	150	-	-	MHz	V_{CE}=-10V, I_C=-20mA, f=100MHz
Cob	-	-	10	pF	V_{CB}=-10V, f=1MHz

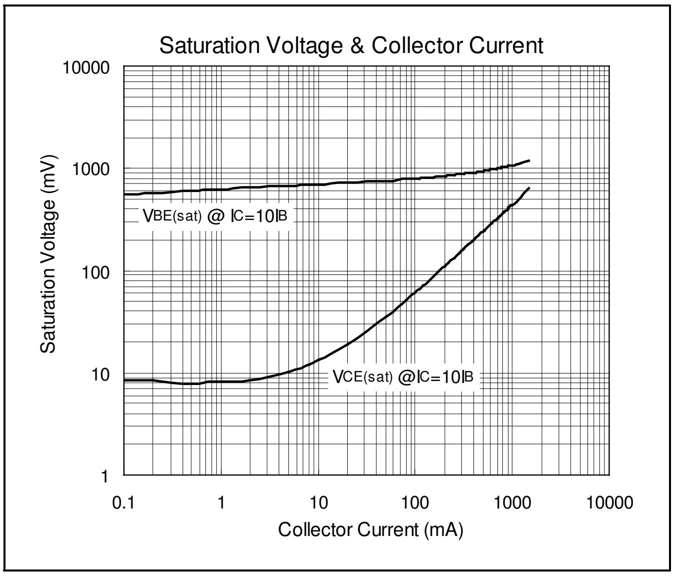
*Pulse Test: Pulse Width ≤380us, Duty Cycle≤2%

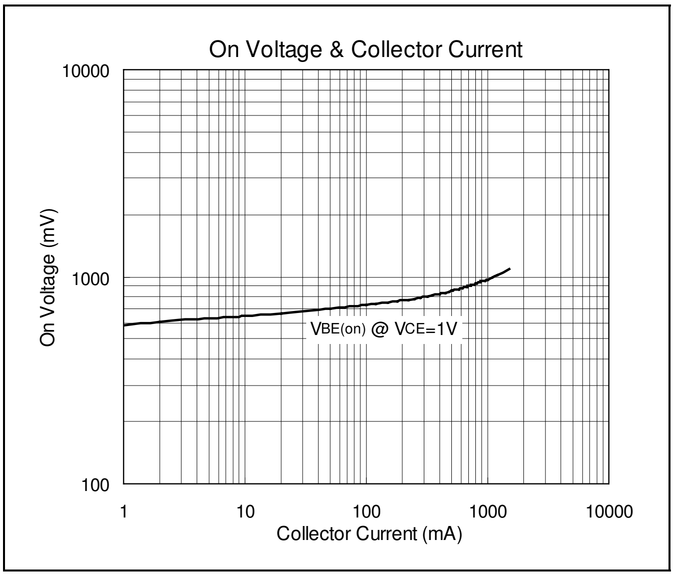
Classification Of hFE

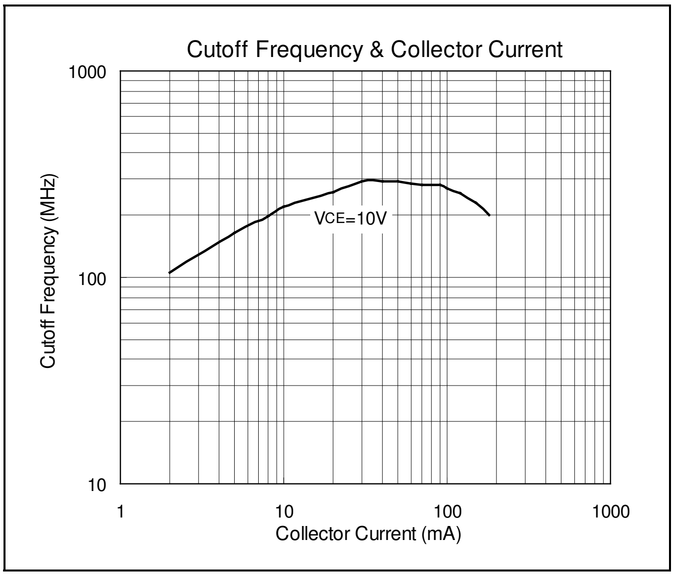
Rank	B9C	B9D	B9E
Range	100-200	150-300	250-500

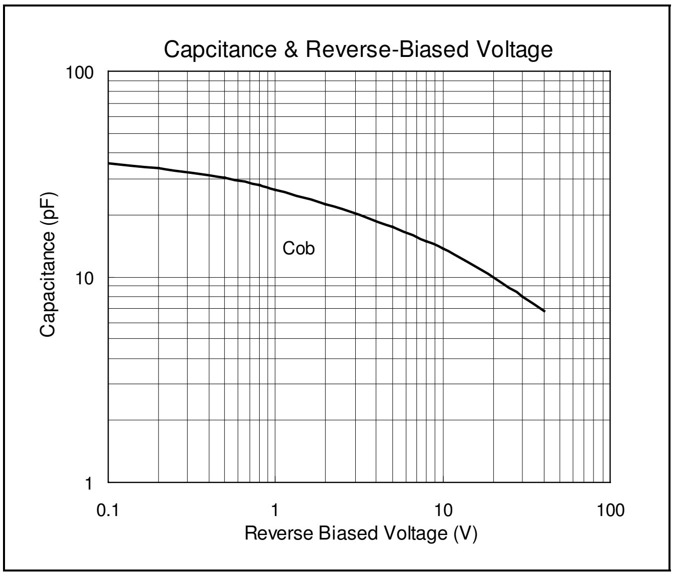
Characteristics Curve

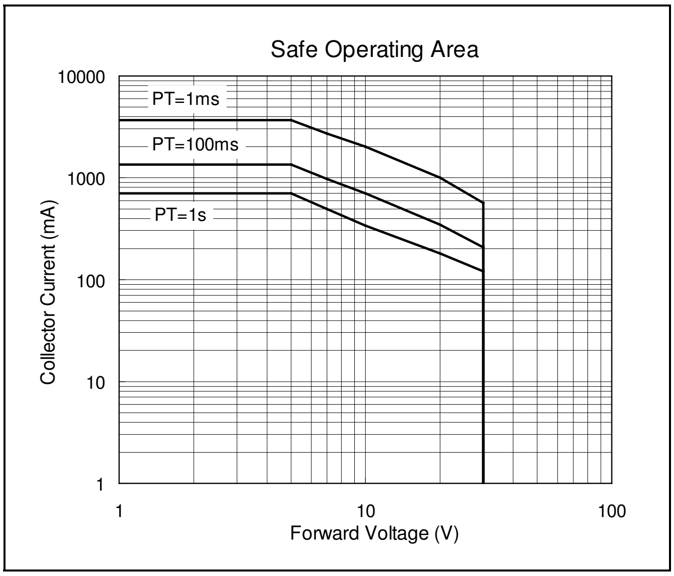




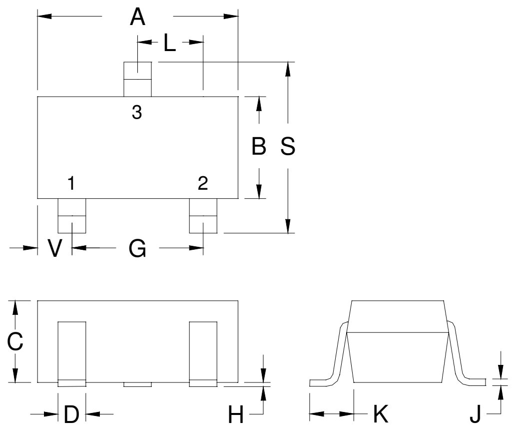






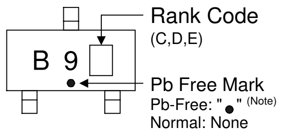


SOT-23 Dimension



3-Lead SOT-23 Plastic
Surface Mounted Package
HSMC Package Code: N

Marking:



Note: Pb-free product can distinguish by the green label or the extra description on the right side of the label.

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

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	2.80	3.04
B	1.20	1.60
C	0.89	1.30
D	0.30	0.50
G	1.70	2.30
H	0.013	0.10
J	0.085	0.177
K	0.32	0.67
L	0.85	1.15
S	2.10	2.75
V	0.25	0.65

*: Typical, Unit: mm

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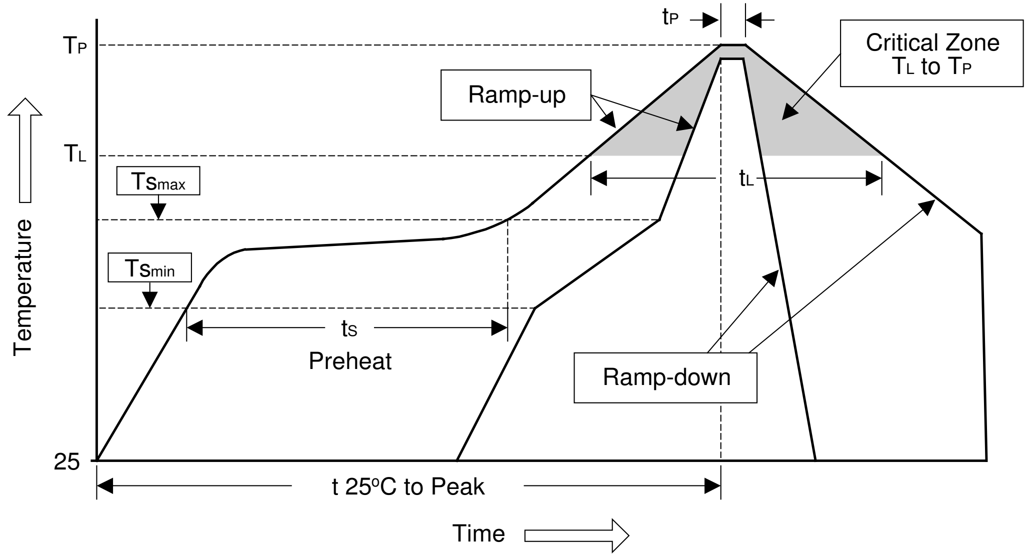
Soldering Methods for HSMC's Products

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