



HJ127

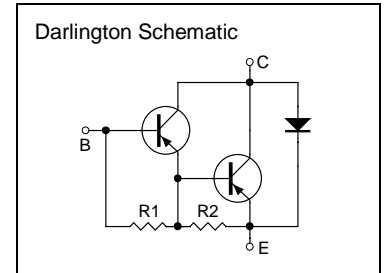
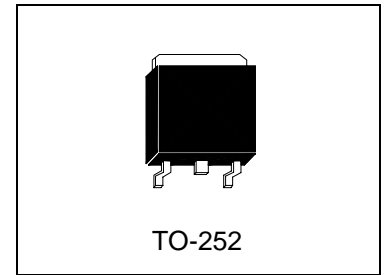
PNP EPITAXIAL PLANAR TRANSISTOR

Description

- High DC current gain
- Built-in a damper diode at E-C

Absolute Maximum Ratings (T_A=25°C)

- Maximum Temperatures
Storage Temperature -55 ~ +150 °C
Junction Temperature +150 °C
- Maximum Power Dissipation
Total Power Dissipation (T_C=25°C) 20 W
- Maximum Voltages and Currents
BV_{CBO} Collector to Base Voltage -100 V
BV_{CEO} Collector to Emitter Voltage -100 V
BV_{EBO} Emitter to Base Voltage -5 V
I_C Collector Current -5 A



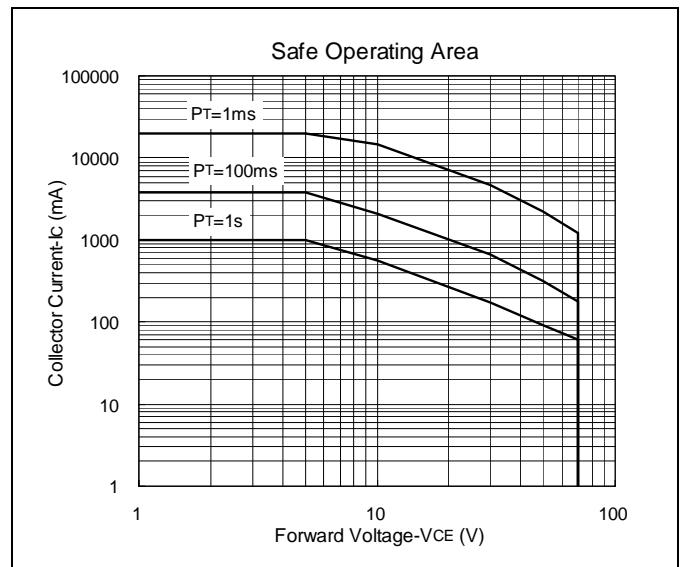
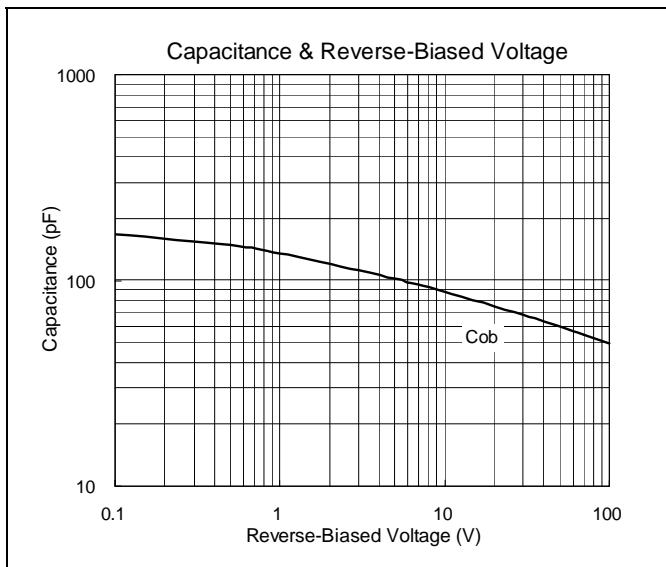
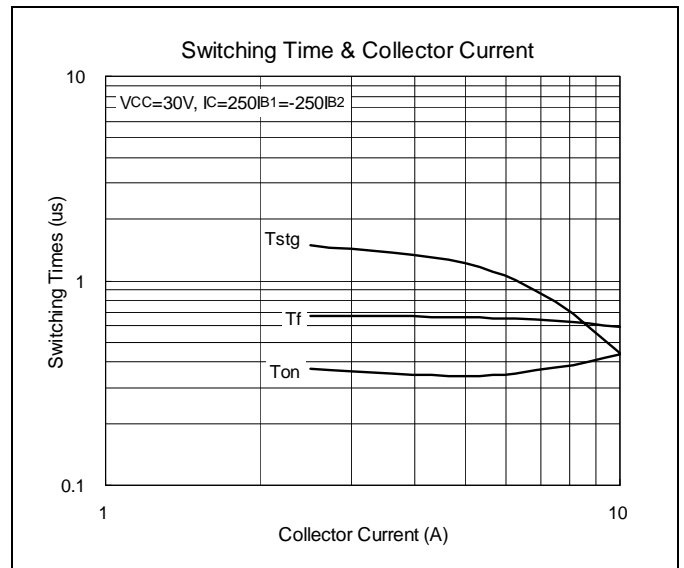
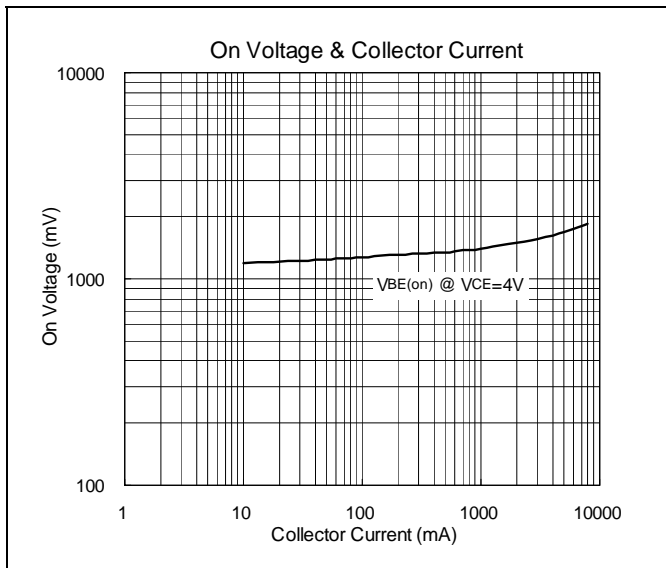
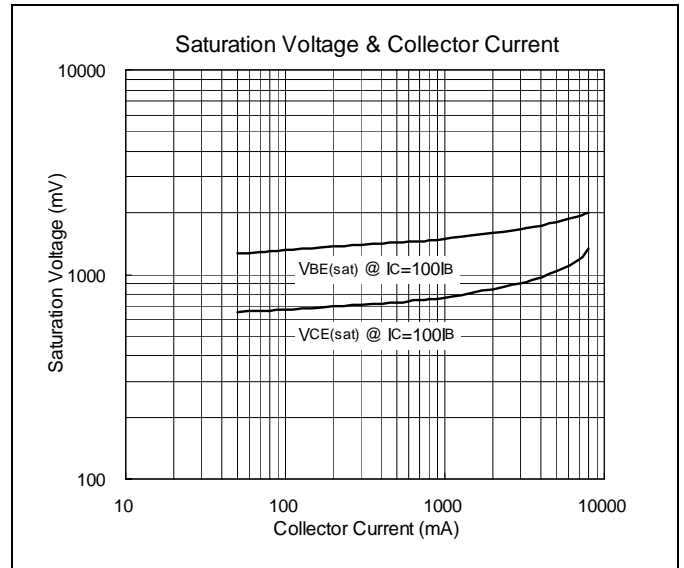
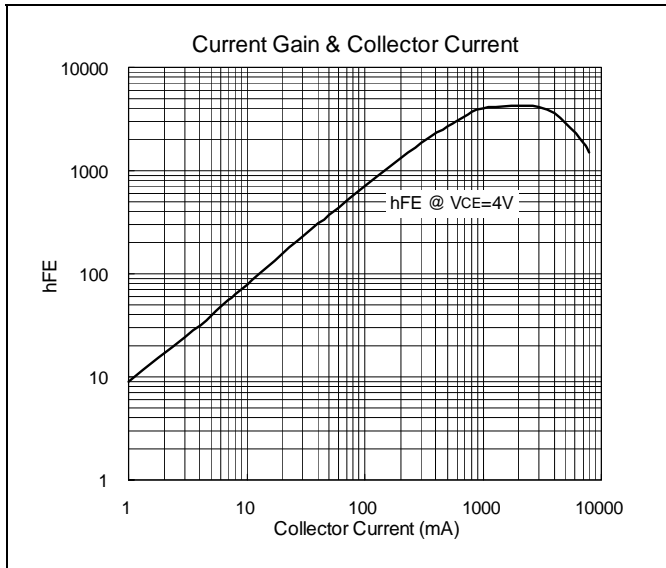
Electrical Characteristics (T_A=25°C)

| Symbol | Min. | Typ. | Max. | Unit | Test Conditions |
|------------------------|------|------|------|------|---|
| BV _{CBO} | -100 | - | - | V | I _C =-1mA, I _E =0 |
| BV _{EBO} | -5 | - | - | V | I _E =-1mA, I _C =0 |
| I _{CBO} | - | - | -10 | uA | V _{CB} =-100V, I _E =0 |
| I _{EBO} | - | - | -2 | mA | V _{EB} =-5V, I _C =0 |
| I _{CEX} | - | - | -10 | uA | V _{CE} =-100V, V _{BE(off)} =-1.5V |
| *V _{CE(sat)1} | - | - | -2 | V | I _C =-4A, I _B =-16mA |
| *V _{CE(sat)2} | - | - | -4 | V | I _C =-8A, I _B =-80mA |
| *V _{BE(sat)} | - | - | -4.5 | V | I _C =-8A, I _B =-80mA |
| *V _{BE(on)} | - | - | -2.8 | V | V _{CE} =-4V, I _C =-4A |
| *h _{FE1} | 1 | - | 12 | K | V _{CE} =-3V, I _C =-3A |
| *h _{FE2} | 100 | - | - | | V _{CE} =-4V, I _C =-8A |
| Cob | - | - | 300 | pF | V _{CB} =-10V, f=0.1MHz |

*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:

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

Date Code Control Code

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:

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

Date Code Control Code

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.

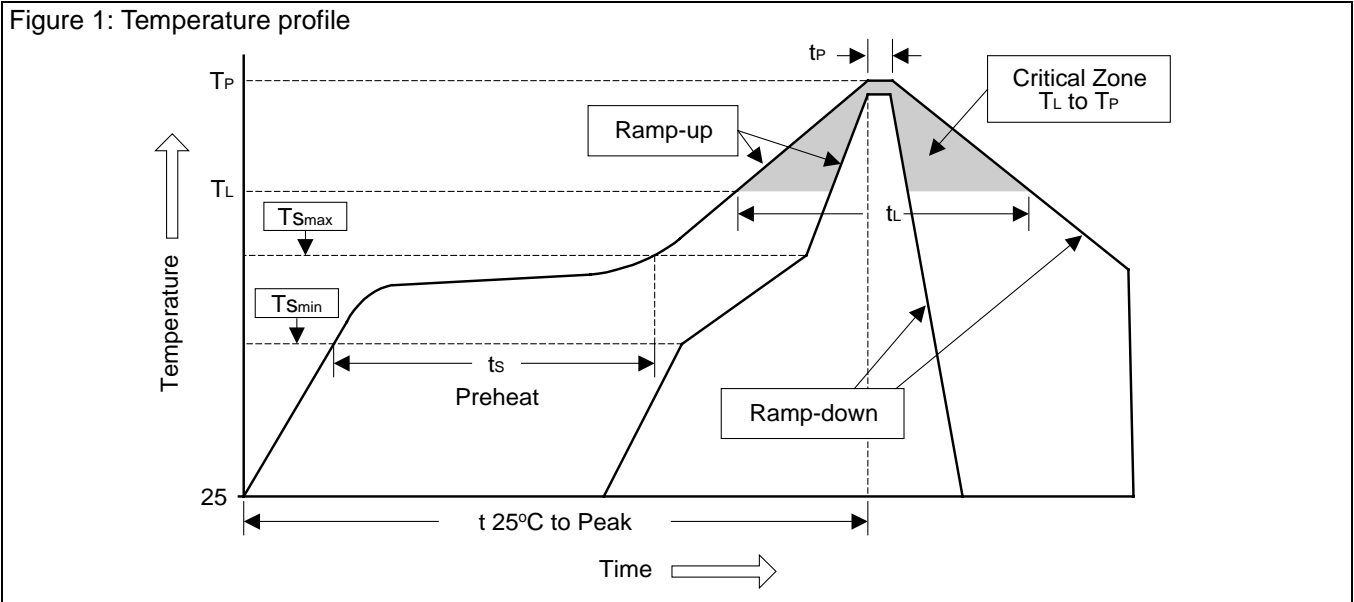
Head Office And Factory:

- **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



| Profile Feature | Sn-Pb Eutectic Assembly | Pb-Free Assembly |
|--|---------------------------------|---------------------------------|
| Average ramp-up rate (T_L to T_P) | $<3^{\circ}\text{C}/\text{sec}$ | $<3^{\circ}\text{C}/\text{sec}$ |
| 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 | $<3^{\circ}\text{C}/\text{sec}$ | $<3^{\circ}\text{C}/\text{sec}$ |
| 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 | $<6^{\circ}\text{C}/\text{sec}$ | $<6^{\circ}\text{C}/\text{sec}$ |
| 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 |