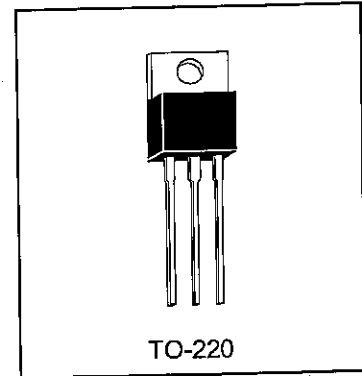




# HMJE2955T

PNP EPITAXIAL PLANAR TRANSISTOR



## Description

The HMJE2955T is designed for general purpose of amplifier and switching applications.

## Absolute Maximum Ratings ( $T_A=25^\circ\text{C}$ )

- Maximum Temperatures
  - Storage Temperature ..... -55 ~ +150 °C
  - Junction Temperature ..... 150 °C Maximum
- Maximum Power Dissipation
  - Total Power Dissipation ( $T_C=25^\circ\text{C}$ ) ..... 75 W
  - Total Power Dissipation ( $T_A=25^\circ\text{C}$ ) ..... 0.6 W
- Maximum Voltages and Currents
  - $BV_{CBO}$  Collector to Base Voltage ..... -70 V
  - $BV_{CEO}$  Collector to Emitter Voltage ..... -60 V
  - $BV_{EBO}$  Emitter to Base Voltage ..... -5 V
  - $I_C$  Collector Current ..... -10 A
  - $I_B$  Base Current ..... -6 A

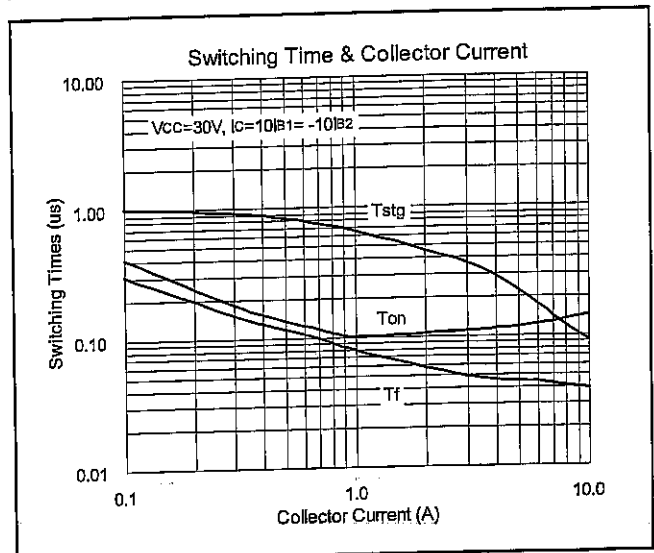
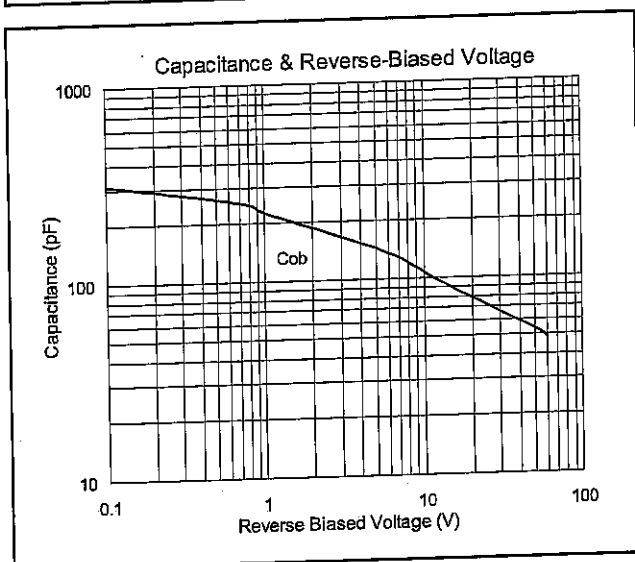
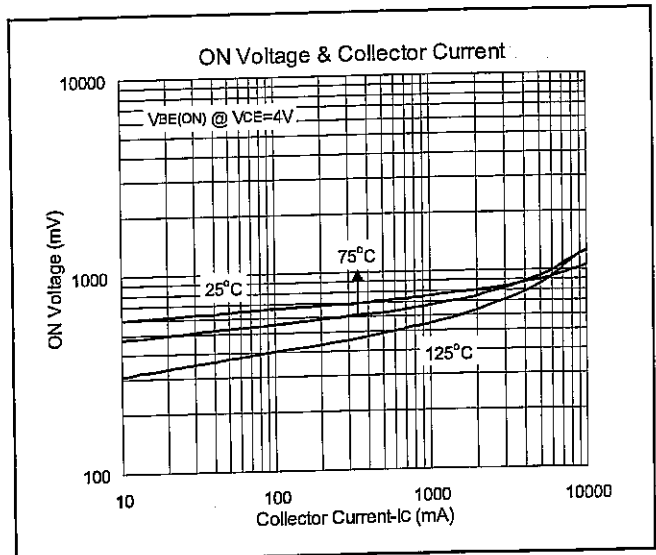
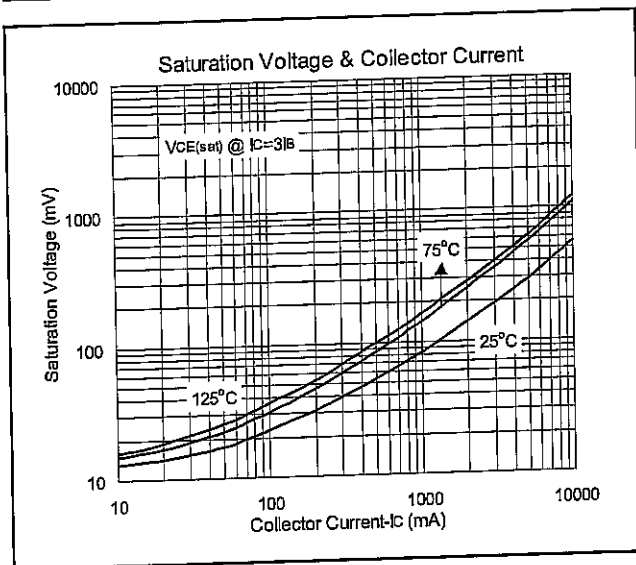
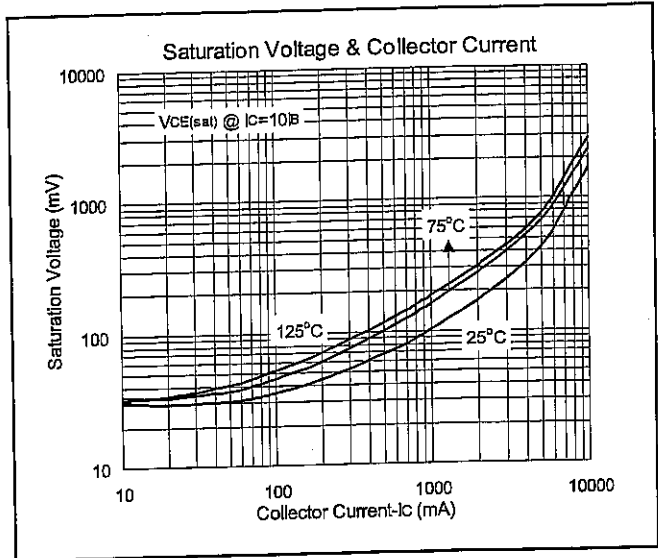
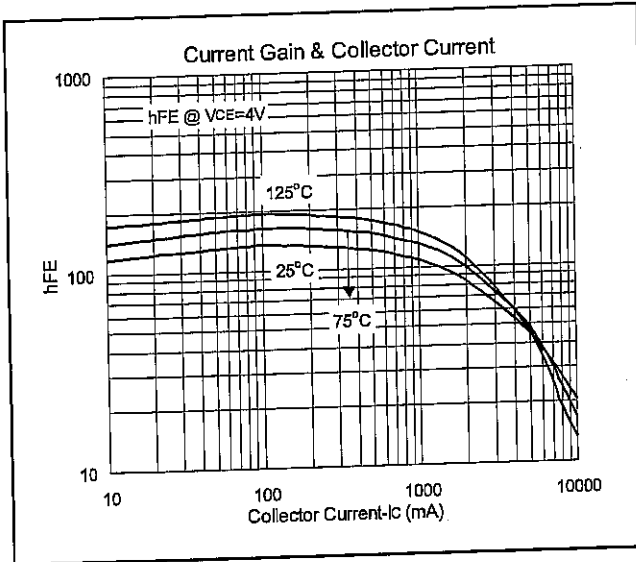
## Electrical Characteristics ( $T_A=25^\circ\text{C}$ )

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
$BV_{CBO}$	-70	-	-	V	$I_C=-10\text{mA}, I_E=0$
$BV_{CEO}$	-60	-	-	V	$I_C=-200\text{mA}, I_B=0$
$BV_{EBO}$	-5	-	-	V	$I_E=-1\text{mA}, I_C=0$
$I_{CBO}$	-	-	-1	mA	$V_{CB}=-70\text{V}, I_E=0$
$I_{CEX}$	-	-	-1	mA	$V_{CE}=-70\text{V}, V_{EB(off)}=-1.5\text{V}$
$I_{CEO}$	-	-	-700	uA	$V_{CE}=-30\text{V}, I_B=0$
$I_{EBO}$	-	-	-5	mA	$V_{EB}=-5\text{V}, I_C=0$
$*V_{CE(sat)1}$	-	-	-1.1	V	$I_C=-4\text{A}, I_B=-400\text{mA}$
$*V_{CE(sat)2}$	-	-	-8	V	$I_C=-10\text{A}, I_B=-3.3\text{A}$
$*V_{BE(on)}$	-	-	-1.8	V	$I_C=-4\text{A}, V_{CE}=-4\text{V}$
$*h_{FE1}$	20	-	100		$I_C=-4\text{A}, V_{CE}=-4\text{V}$
$*h_{FE2}$	5	-	-		$I_C=-10\text{A}, V_{CE}=-4\text{V}$
$f_T$	2	-	-	MHZ	$V_{CE}=-10\text{V}, I_C=-500\text{mA}, f=0.5\text{MHz}$

\*Pulse Test: Pulse Width  $\leq 380\mu\text{s}$ , Duty Cycles  $\leq 2\%$



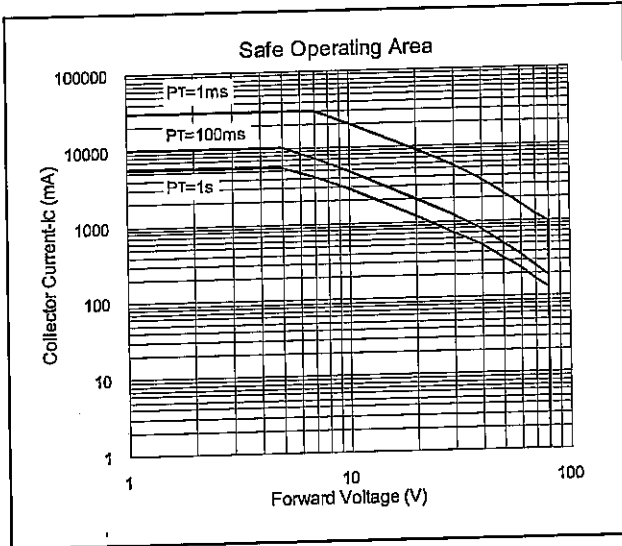
### Characteristics Curve





# HI-SINCERITY MICROELECTRONICS CORP.

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### TO-220 Dimension

3-Lead TO-220  
 Plastic Package  
 HSMC Package Code: E

**Marking:**

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

**Note:** Green label is used for pb-free packing  
 Pin Style: 1.Base 2 & Tab.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	5.58	7.49
B	8.38	8.90
C	4.40	4.70
D	1.15	1.39
E	0.35	0.60
F	2.03	2.92
G	9.66	10.28
H	-	*16.25
I	-	*3.83
J	3.00	4.00
K	0.75	0.95
L	2.54	3.42
M	1.14	1.40
N	-	*2.54
O	12.70	14.27
P	14.48	15.87

\*: Typical, Unit: mm

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#### Head Office And Factory:

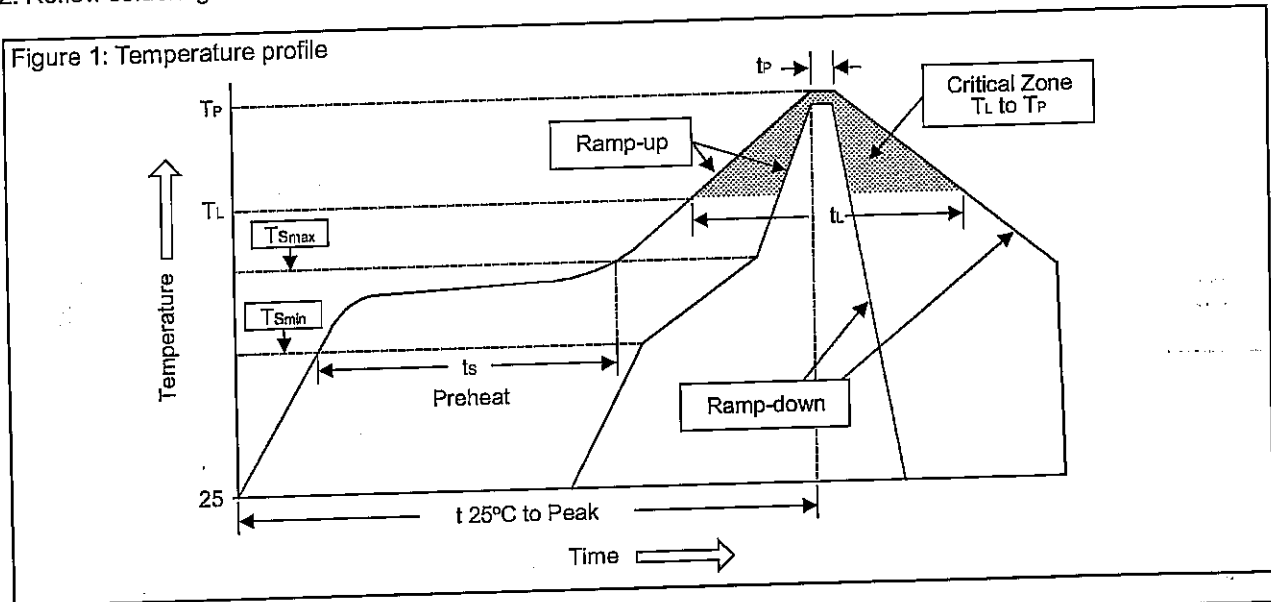
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 Tel: 886-2-25212056 Fax: 886-2-25632712, 25368454
- **Factory 1:** No. 38, Kuang Fu S. Rd., Fu-Kou Hsin-Chu Industrial Park Hsin-Chu Taiwan. R.O.C  
 Tel: 886-3-5983621~5 Fax: 886-3-5982931



### 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°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	5sec ±1sec
Pb-Free devices.	260°C +0/-5°C	5sec ±1sec