

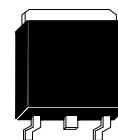


HJ42C

PNP EPITAXIAL PLANAR TRANSISTOR

Description

The HJ42C is designed for use in general purpose amplifier, low speed switching applications.



TO-252

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

- Maximum Temperatures
Storage Temperature $-55 \sim +150^{\circ}\text{C}$
Junction Temperature $+150^{\circ}\text{C}$
- Maximum Power Dissipation
Total Power Dissipation ($T_C=25^{\circ}\text{C}$) 20 W
- Maximum Voltages and Currents ($T_A=25^{\circ}\text{C}$)
 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 -6 A

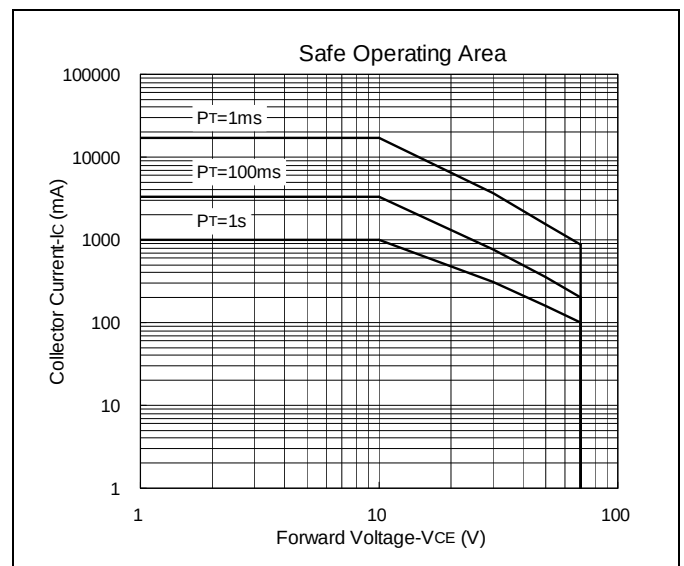
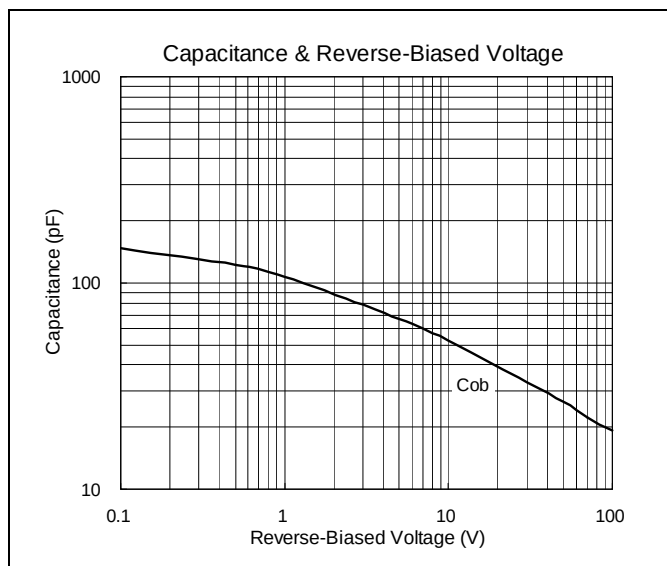
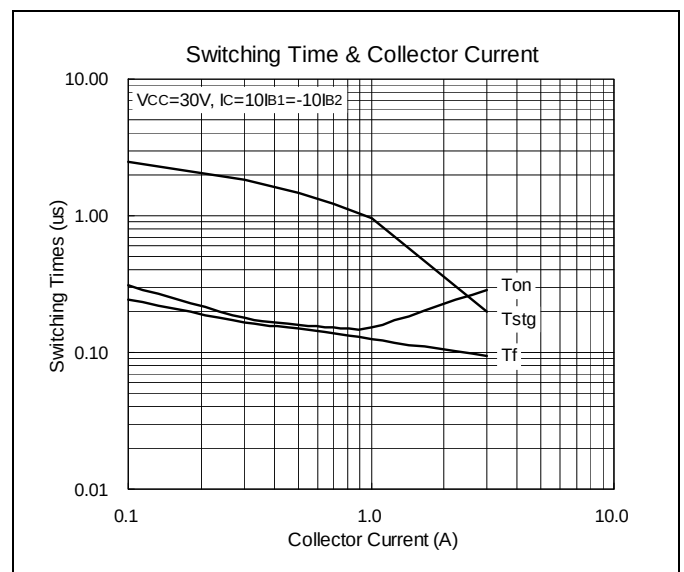
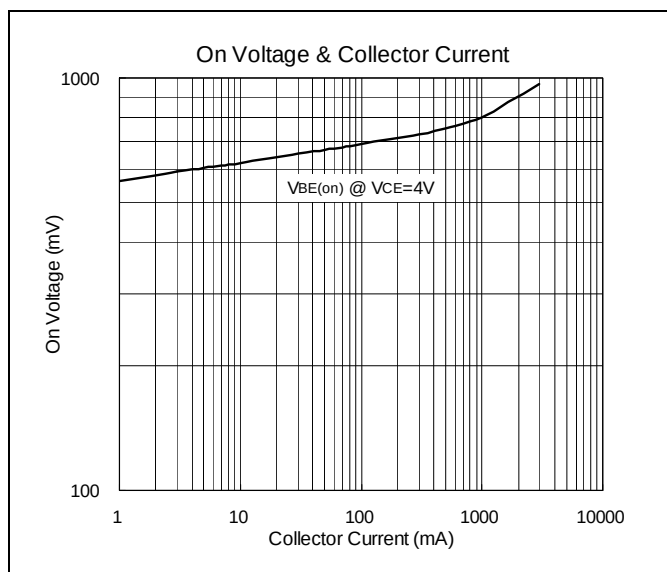
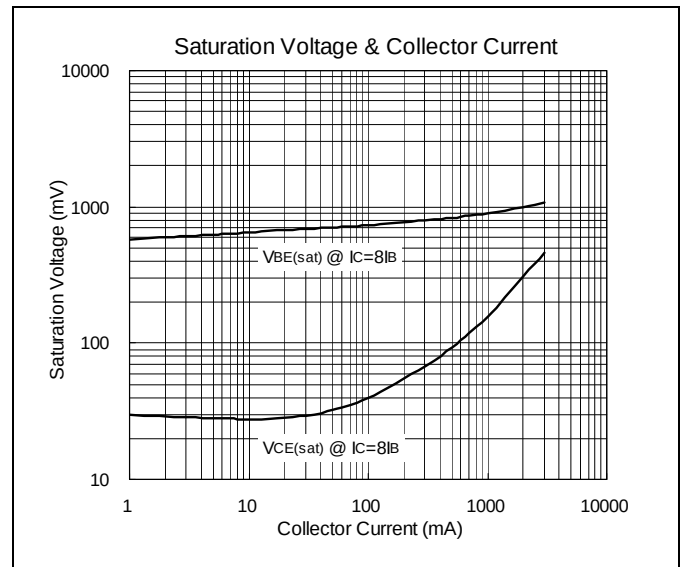
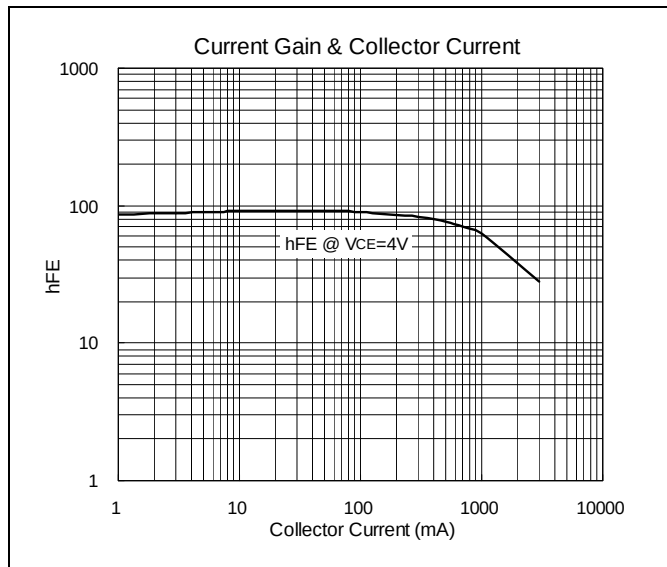
Electrical Characteristics ($T_A=25^{\circ}\text{C}$)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV_{CBO}	-100	-	-	V	$I_C=-1\text{mA}$, $I_E=0$
BV_{CEO}	-100	-	-	V	$I_C=-30\text{mA}$, $I_B=0$
BV_{EBO}	-5	-	-	V	$I_C=-100\mu\text{A}$, $I_C=0$
I_{CES}	-	-	-10	μA	$V_{CE}=-100\text{V}$, $V_{EB}=0$
I_{CEO}	-	-	-50	μA	$V_{CE}=-60\text{V}$, $I_B=0$
I_{EBO}	-	-	-500	μA	$V_{EB}=-5\text{V}$, $I_C=0$
$*V_{CE(sat)}$	-	-	-1.5	V	$I_C=-6\text{A}$, $I_B=-600\text{mA}$
$*V_{BE(on)}$	-	-	-2	V	$V_{CE}=-4\text{V}$, $I_C=-6\text{A}$
$*h_{FE1}$	30	-	-		$V_{CE}=-4\text{V}$, $I_C=-300\text{mA}$
$*h_{FE2}$	15	-	75		$V_{CE}=-4\text{V}$, $I_C=-3\text{A}$
f_T	3	-	-	MHz	$V_{CE}=-10\text{V}$, $I_C=-500\text{mA}$, $f=1\text{MHz}$

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

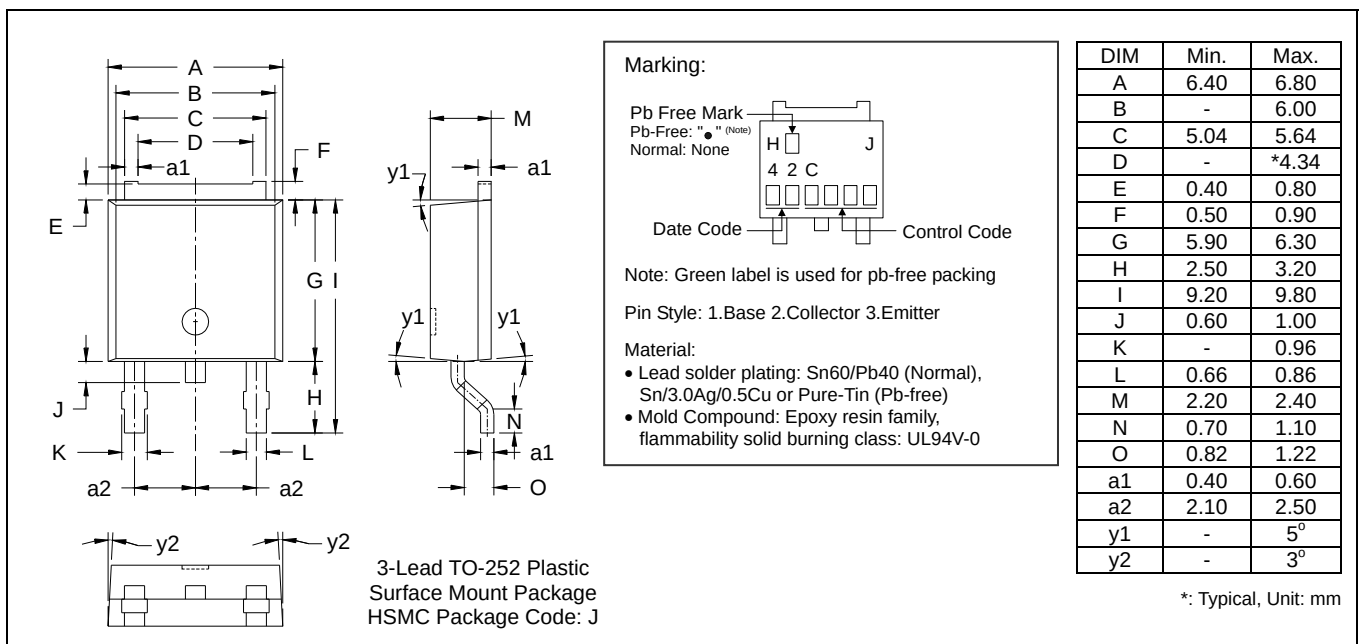
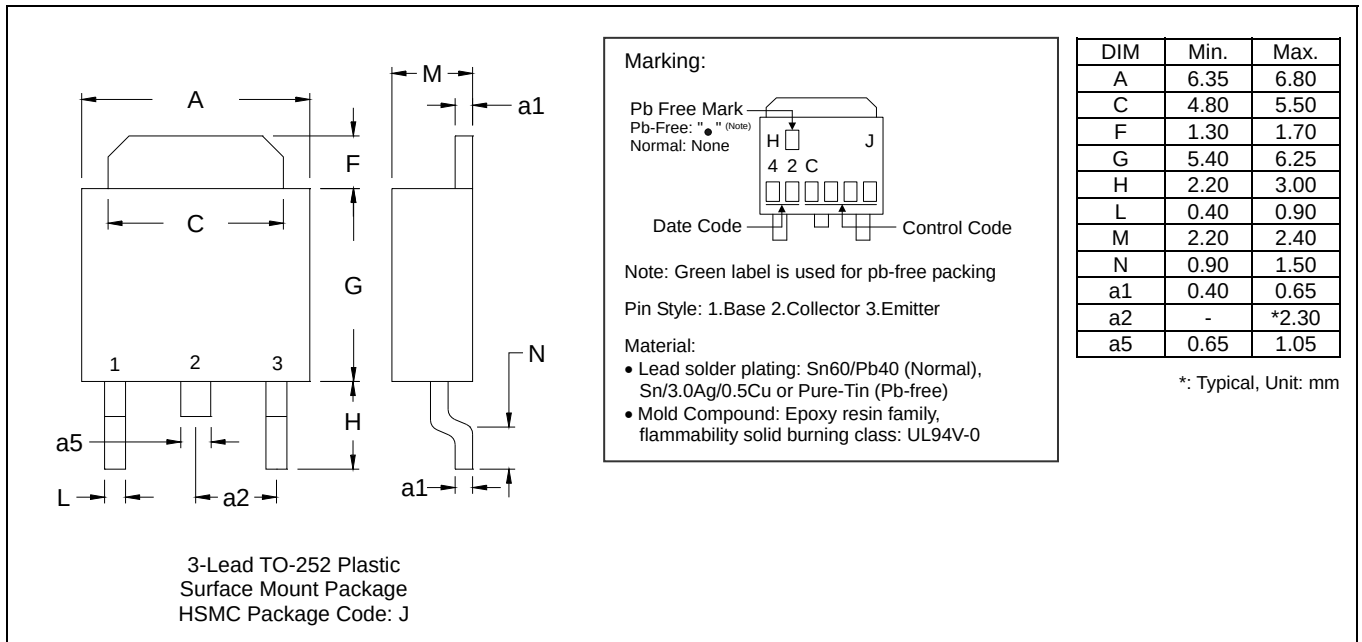


Characteristics Curve





TO-252 Dimension



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Head Office And Factory:

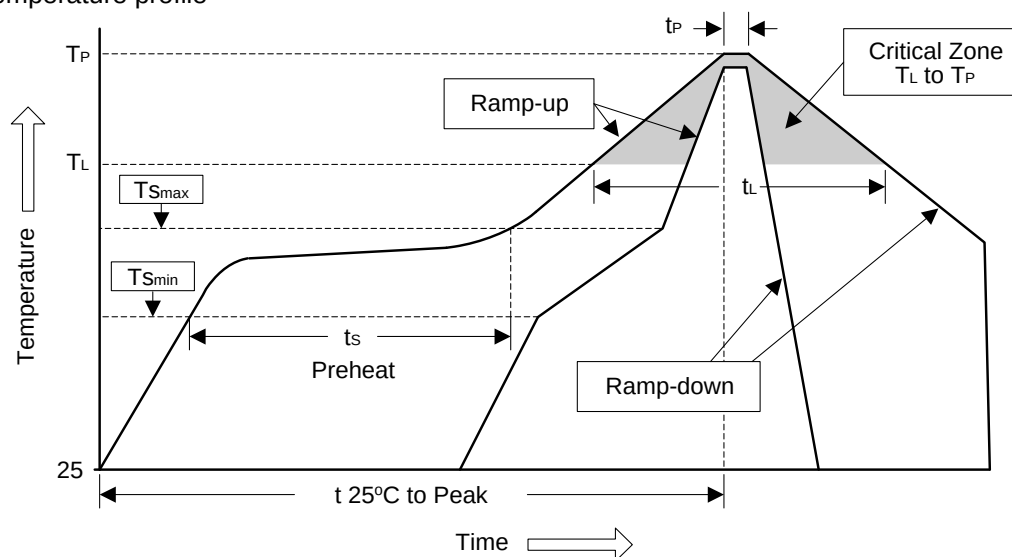
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Soldering Methods for HSMC's Products

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)	$<3^{\circ}\text{C}/\text{sec}$	$<3^{\circ}\text{C}/\text{sec}$
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	10sec ±1sec
Pb-Free devices.	260°C ±5°C	10sec ±1sec