



HM2222A

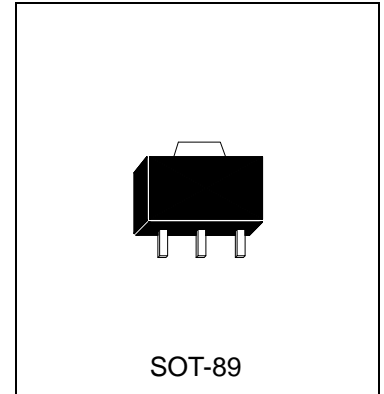
NPN EPITAXIAL PLANAR TRANSISTOR

Description

The HM2222A is designed for general purpose amplifier and high speed, medium-power switching applications.

Features

- Low collector saturation voltage
- High speed switching
- For complementary use with PNP type HPN2907A



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) 1.2 W
- Maximum Voltages and Currents (T_A=25°C)
 V_{CBO} Collector to Base Voltage 75 V
 V_{CES} Collector to Emitter Voltage 40 V
 V_{EBO} Emitter to Base Voltage 6 V
 I_C Collector Current 600 mA

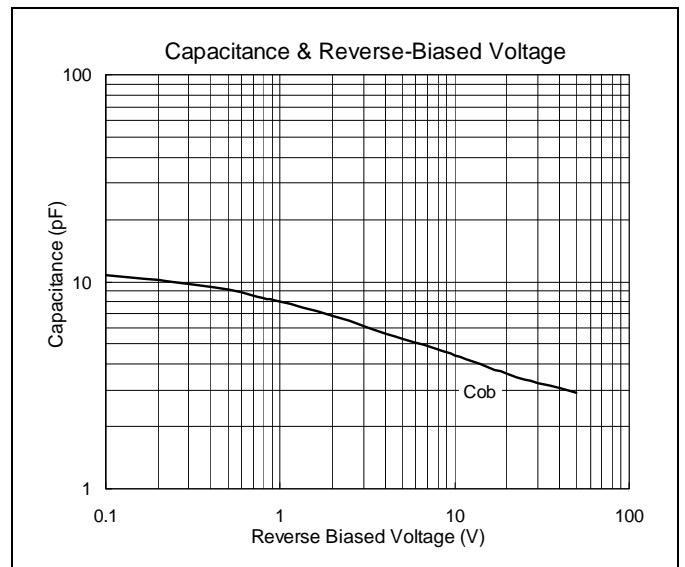
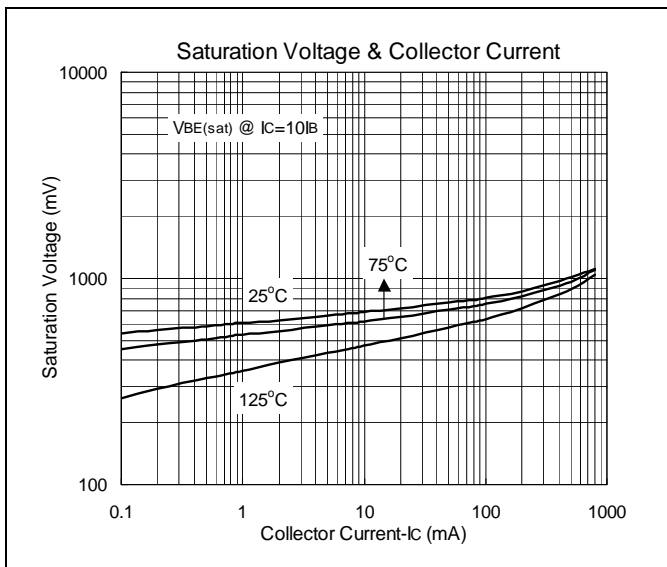
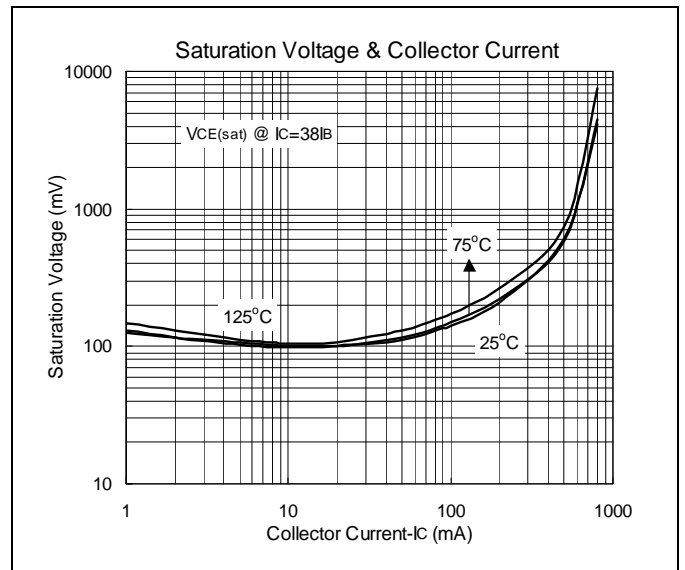
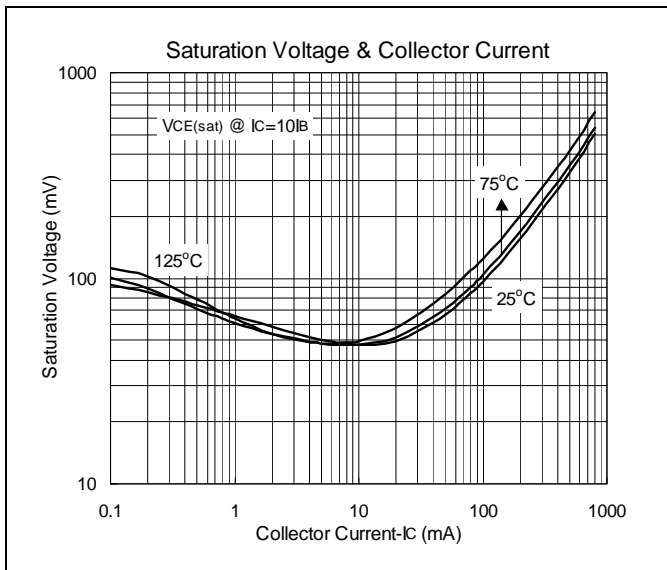
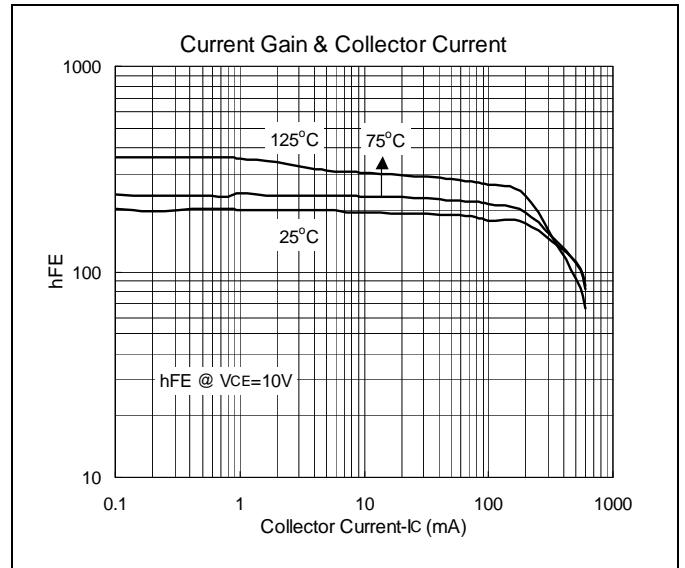
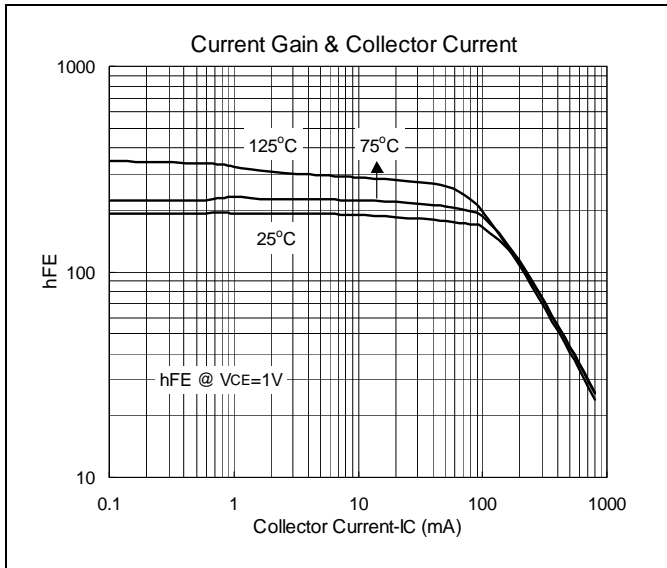
Electrical Characteristics (T_A=25°C)

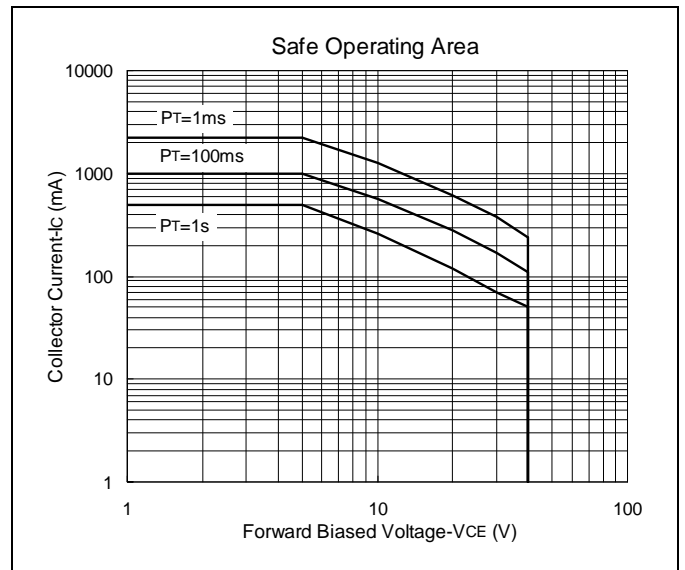
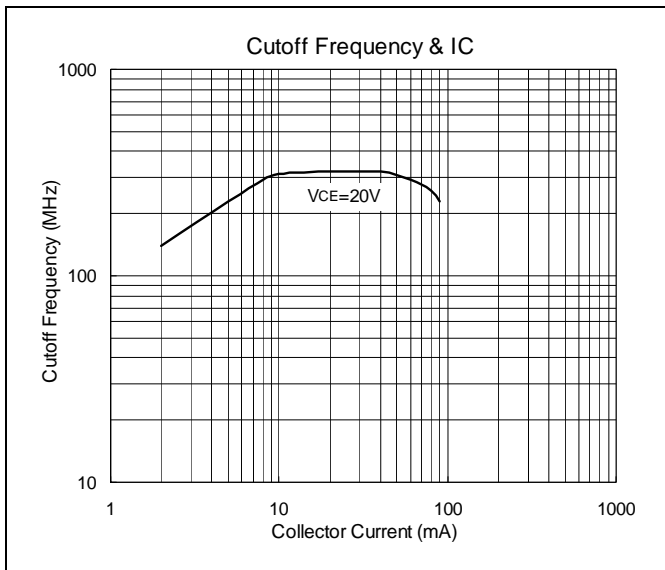
Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV _{CBO}	75	-	-	V	I _C =10uA
BV _{CEO}	40	-	-	V	I _C =10mA
BV _{EBO}	6	-	-	V	I _E =10uA
I _{CBO}	-	-	10	nA	V _{CB} =60V
I _{CEX}	-	-	10	nA	V _{CB} =60V, V _{EB(off)} =3V
I _{EBO}	-	-	50	nA	V _{EB} =3V
*V _{CE(sat)1}	-	-	300	mV	I _C =150mA, I _B =15mA
*V _{CE(sat)2}	-	-	1	V	I _C =500mA, I _B =50mA
*V _{BE(sat)1}	-	-	1.2	V	I _C =150mA, I _B =15mA
*V _{BE(sat)2}	-	-	2	V	I _C =500mA, I _B =50mA
*h _{FE1}	35	-	-		V _{CE} =10V, I _C =100uA
*h _{FE2}	50	-	-		V _{CE} =10V, I _C =1mA
*h _{FE3}	75	-	-		V _{CE} =10V, I _C =10mA
*h _{FE4}	100	-	300		V _{CE} =10V, I _C =150mA
*h _{FE5}	40	-	-		V _{CE} =10V, I _C =500mA
*h _{FE6}	50	-	-		V _{CE} =1V, I _C =150mA
f _T	300	-	-	MHZ	V _{CE} =20V, I _C =20mA, f=100MHZ

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



Characteristics Curve







SOT-89 Dimension

3-Lead SOT-89 Plastic
Surface Mounted Package
HSMC Package Code: M

Marking:

Date Code Control Code

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

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	4.40	4.60
B	4.05	4.25
C	1.50	1.70
D	2.40	2.60
E	0.36	0.51
F	*1.50	-
G	*3.00	-
H	1.40	1.60
I	0.35	0.41

*: Typical, Unit: mm

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Head Office And Factory:

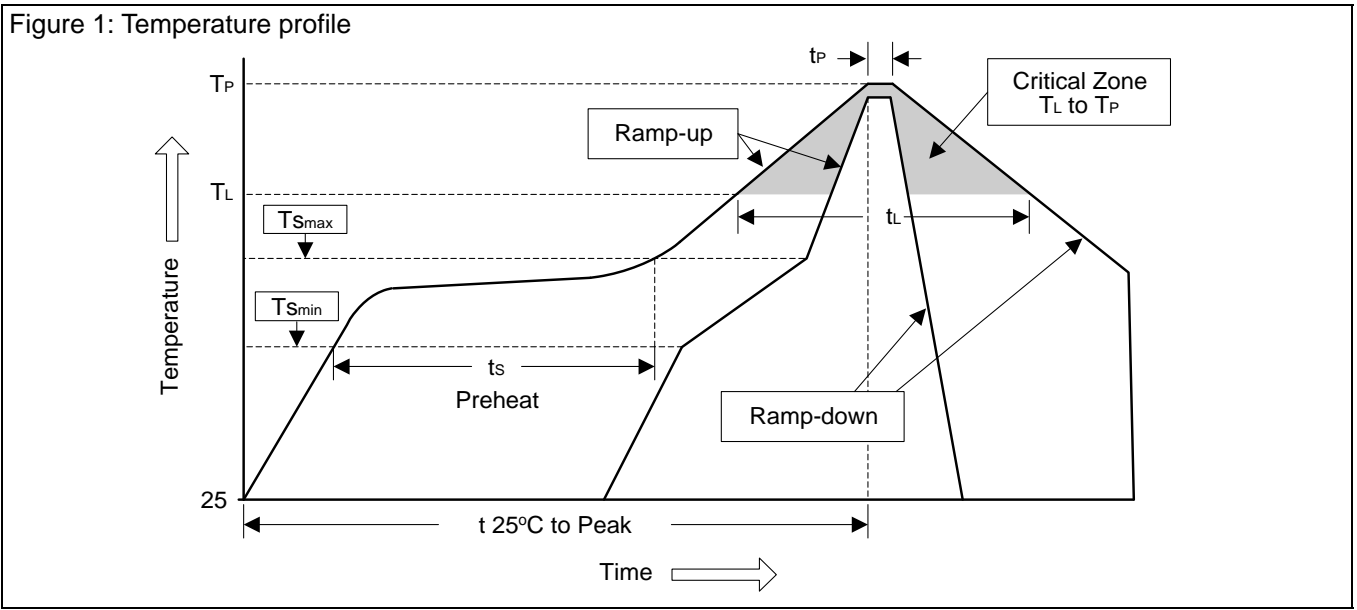
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 Tel: 886-2-25212056 Fax: 886-2-25632712, 25368454



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 (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