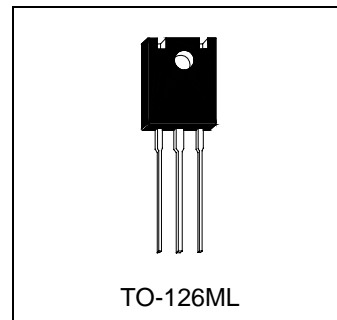




HSC3417

NPN Epitaxial Planar Transistor



TO-126ML

Features

- High Definition CRT Display Video Output Applications
- High Breakdown Voltage: $BV_{CEO}=300V$

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

- Maximum Temperatures
 - Storage Temperature..... -50 ~ +150 °C
 - Junction Temperature..... +150 °C Maximum
- Maximum Power Dissipation
 - Total Power Dissipation ($T_A=25^{\circ}C$)..... 1.2 W
 - Total Power Dissipation ($T_C=25^{\circ}C$)..... 7 W
- Maximum Voltages and Currents
 - BV_{CBO} Collector to Base Voltage..... 300 V
 - BV_{CEO} Collector to Emitter Voltage..... 300 V
 - BV_{EBO} Emitter to Base Voltage..... 5 V
 - I_C Collector Current..... 100 mA

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

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV_{CBO}	300	-	-	V	$I_C=100\mu A$
BV_{CEO}	300	-	-	V	$I_C=1mA$
BV_{EBO}	5	-	-	V	$I_E=10\mu A$
I_{CBO}	-	-	100	nA	$V_{CB}=200V$
I_{EBO}	-	-	100	nA	$V_{EB}=4V$
* $V_{CE(sat)}$	-	-	600	mV	$I_C=20mA, I_B=2mA$
* $V_{BE(sat)}$	-	-	1	V	$I_C=20mA, I_B=2mA$
* h_{FE}	100	-	200		$I_C=10mA, V_{CE}=10V$
f_T	-	70	-	MHz	$I_C=10mA, V_{CE}=30V, f=100MHz$
Cob	-	2.6	-	pF	$V_{CB}=30V, f=1MHz$

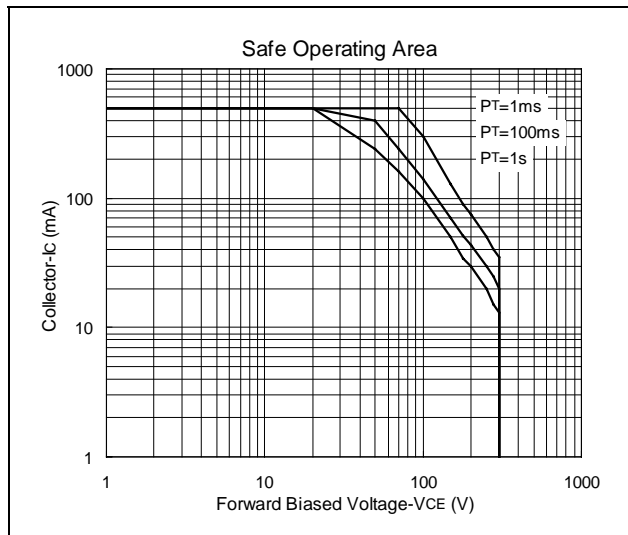
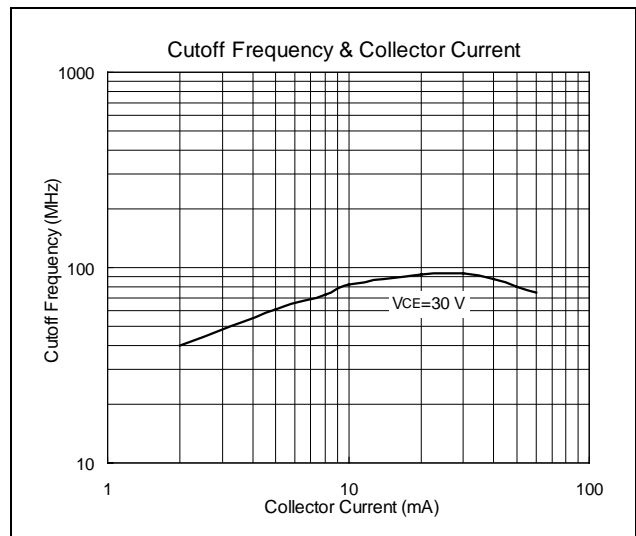
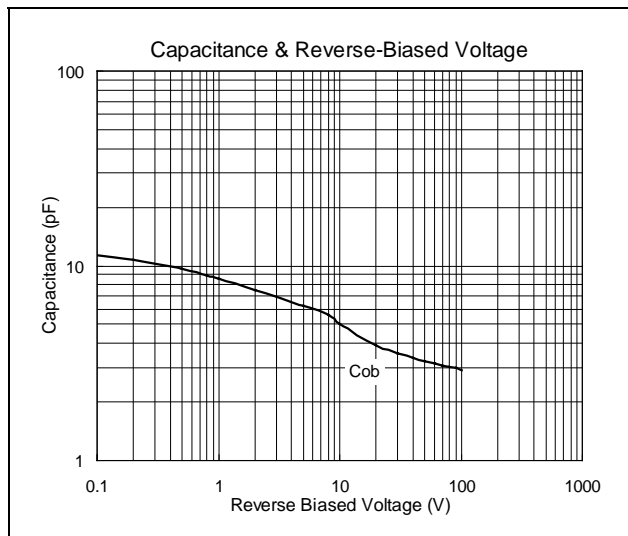
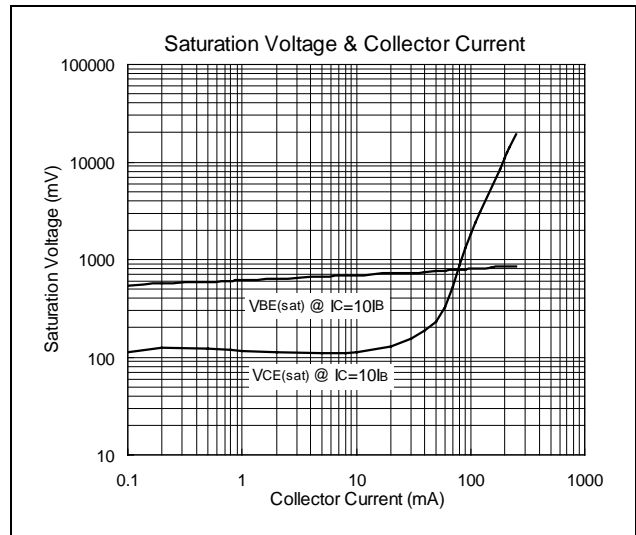
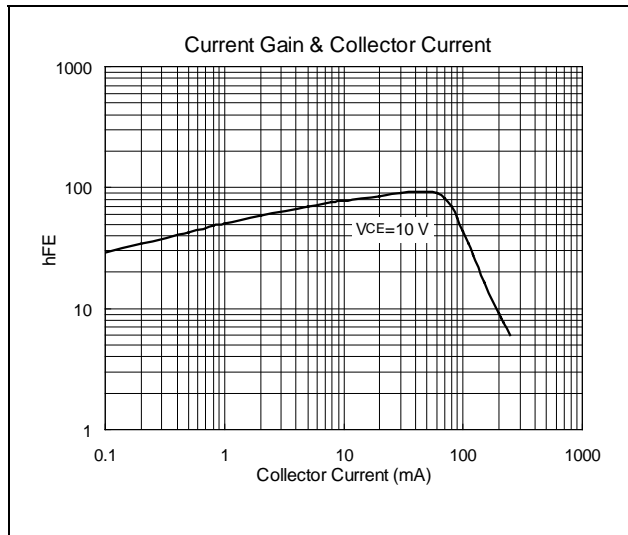
*Pulse Test: Pulse Width $\leq 380\mu s$, Duty Cycle $\leq 2\%$

Classification Of h_{FE}

Rank	E
Range	100-200



Characteristics Curve





TO-126ML Dimension

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. Emitter 2. Collector 3. Base

Material:

- Lead solder plating: Sn60/Pb40 (Normal), Sn3.0Ag/0.5Cu or Pure-Tin (Pb-free)
- Mold Compound: Epoxy resin family, flammability solid burning class: UL94V-0

DIM	Min.	Max.
A	7.74	8.24
B	10.87	11.37
C	0.88	1.12
D	1.28	1.52
E	3.50	3.75
F	2.61	3.37
G	13	-
H	1.18	1.42
I	2.88	3.12
J	0.68	0.84
K	-	2.30
L	3.44	3.70
M	1.88	2.14
N	0.50	0.51

*: Typical, Unit: mm

3-Lead TO-126ML
 Plastic Package
 HSMC Package Code: D

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Head Office And Factory:

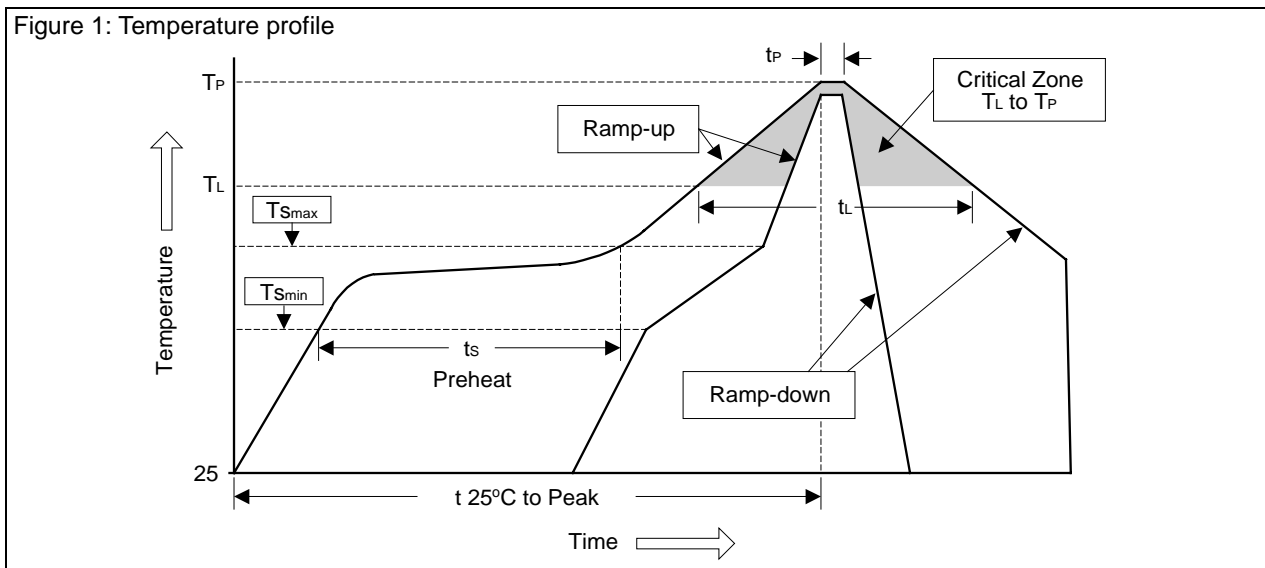
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Soldering Methods for HSMC's Products

- Storage environment: Temperature=10°C~35°C Humidity=65%±15%
- 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	10sec ±1sec
Pb-Free devices.	260°C ±5°C	10sec ±1sec