

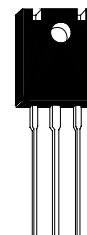


HSC3417

NPN Epitaxial Planar Transistor

Features

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



TO-126ML

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

- Maximum Temperatures
Storage Temperature $-50 \sim +150^{\circ}C$
Junction Temperature $+150^{\circ}C$ 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	$V_{CB}=30V, f=1MHz$

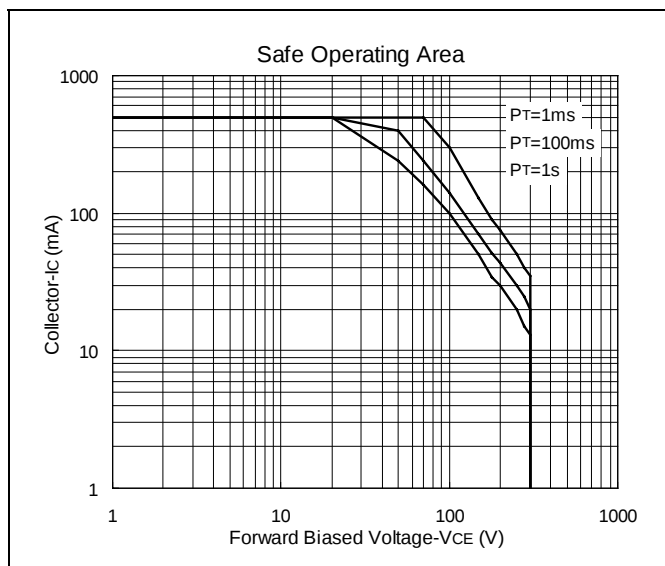
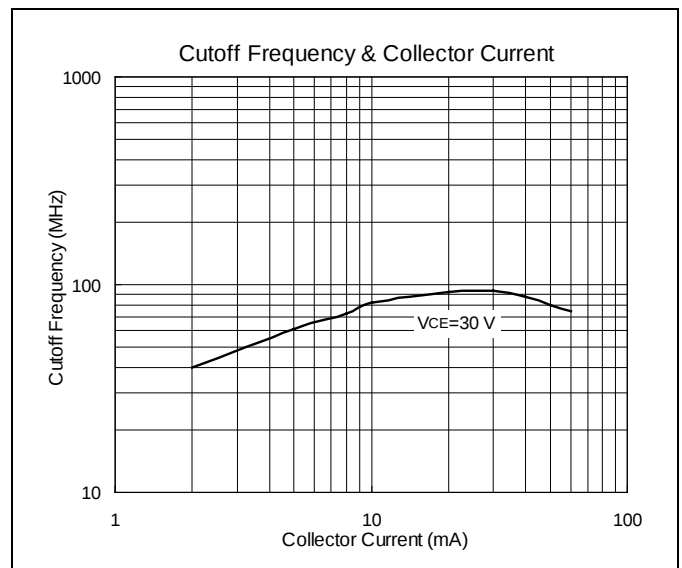
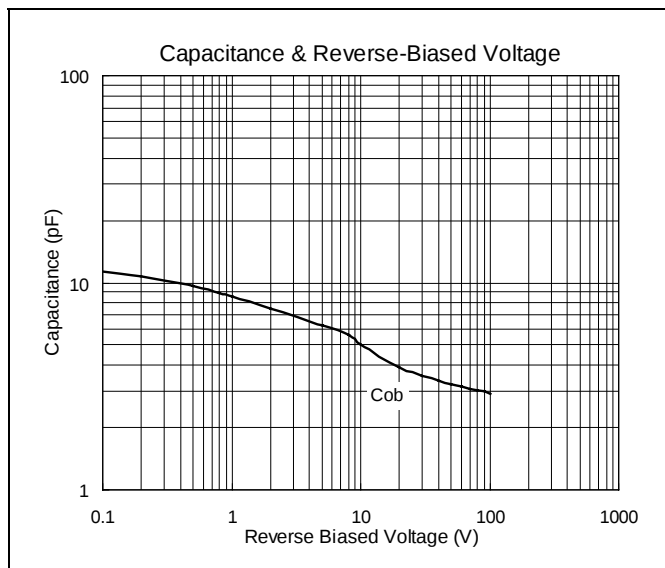
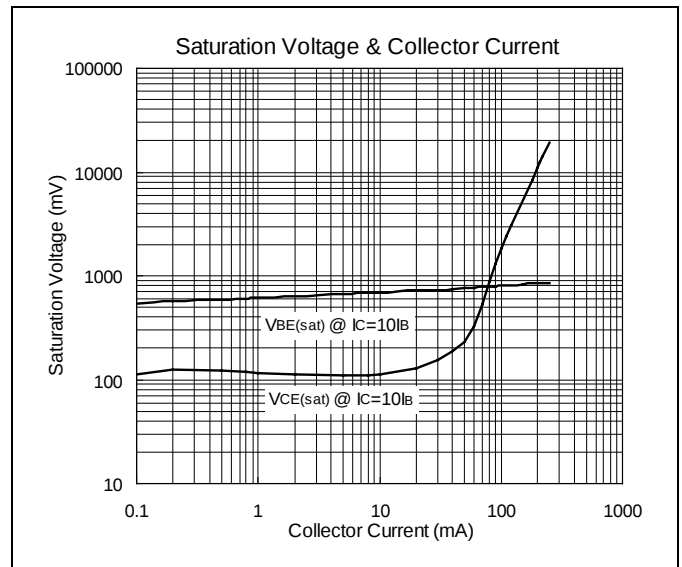
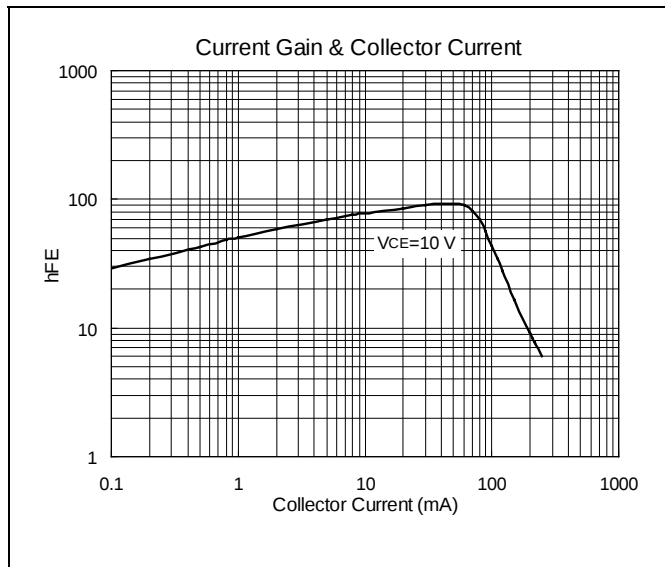
*Pulse Test: Pulse Width $\leq 380\mu s$, Duty Cycle $\leq 2\%$

Classification Of h_{FE}

Rank	E
Range	100-200

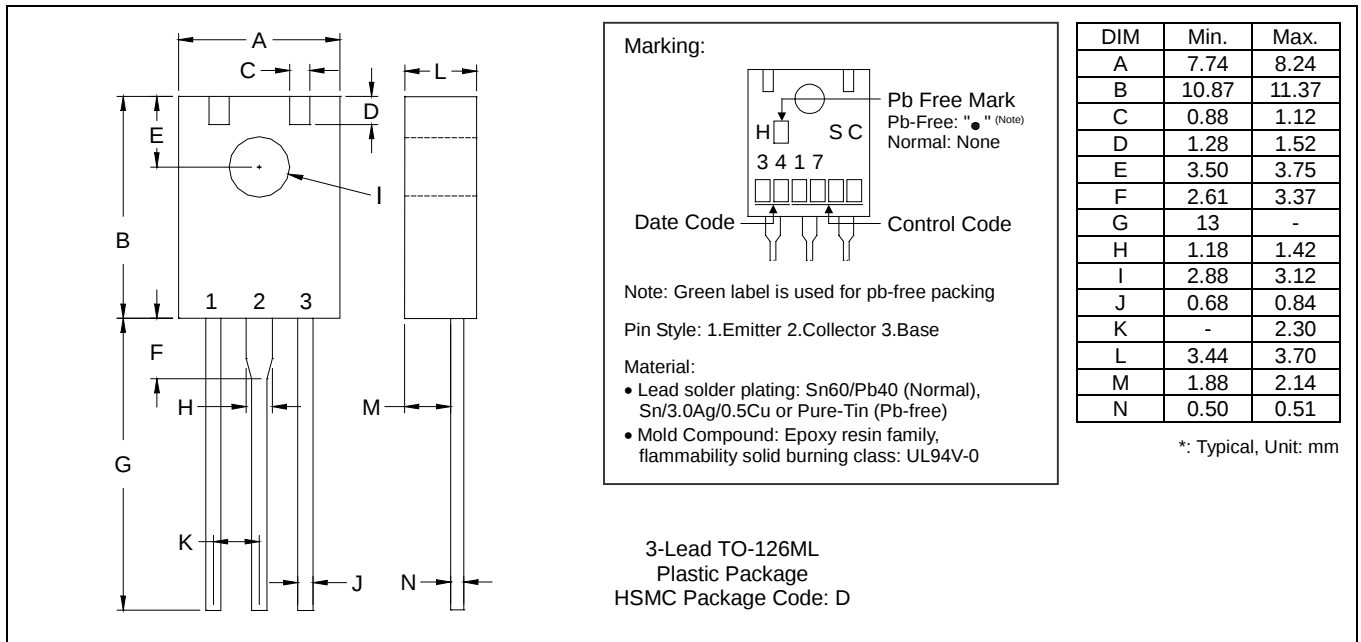


Characteristics Curve





TO-126ML Dimension



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Head Office And Factory:

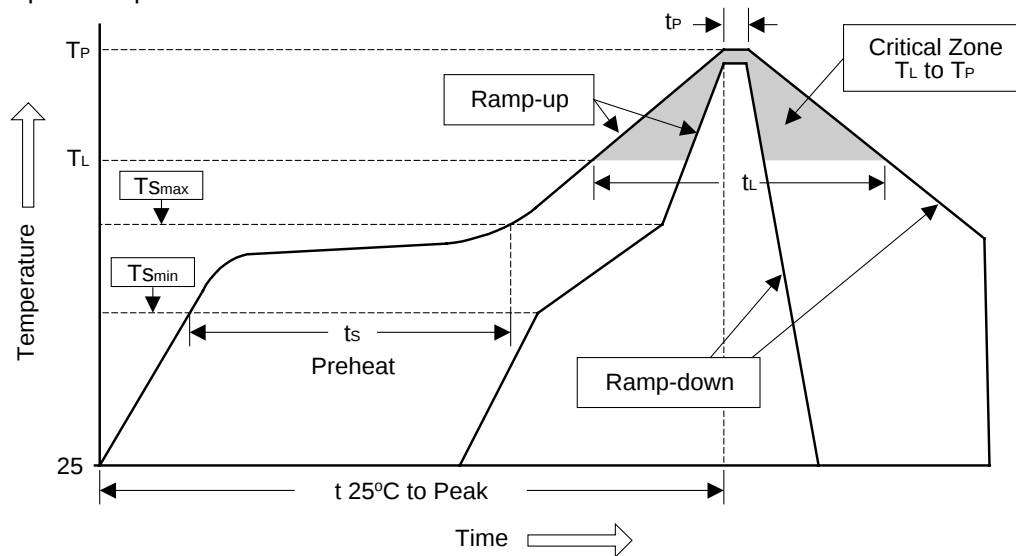
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Soldering Methods for HSMC's Products

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°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