

# M28M

Rev.F Apr.-2017

## / Descriptions

Silicon NPN transistor in a SOT-23 Plastic Package.

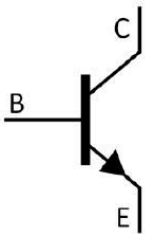
## / Features

High  $I_C$ , high  $h_{FE}$ .

## / Applications

Use in audio output driver stage amplifier applications.

## / Equivalent Circuit



## / Pinning



PIN1 Base          PIN 2 Emitter          PIN 3 Collector

## / $h_{FE}$ Classifications & Marking

$h_{FE}$ Classifications Symbol	B	C	D
$h_{FE}$ Range	300~550	500~700	650~1000
Marking	H28B	H28C	H28D

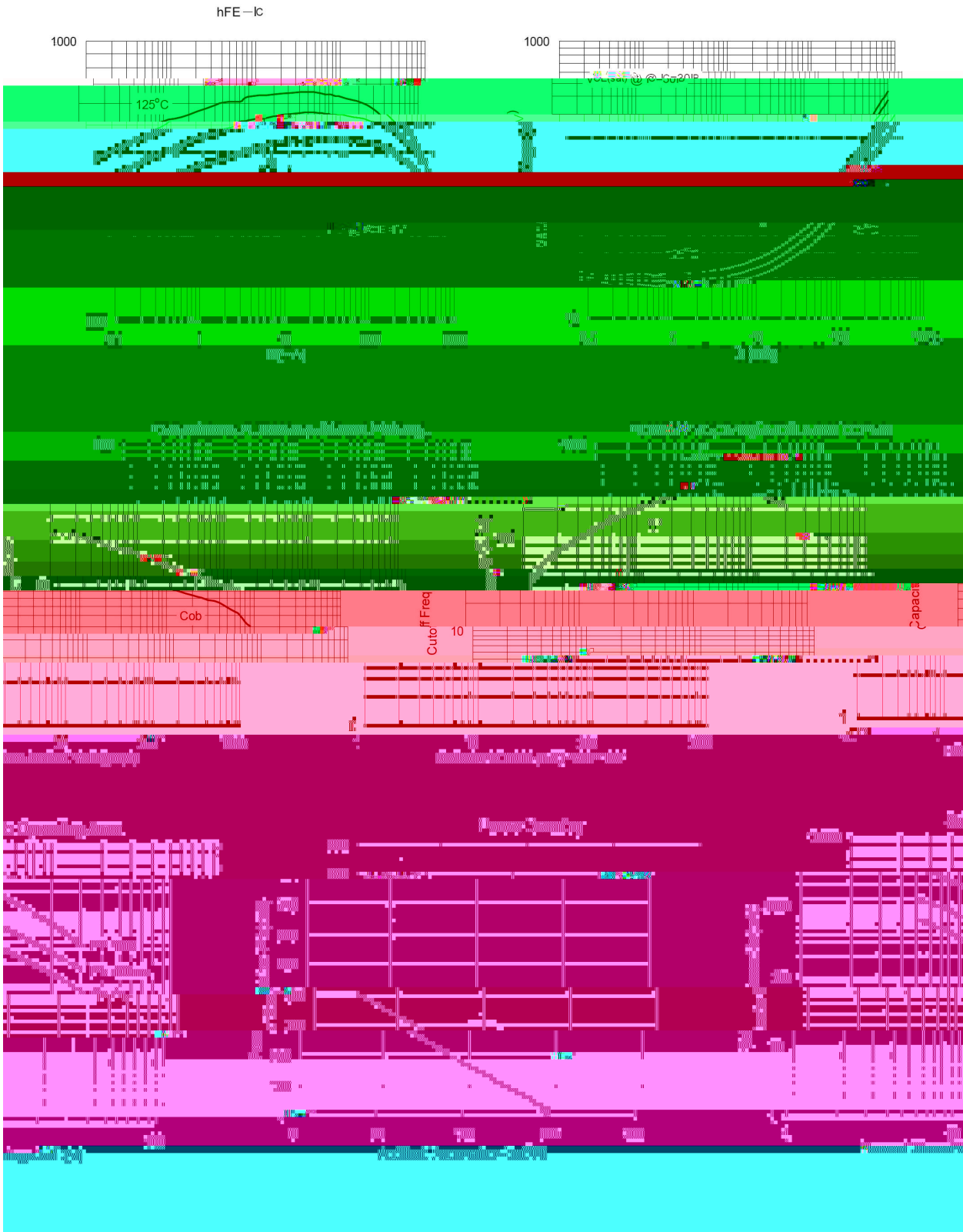
**/ Absolute Maximum Ratings(Ta=25 )**

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	$V_{CBO}$	40	V
Collector to Emitter Voltage	$V_{CEO}$	20	V
Emitter to Base Voltage	$V_{EBO}$	6.0	V
Collector Current - Continuous	$I_C$	1.0	A
Collector Power Dissipation	$P_C$	400	mW
Junction Temperature	$T_j$	150	
Storage Temperature Range	$T_{stg}$	-55 150	

**/ Electrical Characteristics(Ta=25 )**

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	$V_{CBO}$	$I_C=0.1mA$ $I_E=0$	40			V
Collector to Emitter Breakdown Voltage	$V_{CEO}$	$I_C=1.0mA$ $I_B=0$	20			V
Emitter to Base Breakdown Voltage	$V_{EBO}$	$I_E=0.1mA$ $I_C=0$	6.0			V
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=40V$ $I_E=0$			1.0	A
Emitter Cut-Off Current	$I_{CEO}$	$V_{CE}=20V$ $I_B=0$			5.0	A
Emitter Base Cut-Off Current	$I_{EBO}$	$V_{EB}=5.0V$ $I_C=0$			0.1	A
DC Current Gain	$h_{FE(1)}$	$V_{CE}=1.0V$ $I_C=100mA$	300		1000	
	$h_{FE(2)}$	$V_{CE}=1.0V$ $I_C=500mA$	300			
	$h_{FE(3)}$	$V_{CE}=1.0V$ $I_C=300mA$	300			
	$h_{FE(4)}$	$V_{CE}=1.0V$ $I_C=1.0mA$	290			
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=600mA$ $I_B=20mA$			0.55	V
Transition Frequency	$f_T$	$I_C=50mA$ $f=30MHz$ $V_{CE}=10V$	100			MHz

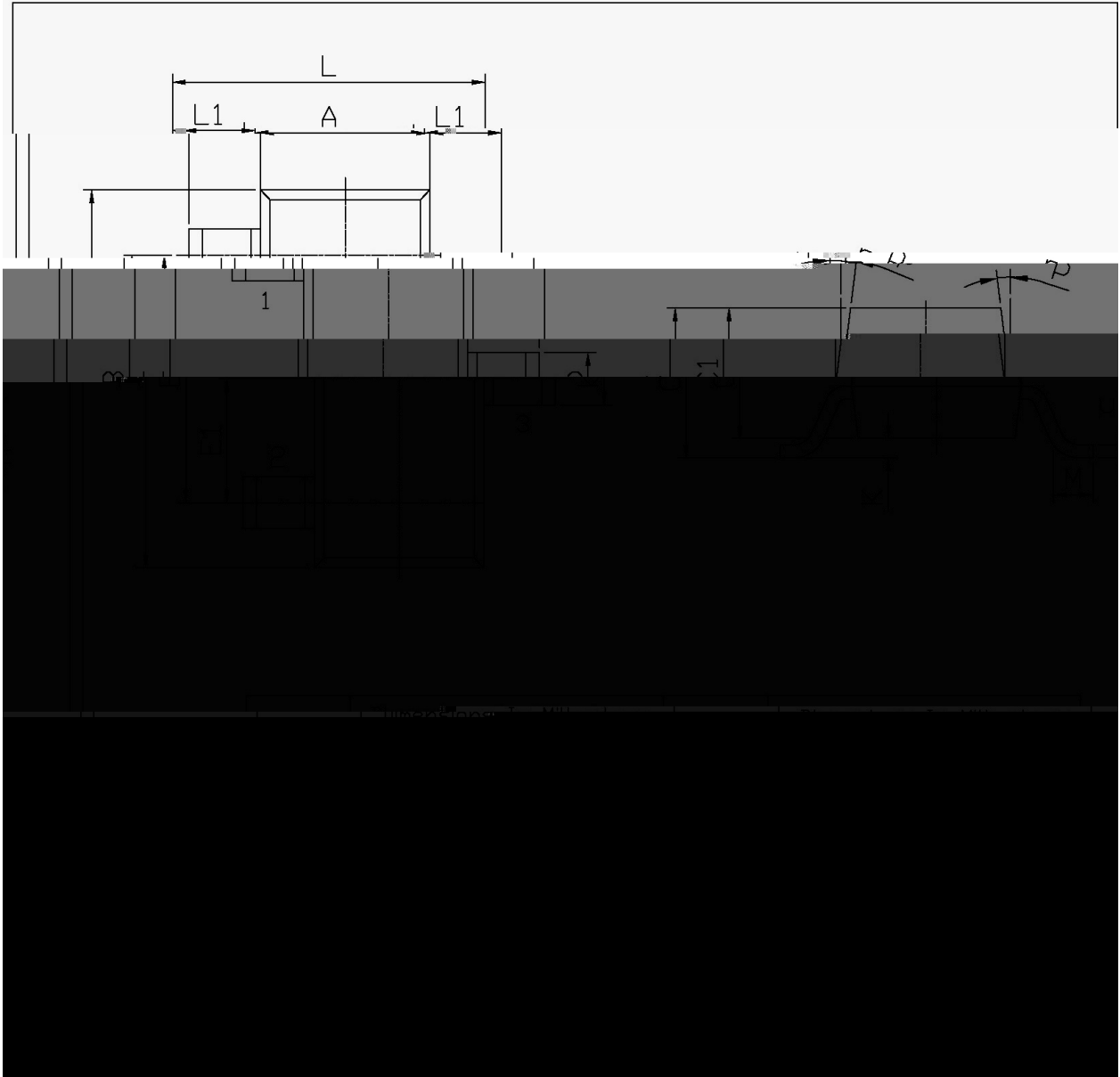
/ Electrical Characteristic Curve



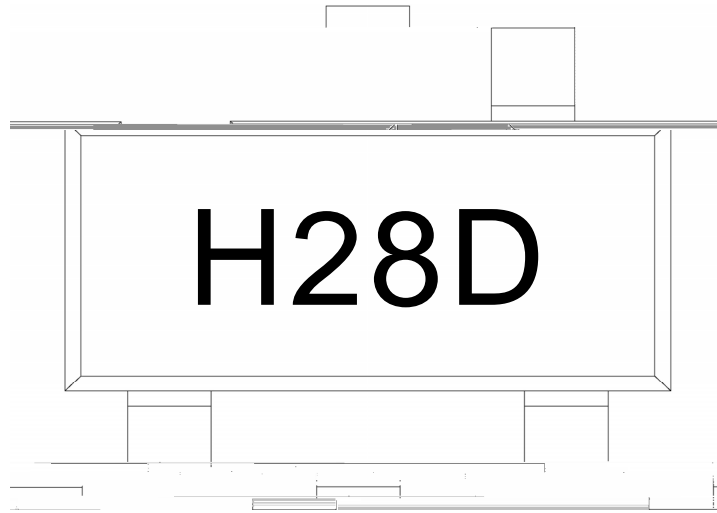
/ Package Dimensions

SOT-23

单位: mm



/ Marking Instructions



H

28

D             $h_{FE}$

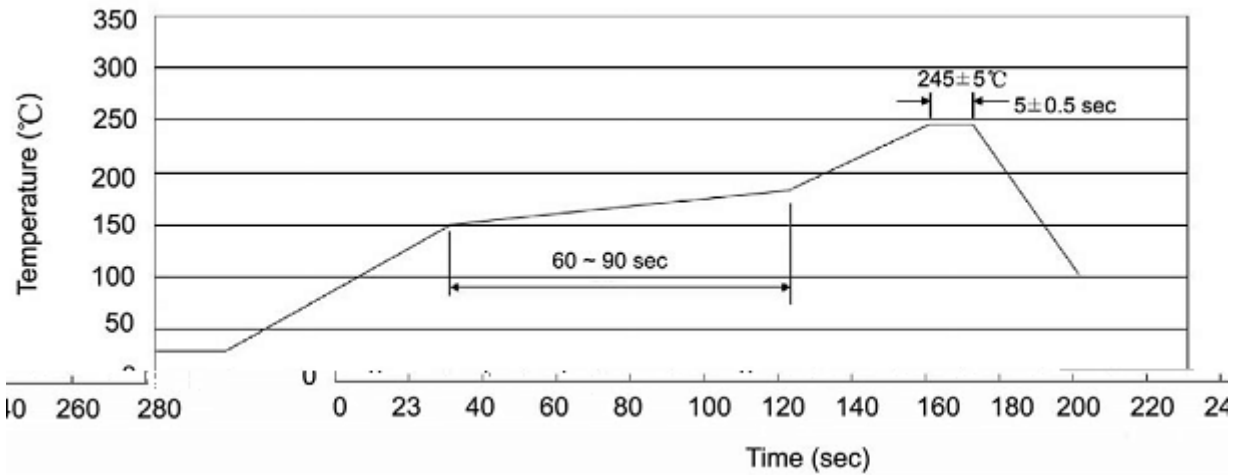
Note:

H:            Company Code.

28:           Product Type.

D:             $h_{FE}$  Classifications Symbol.

( ) / Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

- |   |     |     |    |          |   |
|---|-----|-----|----|----------|---|
| 1 | 25  | 150 | 60 | 90sec;   | 1.Preheating:25~150 , Time:60~90sec.    |
| 2 | 245 | 5   | 5  | 0.5sec;  | 2.Peak Temp.:245 5 , Duration:5 0.5sec. |
| 3 |     |     | 2  | 10 /sec. | 3. Cooling Speed: 2~10 /sec.            |

/ Resistance to Soldering Heat Test Conditions

260 5                      10 1 sec.                      Temp.:260 5                      Time:10 1 sec

/ Packaging SPEC.

/ REEL

Package Type                      Units  
封装形式