

**/ Descriptions**

SOT-223                  NPN                                  Silicon NPN transistor in a SOT-223 Plastic Package.

**/ Features**

$V_{CE(sat)}$  ,  $h_{FE}$   
Low saturation voltage, excellent  $h_{FE}$  linearity and high  $h_{FE}$ .

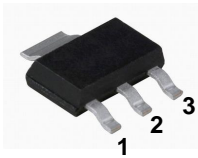
**/ Applications**

3  
Output stage of 3 watts audio amplifier, voltage regulator, DC-DC converter and relay driver .

**/ Equivalent Circuit**



**/ Pinning**



PIN1 Base                  PIN 2 Collector                  PIN 3 Emitter

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

$h_{FE}$ Classifications Symbol	R	Q	P	E
$h_{FE}$ Range	60~120	100~200	160~320	200~400

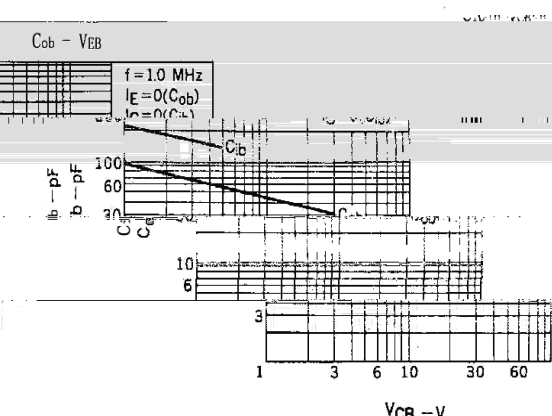
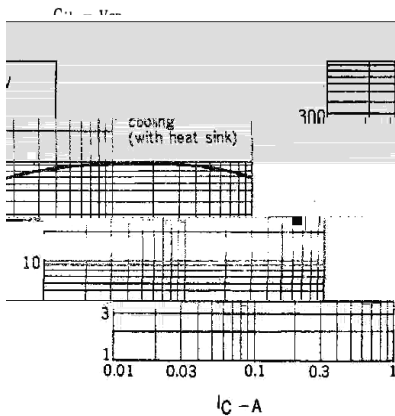
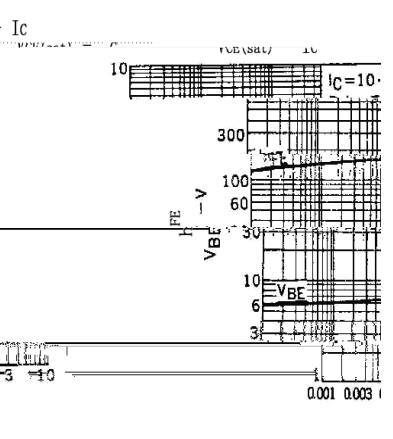
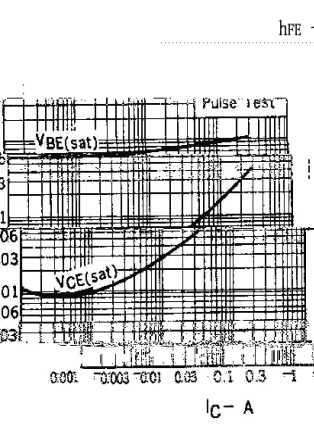
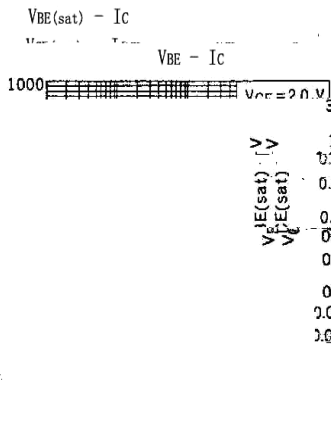
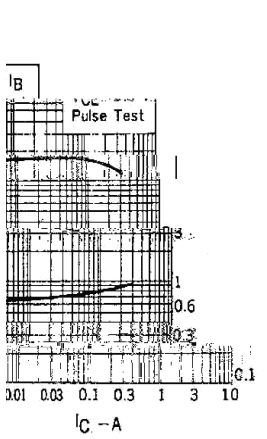
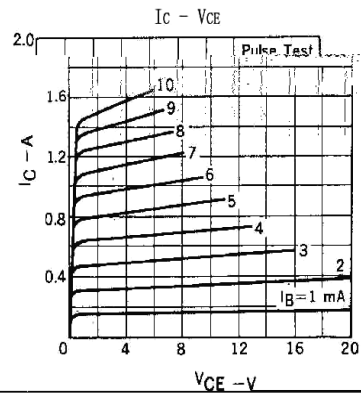
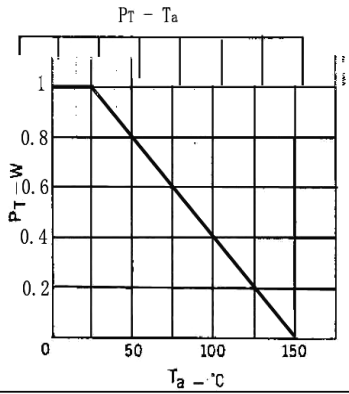
**/ Absolute Maximum Ratings(Ta=25 )**

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	$V_{CBO}$	40	V
Collector to Emitter Voltage	$V_{CEO}$	30	V
Emitter to Base Voltage	$V_{EBO}$	5.0	V
Collector Current - Continuous	$I_C$	3.0	A
Collector Power Dissipation	$P_C$	1.0	W
	$P_C(T_C=25^{\circ}C)$	10	W
Junction Temperature	$T_j$	150	$^{\circ}C$
Storage Temperature Range	$T_{stg}$	-55 150	$^{\circ}C$

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=30V$ $I_E=0$			1.0	$\mu A$
Emitter Base Cut-Off Current	$I_{EBO}$	$V_{EB}=3.0V$ $I_C=0$			1.0	$\mu A$
DC Current Gain	$h_{FE(1)}$	$V_{CE}=2.0V$ $I_C=1.0A$	60	160	400	
	$h_{FE(2)}$	$V_{CE}=2.0V$ $I_C=20mA$	30	150		
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=2.0A$ $I_B=0.2A$		0.3	0.5	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=2.0A$ $I_B=0.2A$		1.0	2.0	V
Transition Frequency	$f_T$	$V_{CE}=5.0V$ $I_C=0.1A$		90		MHz
Collector output capacitance	$C_{ob}$	$V_{CB}=10V$ $f=1.0MHz$ $I_E=0$		45		pF

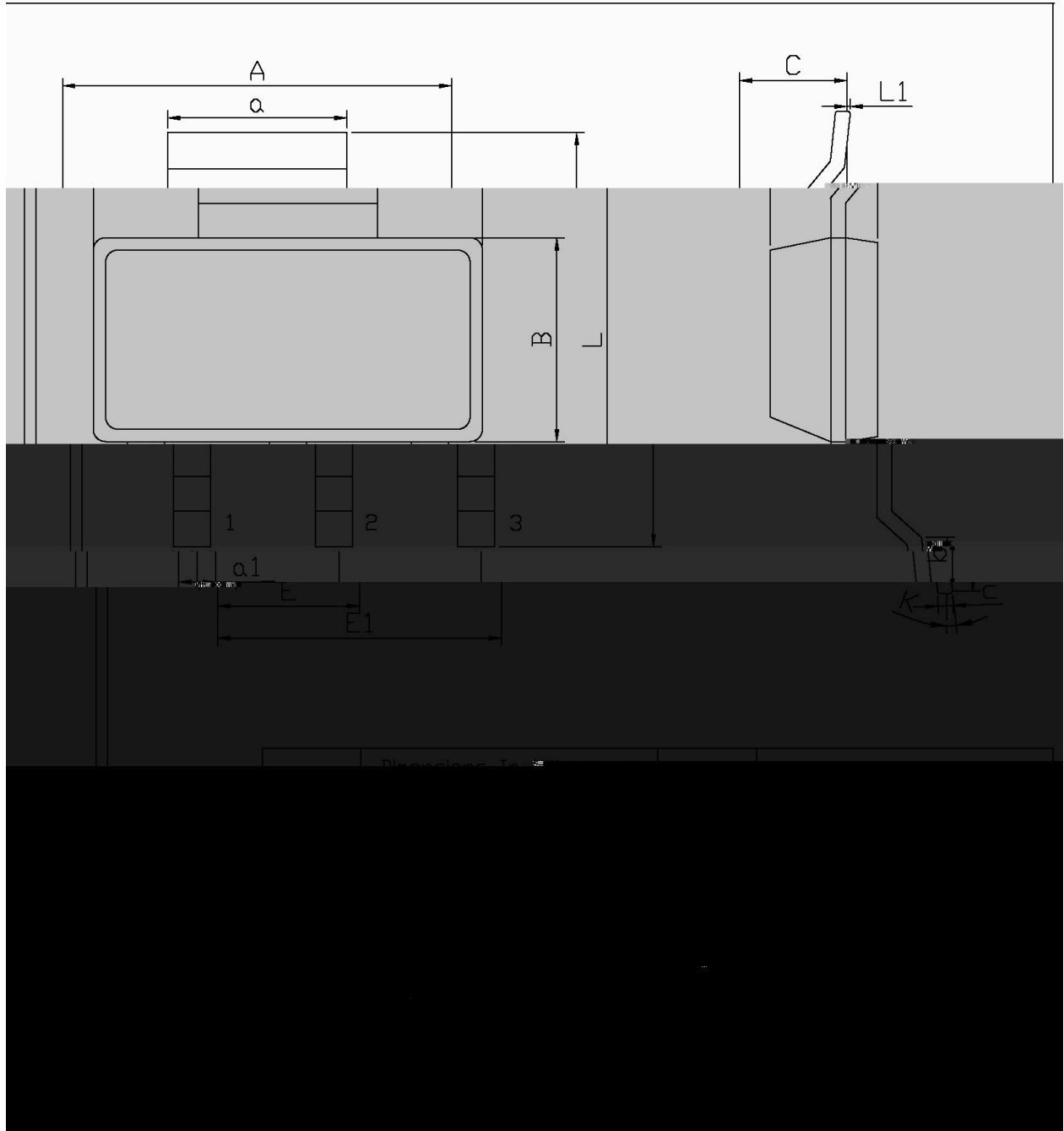
/ Electrical Characteristic Curve



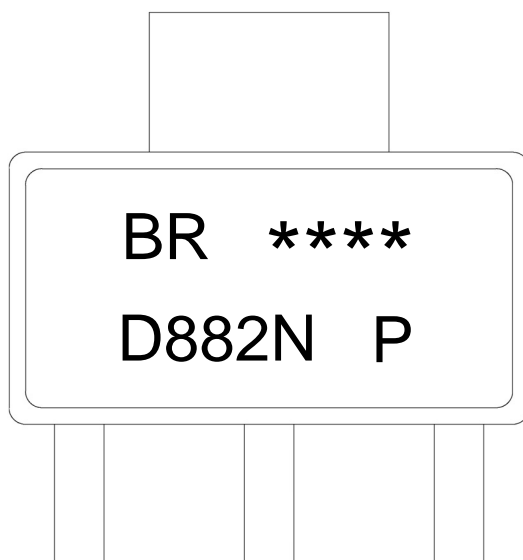
/ Package Dimensions

SOT-223

单位: mm



/ Marking Instructions



BR

D882N

P

$h_{FE}$

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Note:

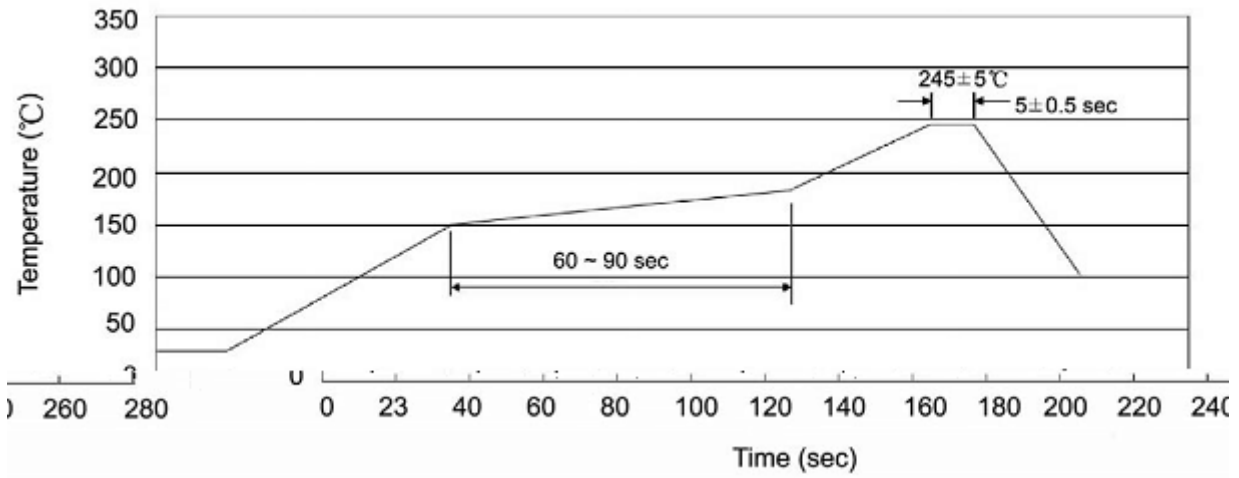
BR: Company Code.

D882N: Product Type.

P:  $h_{FE}$  Classifications Symbol

\*\*\*\*: Lot No. Code, code change with Lot No.

( ) / 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 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm <sup>3</sup> )		
	只卷盘	卷盘盒	只盒	盒箱	只箱		盒	箱

/ Notices