

/ Descriptions

SOT-89 NPN Silicon NPN transistor in a SOT-89 Plastic Package.

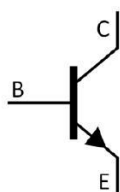
• / Features

 , 2SB1132
Low saturation voltage, complements the 2SB1132.

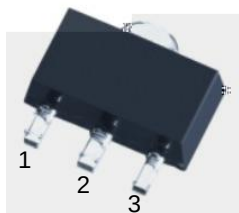
▼ / Applications

Medium power amplifier applications.

≈ / Equivalent Circuit



λ / Pinning



PIN1 Base PIN 2 Collector PIN 3 Emitter

🏷 / Marking

h_{FE} Classifications Symbol	P	Q	R
h_{FE} Range	82 180	120 270	180 390
Marking	HDAP* _*	HDAQ* _*	HDAR* _*

⚡ / Absolute Maximum Ratings(Ta=25 °C)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	40	V
Collector to Emitter Voltage	V_{CEO}	32	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current-Continuous	I_C	1.0	A
Collector Base-Continuous(Pulse)	I_{CP}	2.0	A
Collector Power Dissipation	P_C	500	mW
Collector Power Dissipation	$P_C(T_C=25\text{ }^{\circ}\text{C})$	2.0	W
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 ~ 150	

⚡ / Electrical Characteristics(Ta=25 °C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V_{CBO}	$I_C=50\text{ }\mu\text{A}$ $I_E=0$	40			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=1.0\text{mA}$ $I_B=0$	32			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E=50\text{ }\mu\text{A}$ $I_C=0$	5.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=20\text{V}$ $I_E=0$			0.5	μA
Emitter Base Cut-Off Current	I_{EBO}	$V_{EB}=4.0\text{V}$ $I_C=0$			0.5	μA
DC Current Gain	h_{FE}	$V_{CE}=3.0\text{V}$ $I_C=100\text{mA}$	82		390	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=500\text{mA}$ $I_B=50\text{mA}$		0.15	0.4	V
Transition Frequency	f_T	$V_{CE}=5.0\text{V}$ $f=100\text{MHz}$ $I_C=50\text{mA}$		150		MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=10\text{V}$ $f=1.0\text{MHz}$ $I_E=0$		15		pF

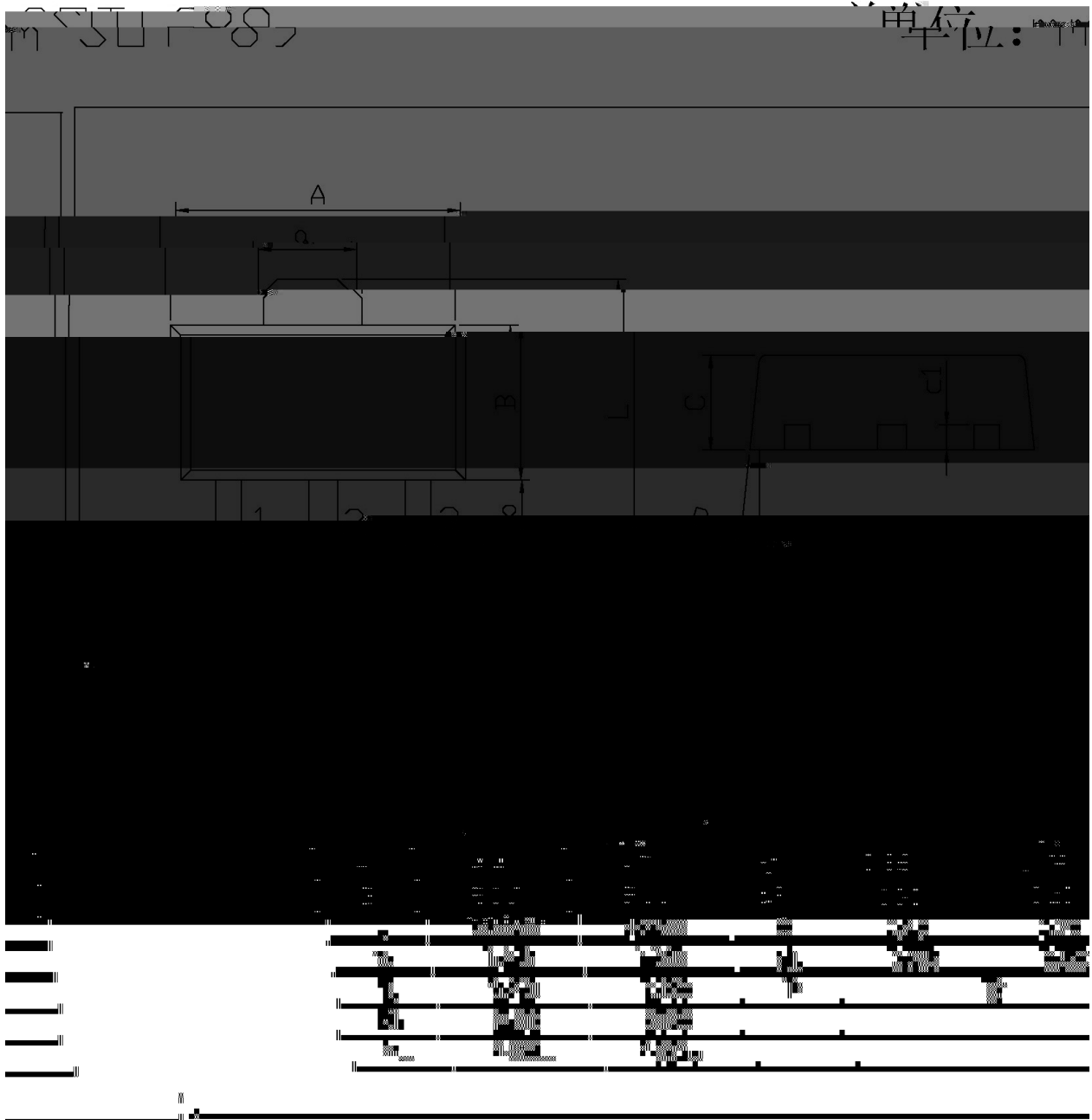
≡ M / Electrical Characteristic Curve

$h_{FE} - I_C$

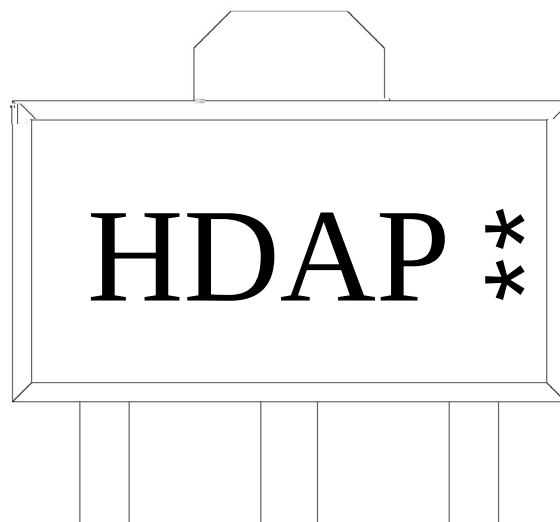
$V_{CE(sat)} - I_C$



/ Package Dimensions



/ Marking Instructions



H

DA

P

h_{FE}

**

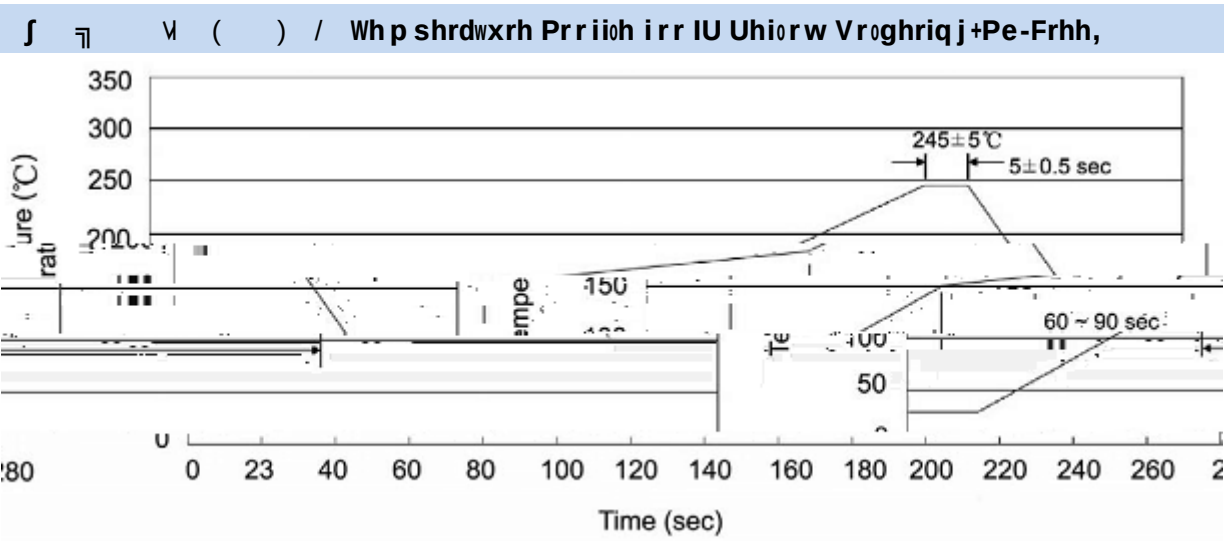
Note:

H: Company Code.

DA: Product Type.

P h_{FE} Classifications Symbol

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



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. |

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