

/ Descriptions

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

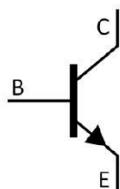
/ Features

Small size making it easy to provide high-density. Halogen-free Product.

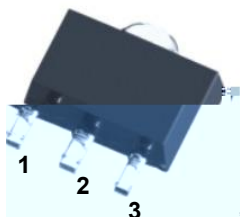
/ Applications

27MHz CB
27MHz CB transceiver driver applications.

/ Equivalent Circuit



/ Pinning



PIN1 Base PIN 2 Collector PIN 3 Emitter

/ Marking

h_{FE} Classifications Symbol	D	E	F
h_{FE} Range	60 120	100 200	160 320
Marking	HCHD*	HCHE*	HCHF*

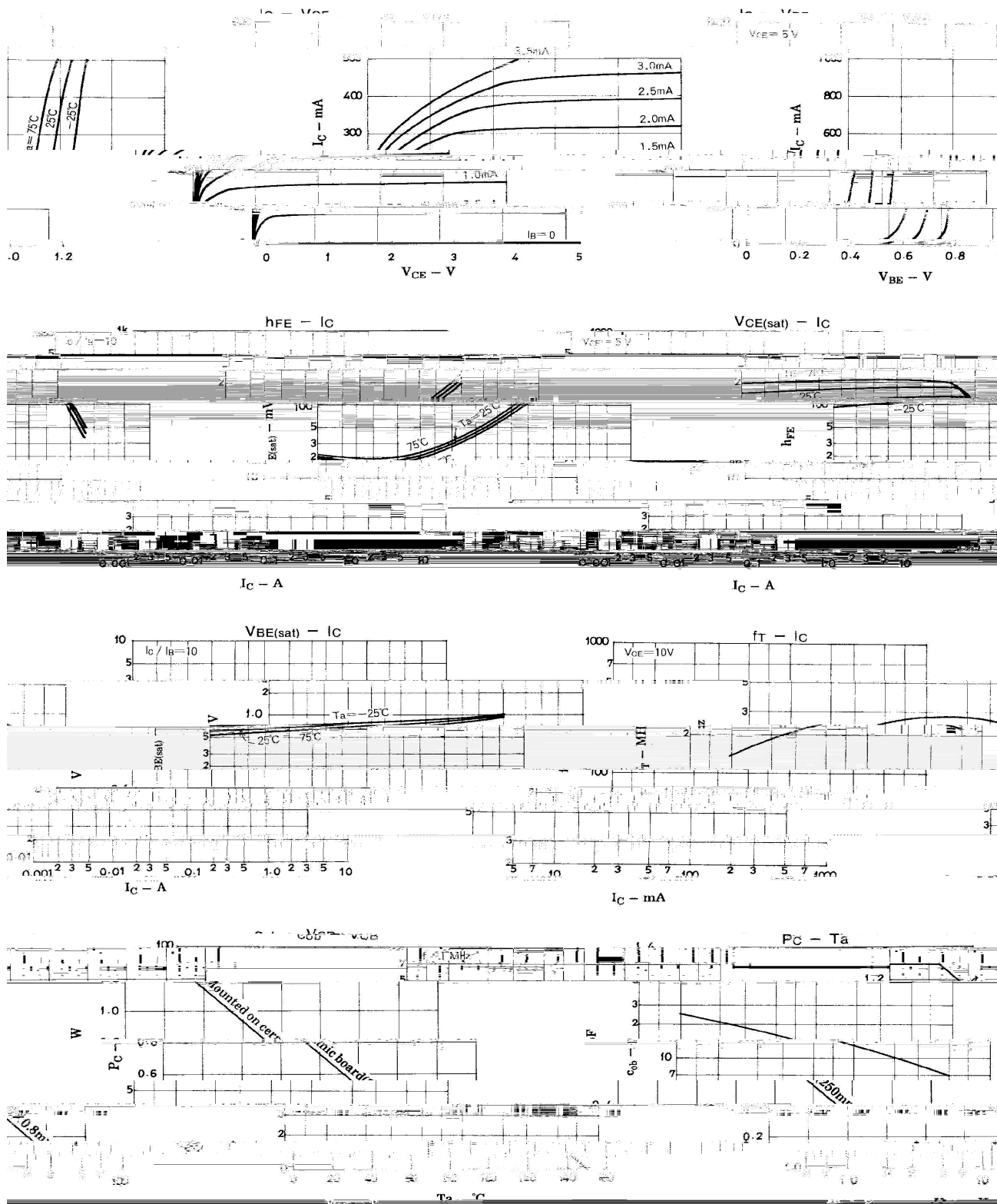
/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	75	V
Collector to Emitter Voltage	V_{CEO}	45	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current - Continuous	I_C	1.0	A
Collector Current – Continuous(Pulse)	I_{CP}	1.5	A
Collector Power Dissipation	P_C	500	mW
Collector Power Dissipation	$P_C(T_c=25)$	1.3	W
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}	$I_C=10\mu A$ $I_E=0$	75			V
Collector to Emitter Breakdown Voltage	V_{CER}	$I_C=1.0mA$ $R_{BE}=150\Omega$	75			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=1.0mA$ $R_{BE}=\infty$	45			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E=10\mu A$ $I_C=0$	5.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=40V$ $I_E=0$			1.0	μA
Emitter Base Cut-Off Current	I_{EBO}	$V_{EB}=4.0V$ $I_C=0$			1.0	μA
DC Current Gain	h_{FE}	$V_{CE}=5.0V$ $I_C=500mA$	60		320	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=500mA$ $I_B=50mA$		0.2	0.6	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=500mA$ $I_B=50mA$		0.9	1.2	V
Transition Frequency	f_T	$V_{CE}=10V$ $I_C=50mA$	180	250		MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=10V$ $f=1.0MHz$		13		pF

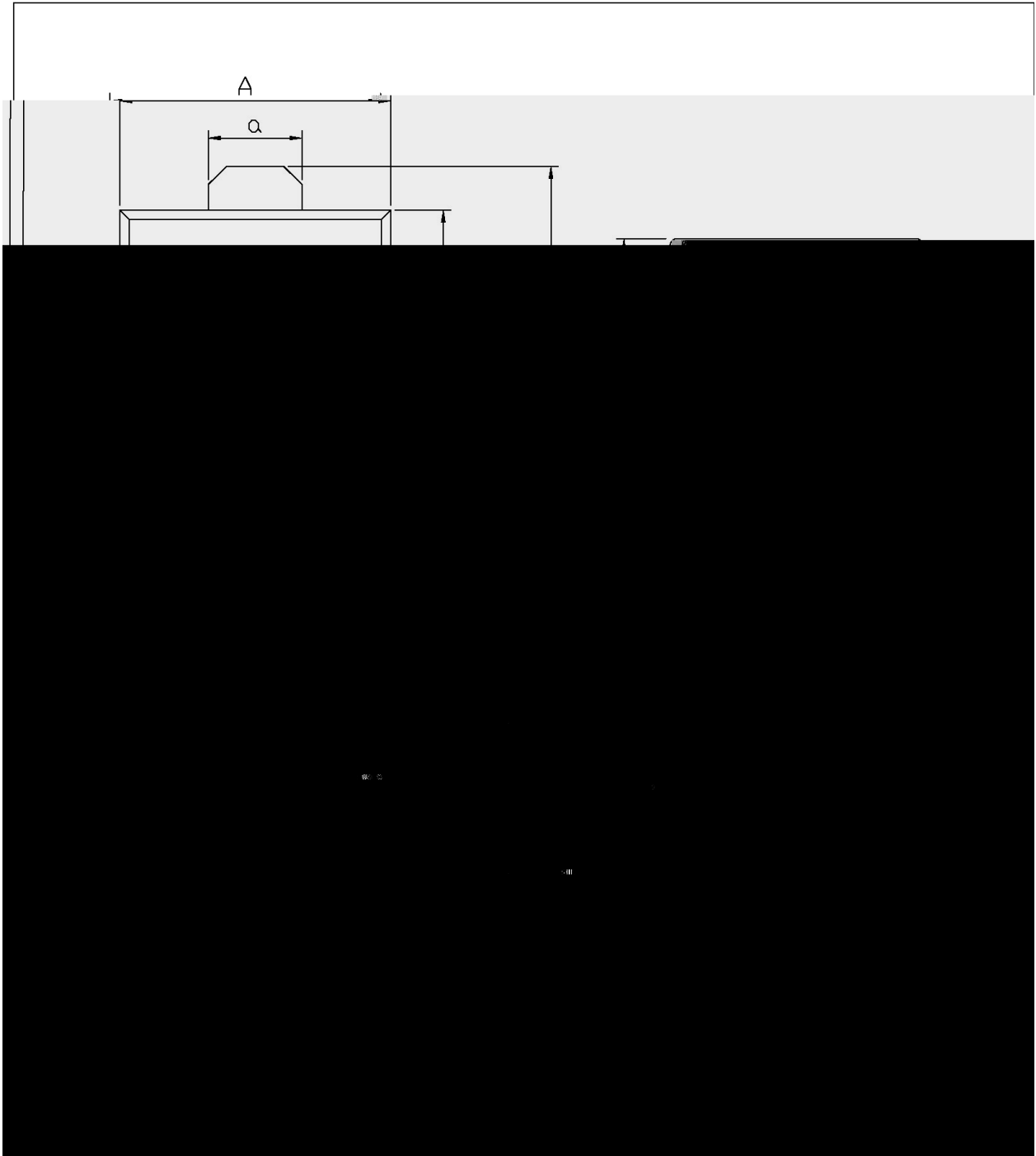
/ **Electrical Characteristic Curve**



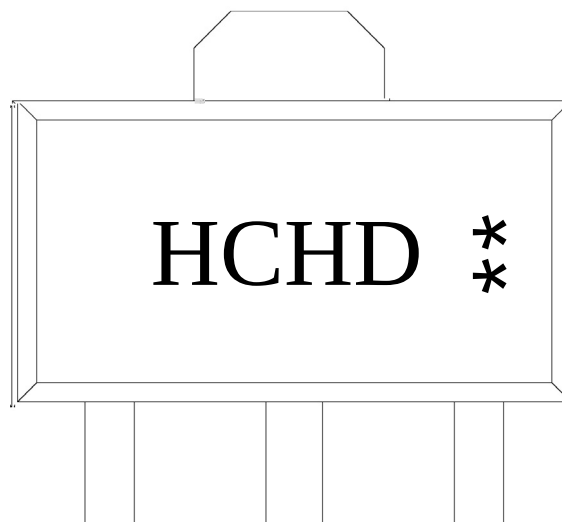
/ **Package Dimensions**

SOT-89

单位: mm



/ **Marking Instructions**



H

CH

D:

Note:

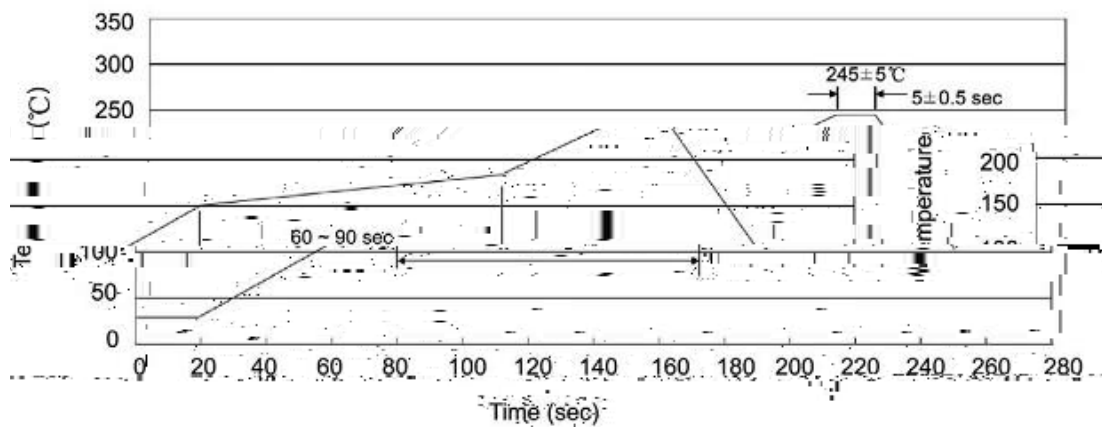
H: Company Code.

CH: Product Type.

D: h_{FE} Classifications Symbol

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

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Note:

- | | | | | | |
|---|-------|-----|-----------|----------|---|
| 1 | 150 | 180 | 60 | 90sec; | 1.Preheating:150~180 , 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 ³)		
	只 卷盘	卷盘 盒	只 盒	盒 箱	只 箱		盒	箱

/ Notices