

版本	修订日期	有修订的页码	修订涉及的内容
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描述 / Descriptions

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

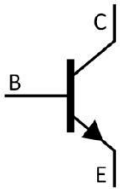
特征 / Features

， ， 2SB1424
Low $V_{CE(sat)}$, excellent current gain characteristic, Complementary to 2SB1424. HF Product.

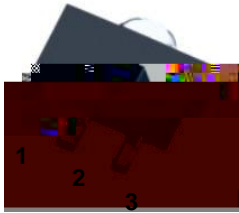
用途 / Applications

General purpose amplifier.

内部等效电路 / Equivalent Circuit



引脚排列 / Pinning



PIN1 Base PIN 2 Collector PIN 3 Emitter

印章代码 / Marking

h_{FE} Classifications Symbol	Q	R	S	E
h_{FE} Range	120~270	180~390	270~560	390~820
Marking	HCFQ*	HCFR*	HCFS*	HCFE*

极限参数 / Absolute Maximum Ratings(Ta=25°C)

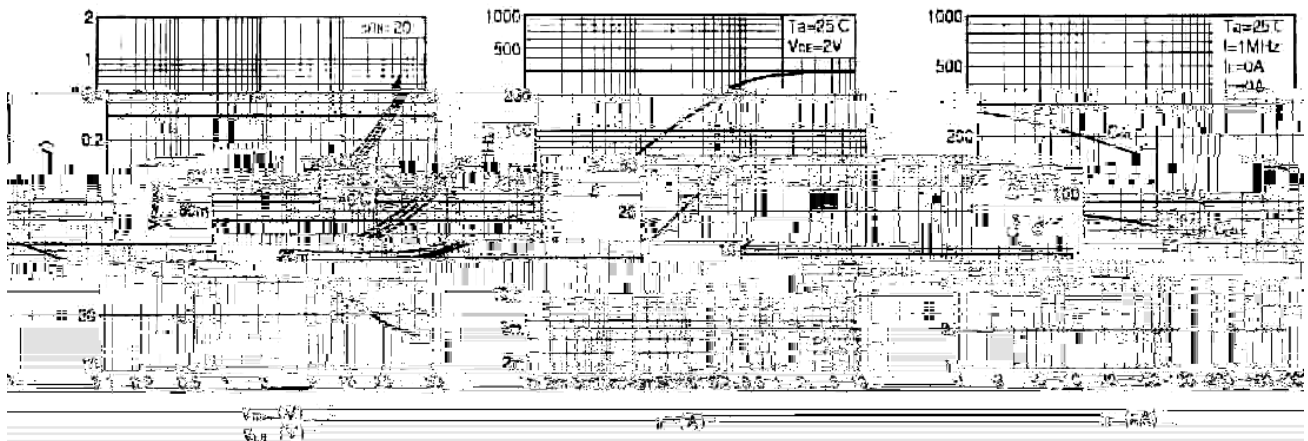
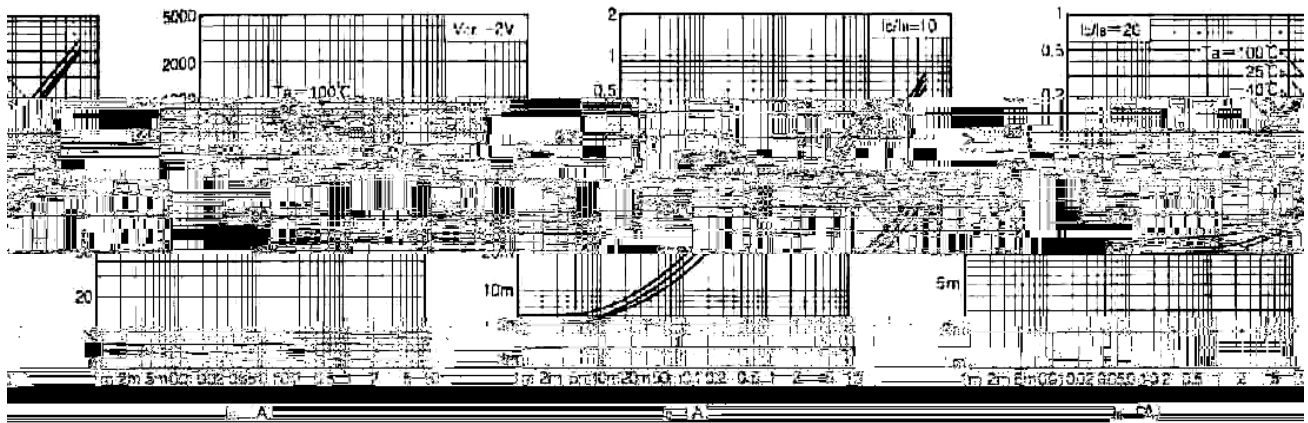
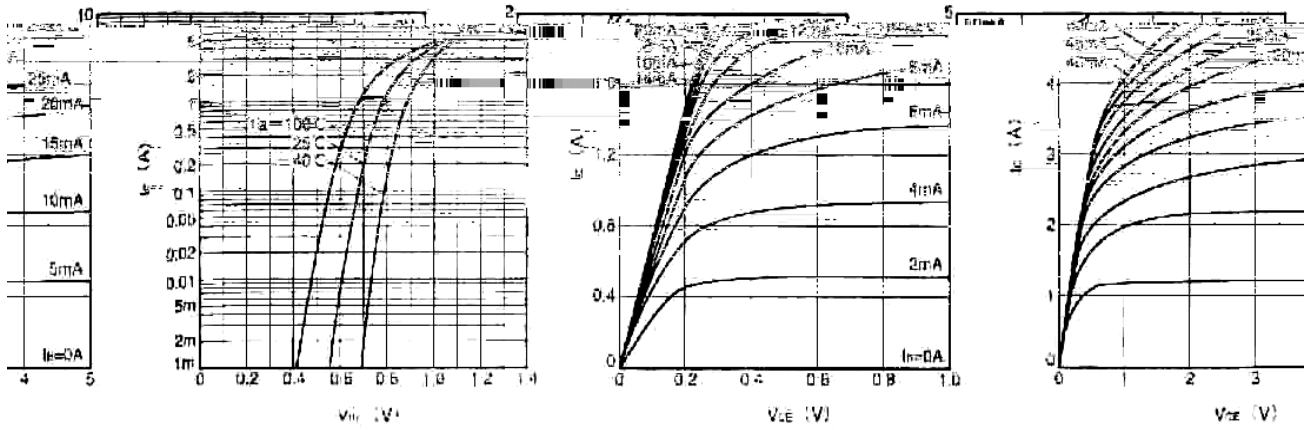
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	40	V
Collector to Emitter Voltage	V_{CEO}	20	V
Emitter to Base Voltage	V_{EBO}	6.0	V
Collector Current-Continuous	$I_{C(DC)}$	3.0	A
Collector Base-Continuous(Pulse)*	$I_{C(Pulse)^*}$	5.0	A
Collector Power Dissipation	P_C	500	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55~150	°C

*:Single pulse $P_W=10ms$

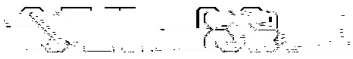
电性能参数 / Electrical Characteristics(Ta=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V_{CBO}	$I_C=50\mu A$	40			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=1.0mA$	20			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E=50\mu A$	6.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=30V$			0.1	μA
Emitter Base Cut-Off Current	I_{EBO}	$V_{EB}=5.0V$			0.1	μA
DC Current Gain	h_{FE}	$V_{CE}=2.0V$ $I_C=100mA$	180		560	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=2.0A$ $I_B=100mA$		0.2	0.5	V
Transition Frequency	f_T	$V_{CE}=2.0V$ $f=100MHz$ $I_C=0.5A$		290		MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=10V$ $f=1.0MHz$ $I_E=0$		25		pF

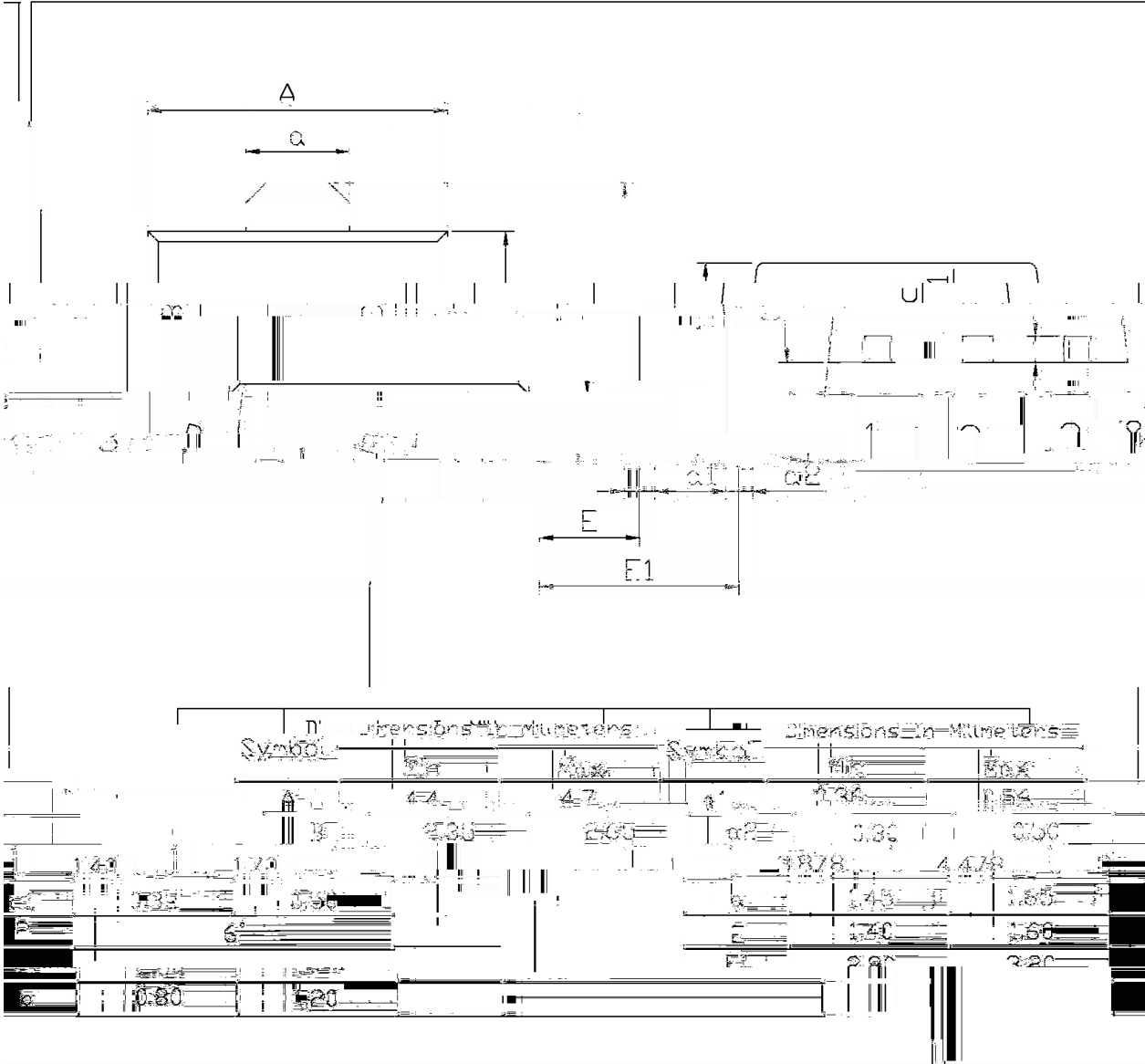
电参数曲线图 / Electrical Characteristic Curve



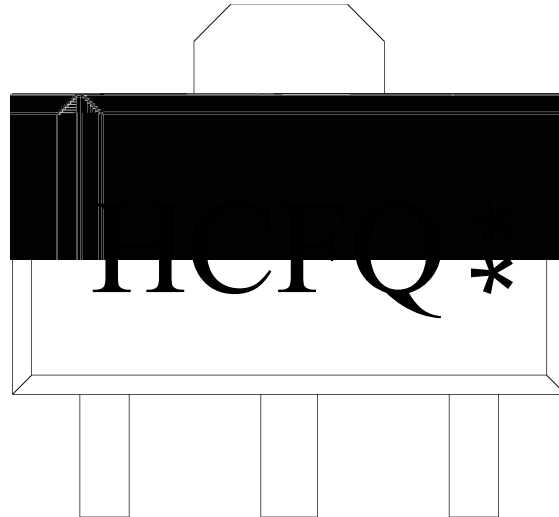
外形尺寸图 / Package Dimensions



单位: mm



印章说明 / Marking Instructions



说明：

H： 为公司代码

CF： 为型号代码

Q: 为 h_{FE} 档次代码

**： 为生产批号代码，随生产批号变化。

Note:

H: Company Code.

CF: Product Type.

Q : h_{FE} Classifications Symbol

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

回流焊温度曲线图(无铅) / Temperature Profile for IR Reflow Soldering(Pb-Free)

Note:

- | | | | |
|---|---------|-----------|--|
| 1 | 150 180 | 60 90sec; | 1.Preheating:150~180°C, Time:60~90sec. |
| 2 | 245±5 | 5±0.5sec; | 2.Peak Temp.:245±5°C, Duration:5±0.5sec. |
| 3 | 2 | 10°C/sec. | 3. Cooling Speed: 2~10°C/sec. |

耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions

260±5°C 10±1 sec. Temp.:260±5°C Time:10±1 sec

包装规格 / Packaging SPEC.

/ REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)			
	Units/Reel 只/卷盘	Reels/ nne 卷盘/盒	Units/ nne 只/盒	nne es/ ute 盒/箱	Units/ ute 只/箱	Reel	nne	盒	ute