

/ Descriptions

TO-126 NPN Silicon NPN transistor in a TO-126 Plastic Package.

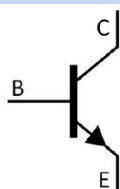
/ Features

2SB1109
Complementary pair with 2SB1109.

/ Applications

Low frequency high voltage amplifier.

/ Equivalent Circuit



/ Pinning



PIN1 Emitter PIN 2 Collector PIN 3 Base

/ h_{FE} Classifications & Marking

h_{FE} Classifications Symbol	B	C	D
h_{FE} Range	60~120	100~200	160~320

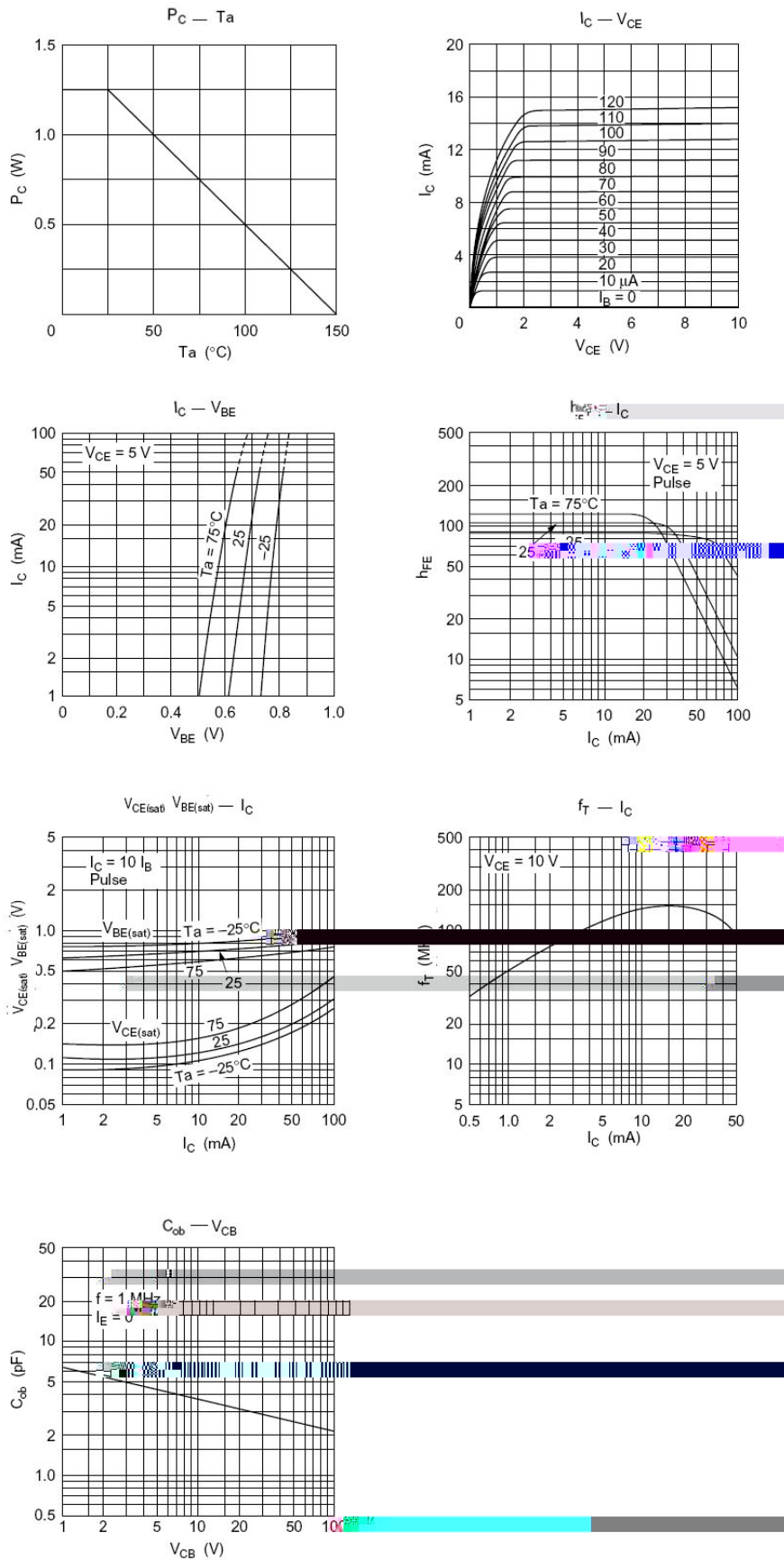
/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	160	V
Collector to Emitter Voltage	V_{CEO}	160	V
Emitter to Base Voltage	V_{EBO}	5	V
Collector Current - Continuous	I_C	100	mA
Collector Power Dissipation	P_C	1.25	W
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55~150	°C

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V_{CBO}	$I_C=10\text{ A}$ $I_E=0$	160			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=1\text{mA}$ $I_B=$	160			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E=10\text{ A}$ $I_C=0$	5			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=140\text{V}$ $I_E=0$			10	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=5\text{V}$ $I_C=10\text{mA}$	60		320	
	$h_{FE(2)}$	$V_{CE}=5\text{V}$ $I_C=1\text{mA}$	30			
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=30\text{mA}$ $I_B=3\text{mA}$			2	V
Base to Emitter Voltage	V_{BE}	$V_{CE}=5\text{V}$ $I_C=10\text{mA}$			1.5	V
Transition Frequency	f_T	$V_{CE}=5\text{V}$ $I_C=10\text{mA}$		140		MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=10\text{V}$ $I_E=0$ $f=1\text{MHz}$		3.8		pF

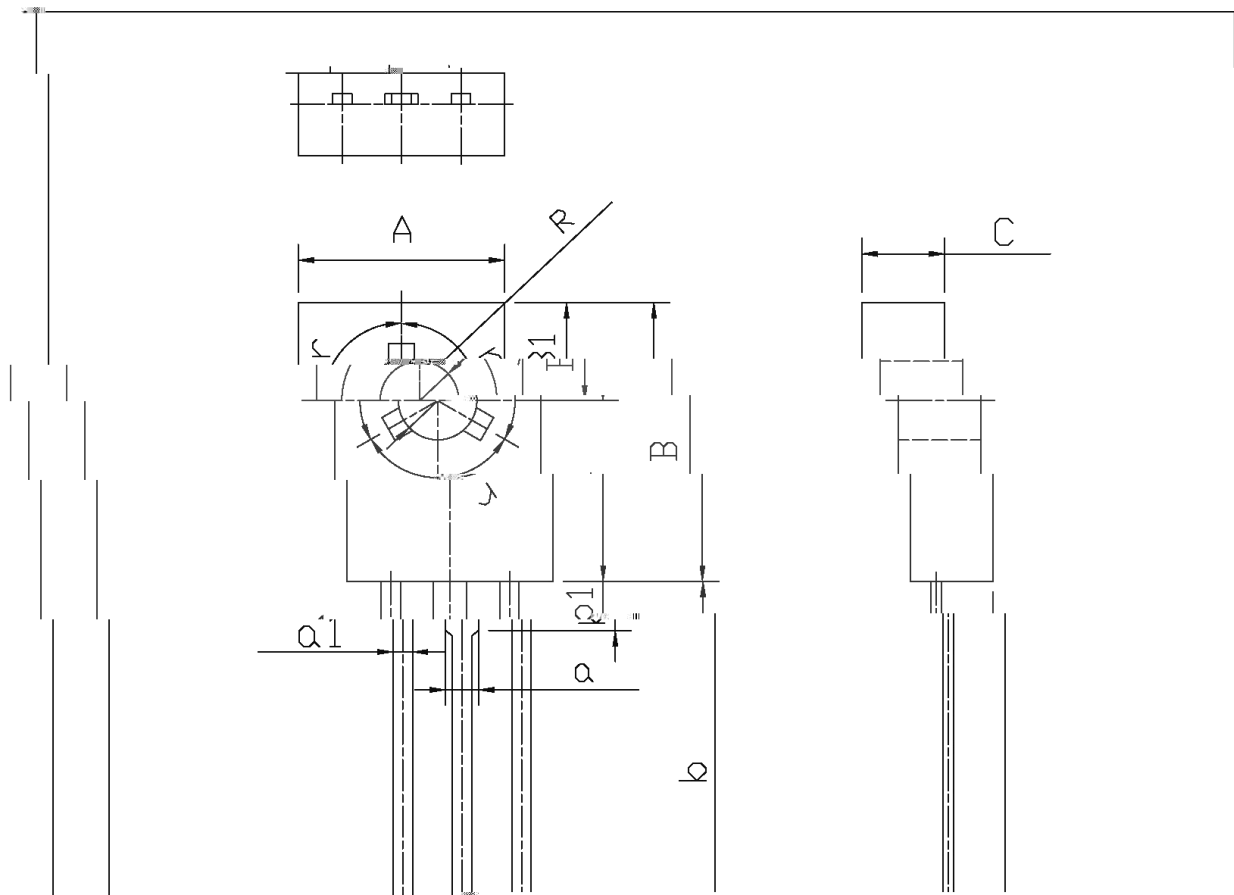
/ Electrical Characteristic Curve



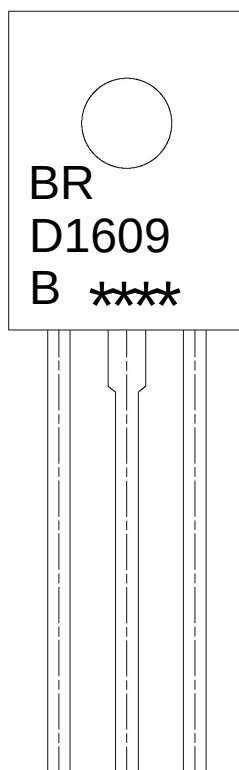
/ Package Dimensions

T□-126

单位: mm



/ Marking Instructions



BR

D1609

B: h_{FE}

Note:

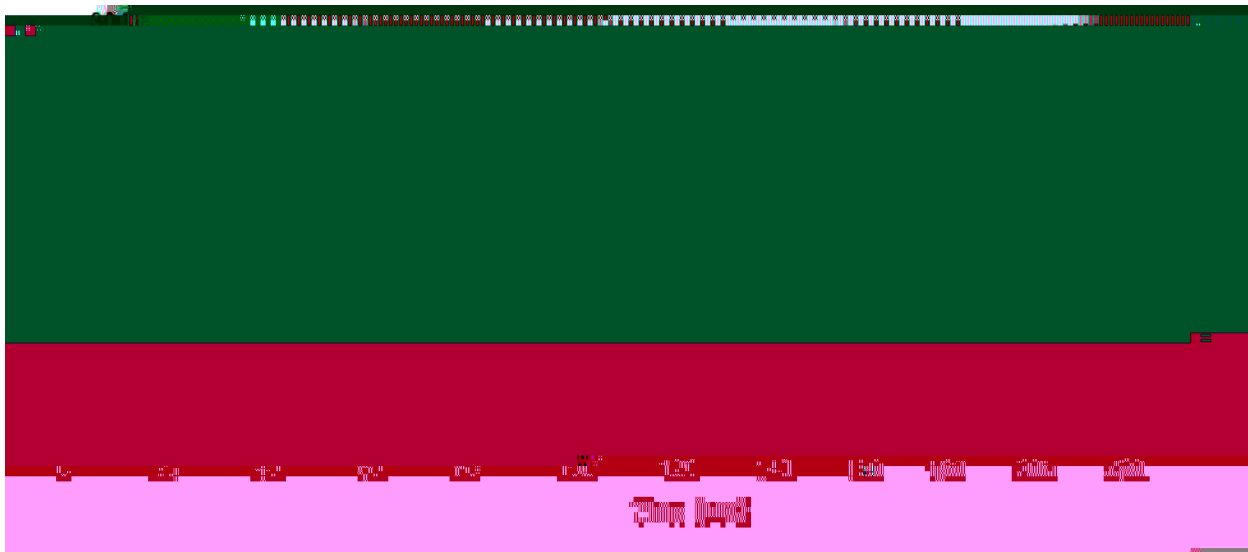
BR: Company Code

D1609: Product Type.

B: h_{FE} Classifications Symbol

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

() / Temperature Profile for Dip Soldering(Pb-Free)



Note:

- | | | | | | |
|---|-------|-----|-----------|--------|---|
| 1 | 25 | 150 | 60 | 90sec; | 1.Preheating:25~150 , Time:60~90sec. |
| 2 | 255±5 | | 5±0.5sec; | | 2.Peak Temp.:255±5 , Duration:5±0.5sec. |
| 3 | | 2 | 10 | /sec. | 3. Cooling Speed: 2~10 /sec. |

/ Resistance to Soldering Heat Test Conditions

270±5 10±1 sec. Temp.:270±5°C Time:10±1 sec

/ Packaging SPEC.

/ BULK

Package Type
封装形式

Units 包装数量