

/ Descriptions

TO-92LM NPN Silicon NPN transistor in a TO-92LM Plastic Package.

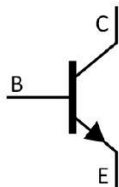
/ Features

Low saturation voltage, high speed switching time, complementary to KTA1281.

/ Applications

Power amplifier and switching applications.

/ Equivalent Circuit



/ Pinning



PIN1 Base PIN 2 Collector PIN 3 Emitter

/ h_{FE} Classifications & Marking

h_{FE} Classifications Symbol	O	Y
h_{FE} Range	70~140	120~240

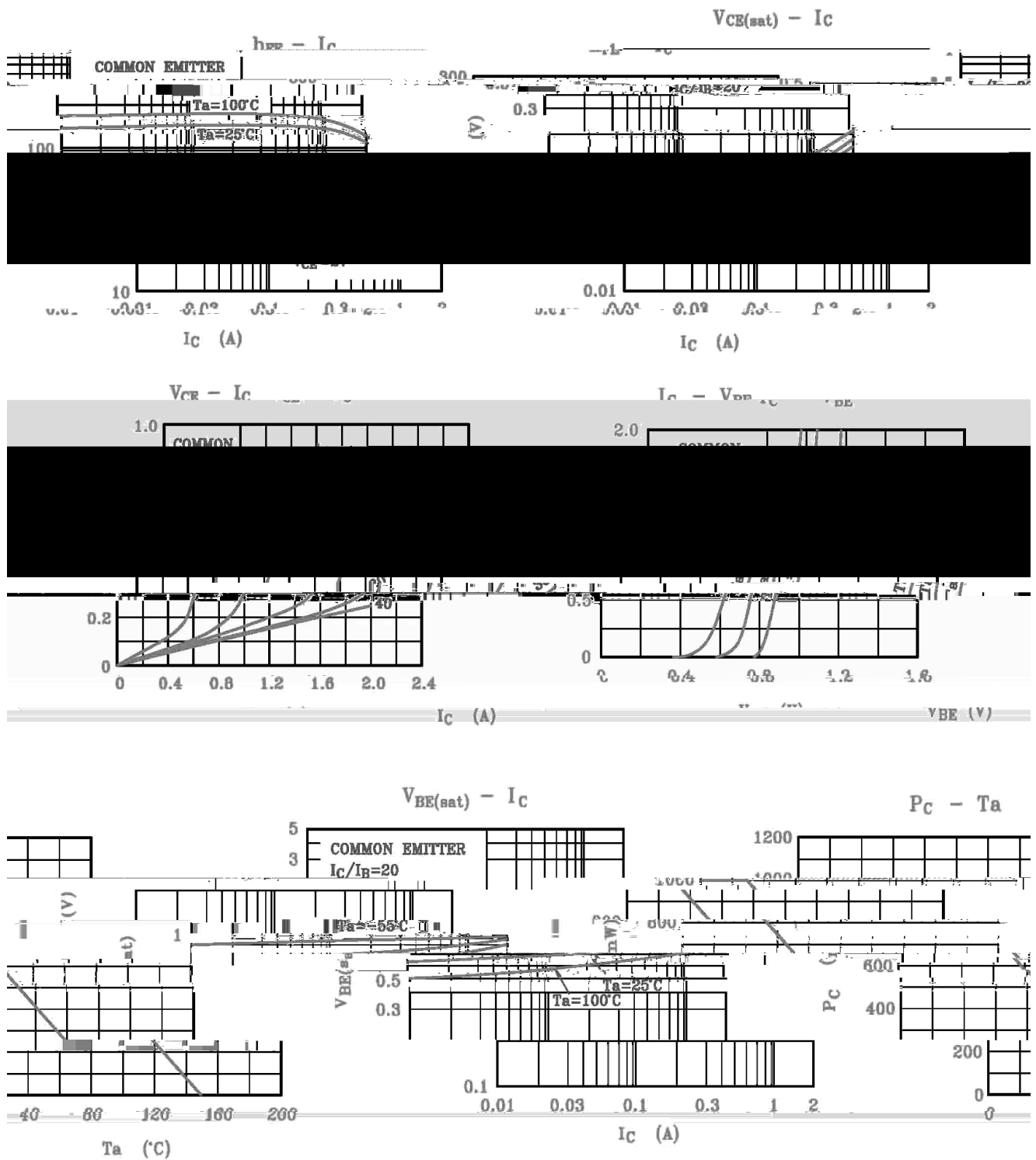
/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	50	V
Collector to Emitter Voltage	V_{CEO}	50	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current - Continuous	I_C	2.0	A
Emitter Current - Continuous	I_E	-2.0	A
Collector Power Dissipation	P_C	1	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 Emitter Breakdown Voltage	V_{CEO}	$I_C=10mA$ $I_B=0$	50			V
Collector to Base Breakdown Voltage	V_{EBO}	$I_E=1.0mA$ $I_C=0$	5.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=50V$ $I_E=0$			0.1	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=5.0V$ $I_C=0$			0.1	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=2.0V$ $I_C=0.5A$	70		240	
	$h_{FE(2)}$	$V_{CE}=2.0V$ $I_C=1.5A$	40			
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=1.0A$ $I_B=0.05A$			0.5	V
Base to Emitter Voltage	$V_{BE(sat)}$	$I_C=1.0A$ $I_B=0.05A$			1.2	V
Transition Frequency	f_T	$V_{CE}=2.0V$ $I_C=0.5A$		100		MHz
Collector output capacitance	C_{ob}	$V_{CB}=10V$ $I_E=0$ $f=1.0MHz$		30		pF
Turn-Off Time	t_f	$I_{B1}=-I_{B2}=0.05A$		0.1		μs
Turn-On Time	t_{on}	$I_{B1}=-I_{B2}=0.05A$		0.1		μs
Storage Time	t_{stg}	$I_{B1}=-I_{B2}=0.05A$		1.0		μs

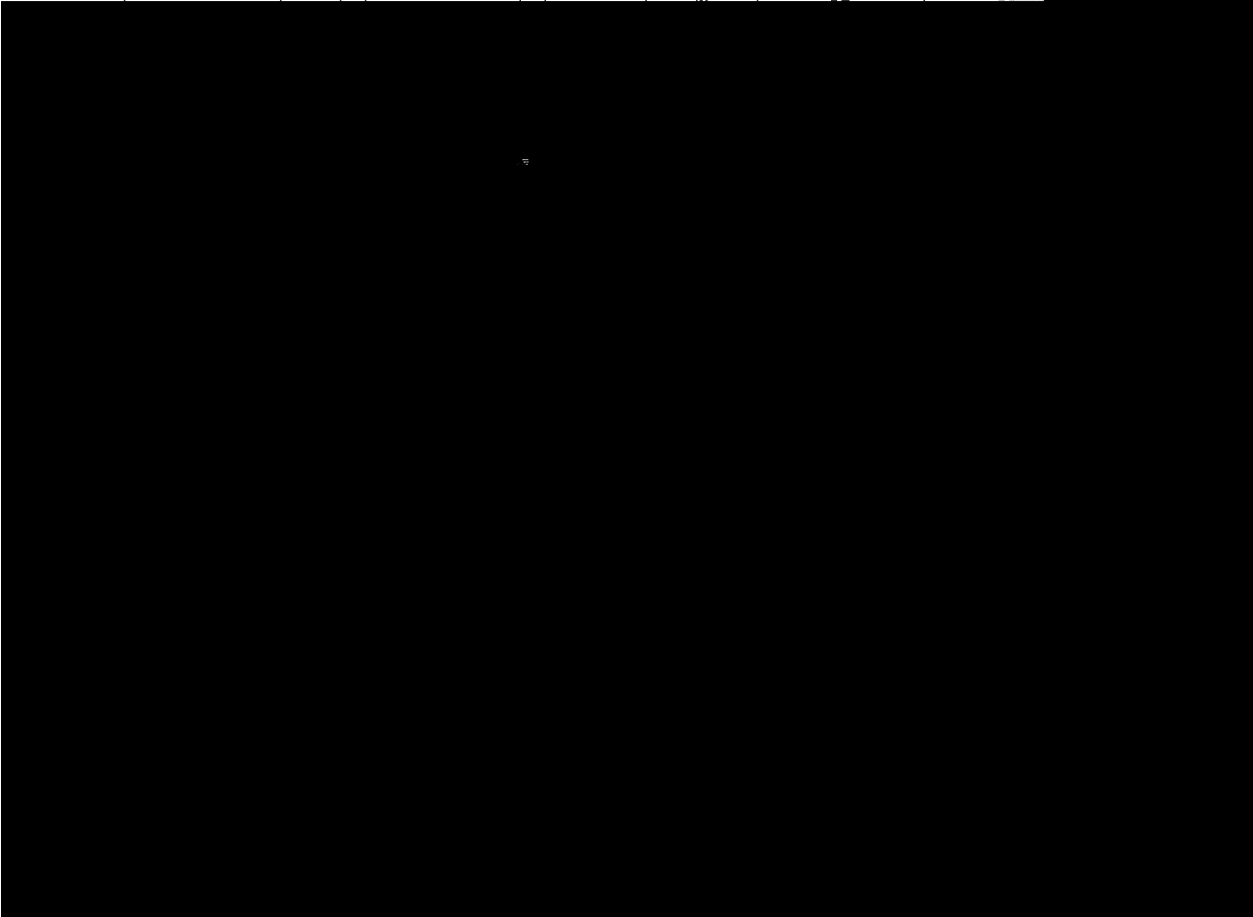
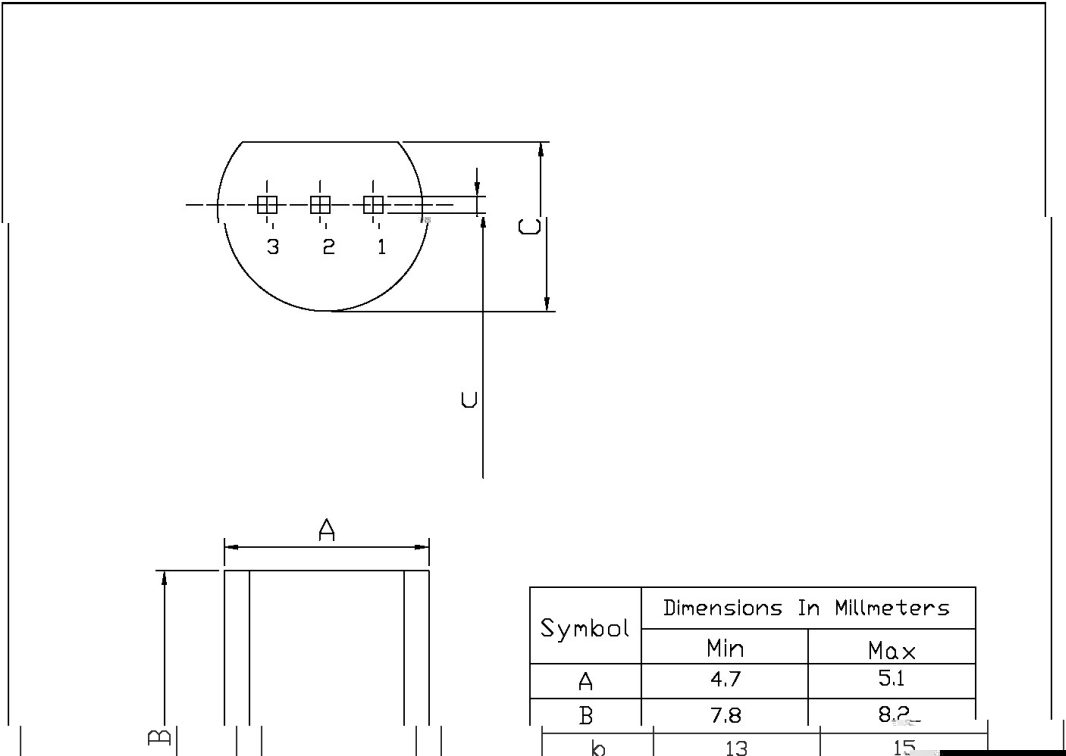
/ Electrical Characteristic Curve



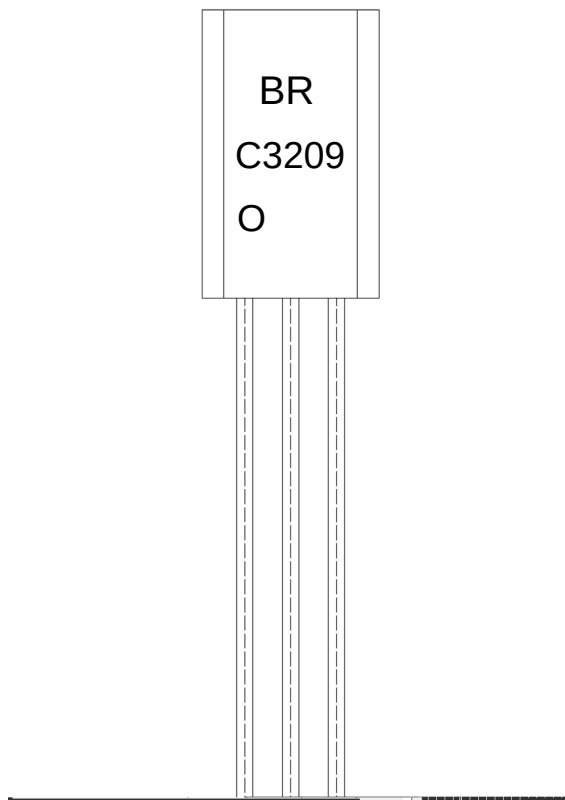
/ Package Dimensions

T0-92LM

Unit: mm



/ Marking Instructions



BR:

C3209:

O: h_{FE}

Note:

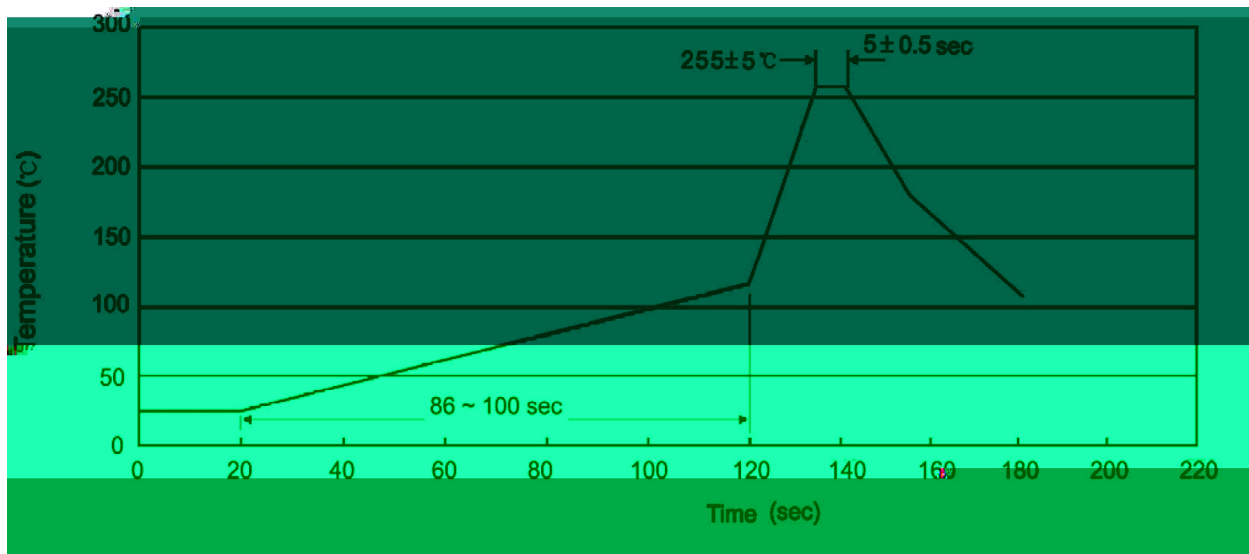
BR: Company Code.

C3209: Product Type.

O: 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 Time:10±1 sec

/ Packaging SPEC.

/ BULK

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm3)		
	只袋	袋盒	只盒	盒箱	只箱	袋	盒	箱

/ AMMO

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm3)	
	只纸带	纸带盒	纸带层盒	盒箱	只箱	盒	箱
							小箱 大箱

/ Notices