

/ Descriptions

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

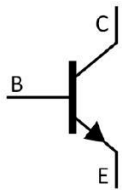
/ Features

2SA965
Complementary to 2SA965.

/ Applications

Audio frequency amplifier and driver stage amplifier 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	80 160	120 240

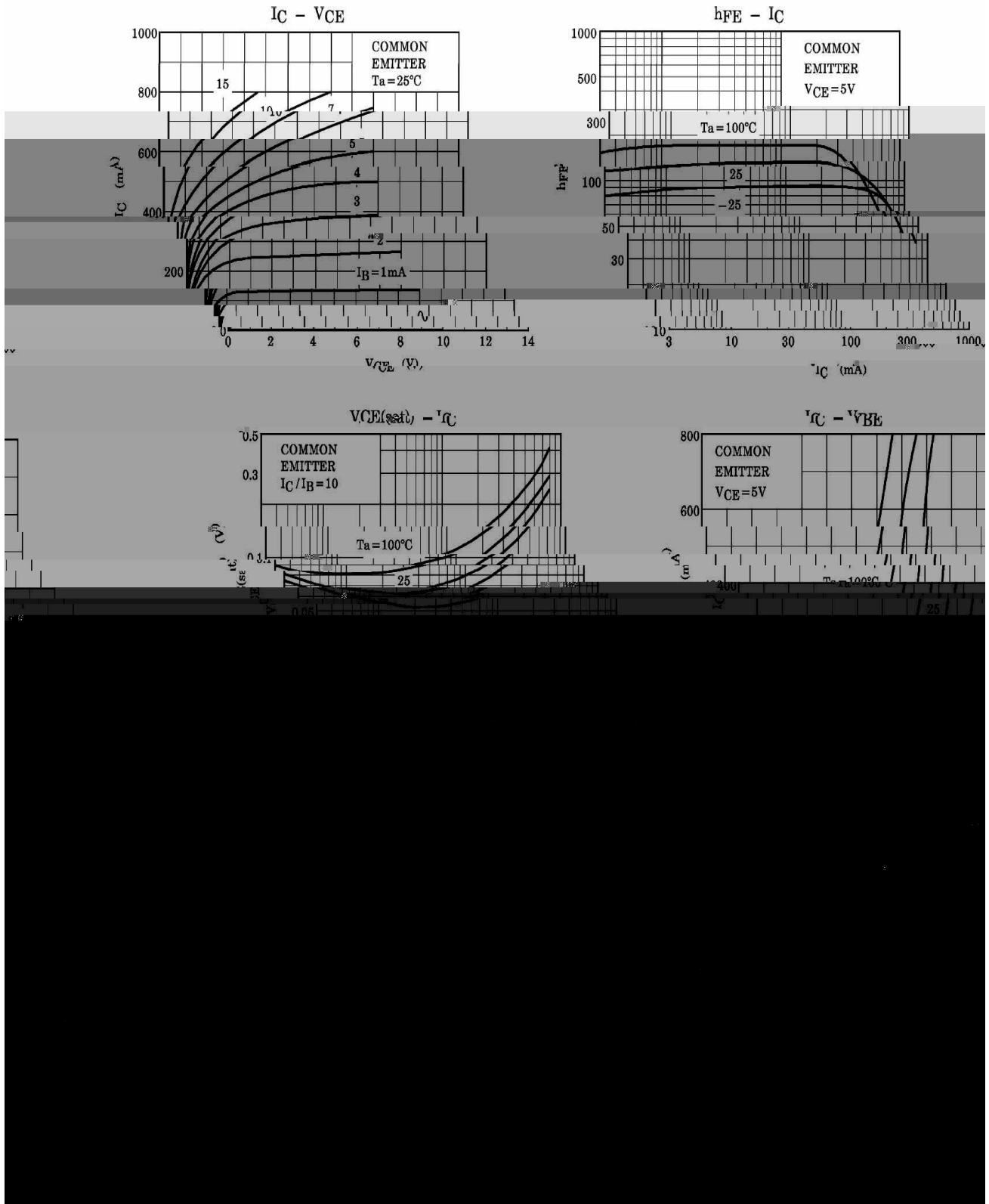
/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	120	V
Collector to Emitter Voltage	V_{CEO}	120	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current (DC)	I_C	800	mA
Emitter Current	I_E	-800	mA
Collector Power Dissipation	P_C	900	mW
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}	$I_C=10mA$ $I_B=0$	120			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E=1.0mA$ $I_C=0$	5.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=120V$ $I_E=0$			0.1	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=5.0V$ $I_C=0$			0.1	μA
DC Current Gain	h_{FE}	$V_{CE}=5.0V$ $I_C=100mA$	80		240	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=500mA$ $I_B=50mA$			1.0	V
Base to Emitter Saturation Voltage	V_{BE}	$V_{CE}=5.0V$ $I_C=500mA$			1.0	V
Transition Frequency	f_T	$V_{CE}=5.0V$ $I_C=100mA$		120		MHz
Collector output capacitance	C_{ob}	$V_{CB}=10V$ $I_E=0$ $f=1.0MHz$			30	pF

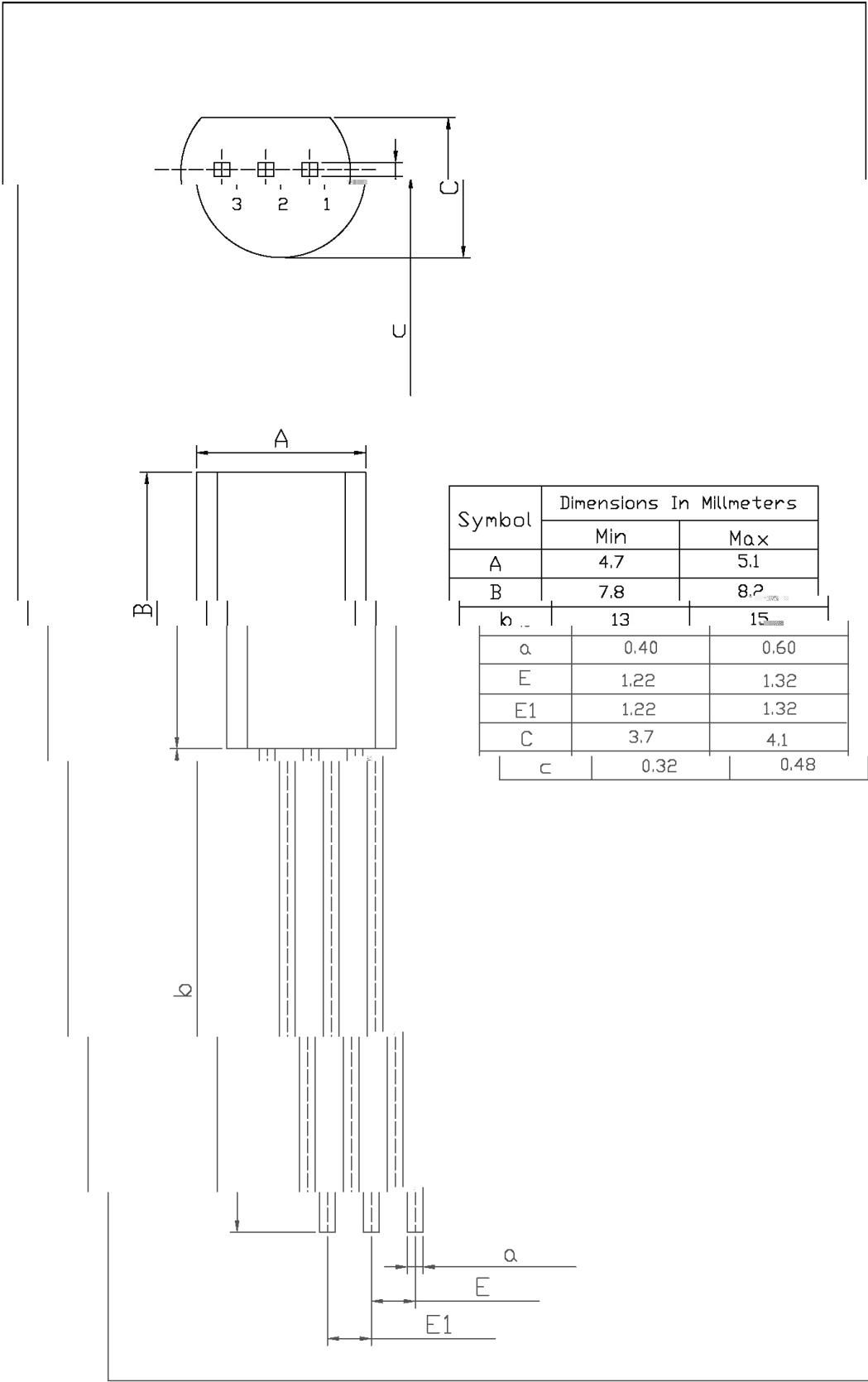
/ Electrical Characteristic Curve



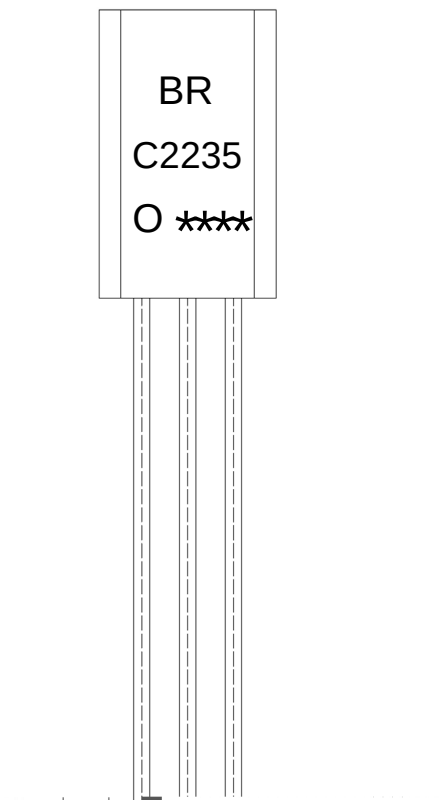
/ Package Dimensions

T0-92LM

Unit: mm



/ Marking Instructions



BR:

C2235

O: h_{FE}

Note:

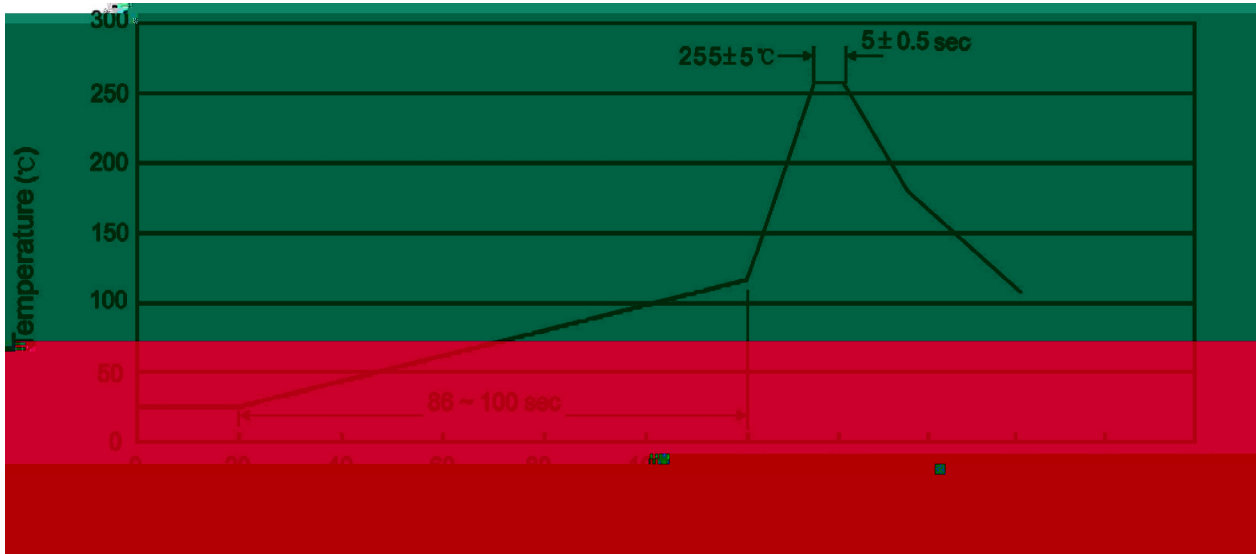
BR: Company Code.

C2235: 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	Units					Dimension (unit mm3)		
	Units/Bag /	Bags/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Bag	Inner Box	Outer Box
TO-92LM	1,000	8	8,000	5	40,000	135×190	237×172×102	560×245×195

/ AMMO

Package Type	Units					Dimension (unit mm3)	
	Units/tape /	Tape/Inner Box /	Rows/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Inner Box	Outer Box
TO-92LM	2,500	1	100	10	25,000	328×230×42	480×346×235 547×407×268

/ Notices