

/ Descriptions

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

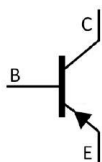
/ Features

Complementary pair with 2SD667(A).

/ Applications

Low frequency power amplifier.

/ Equivalent Circuit



/ Pinning



PIN1 Base PIN 2 Collector PIN 3 Emitter

/ h_{FE} Classifications & Marking

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

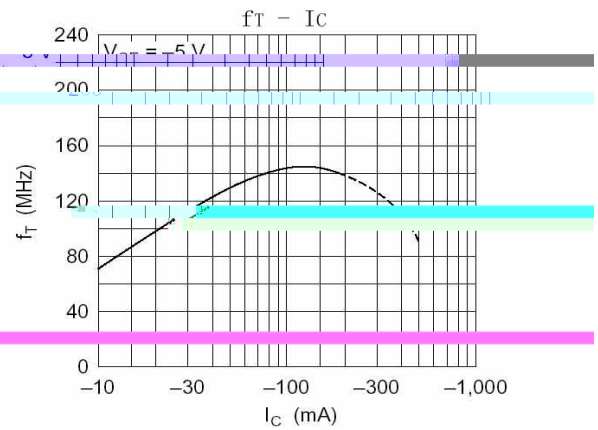
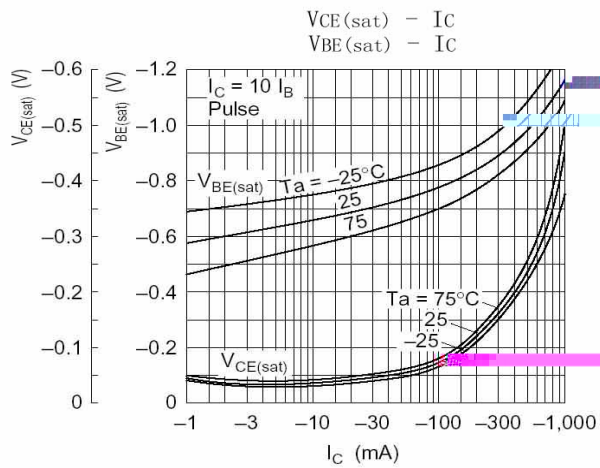
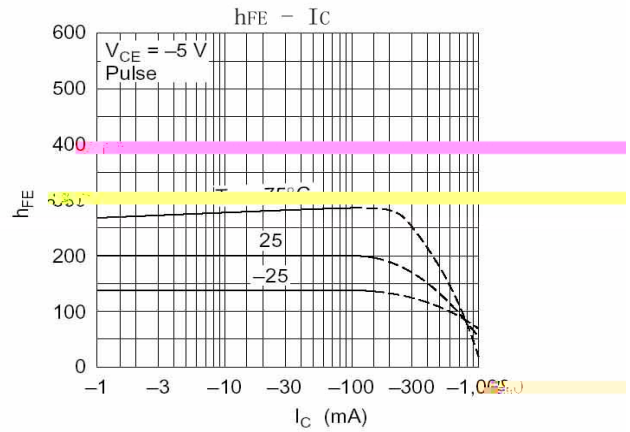
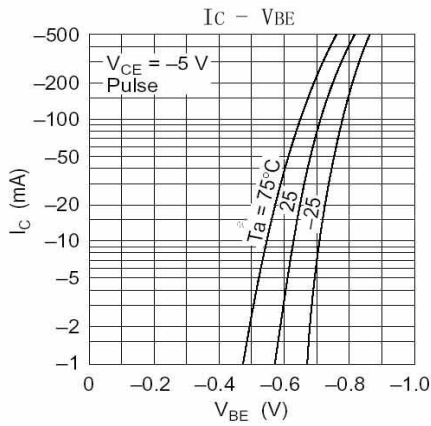
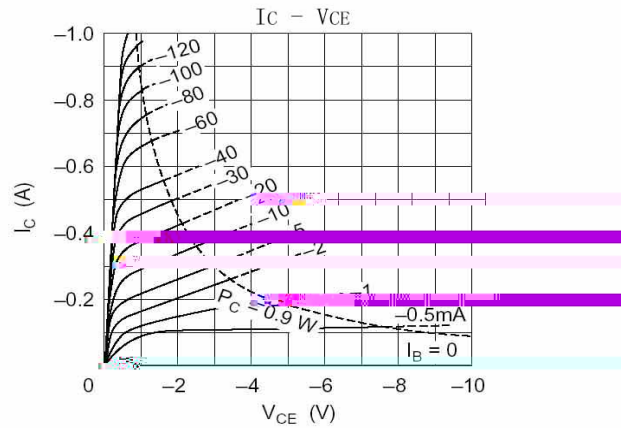
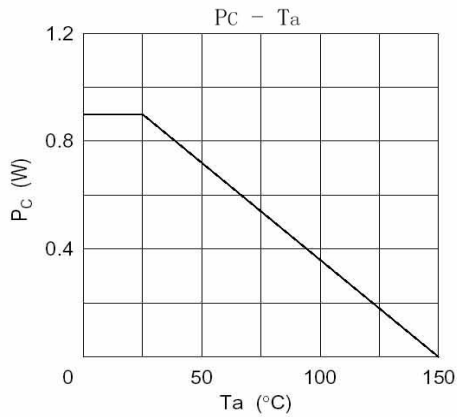
/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	-120	V
Collector to Emitter Voltage	V_{CEO}	2SB647 -80	V
		2SB647A -100	
Emitter to Base Voltage	V_{EBO}	-5.0	V
Collector Current (DC)	I_C	-1.0	A
Collector Current(Pulse)	I_{CP}	-2.0	A
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 Base Breakdown Voltage	V_{CBO}	$I_C=-10\mu A$ $I_E=0$	-120			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=-1.0mA$ $R_{BE}=\infty$	-80			V
			-100			
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E=-10\mu A$ $I_C=0$	-5.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=-100V$ $I_E=0$			-10	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=-5.0V$ $I_C=-150mA$	60		320	
	$h_{FE(2)}$	$V_{CE}=-5.0V$ $I_C=-500mA$	30			
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-500mA$ $I_B=-50mA$			-1.0	V
Base to Emitter Voltage	V_{BE}	$V_{CE}=-5.0V$ $I_C=-150mA$			-1.5	V
Transition Frequency	f_T	$V_{CE}=-5.0V$ $I_C=-150mA$		140		MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=-10V$ $I_E=0$ $f=1.0MHz$		12		pF

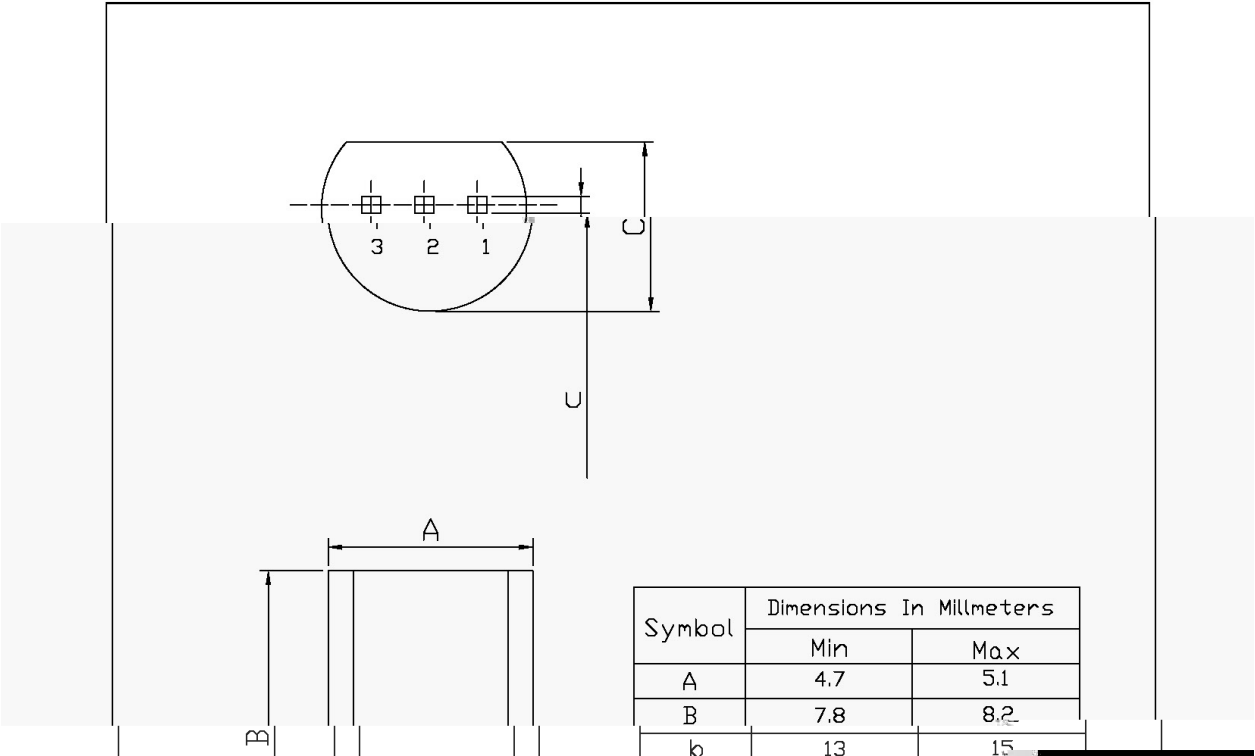
/ Electrical Characteristic Curve



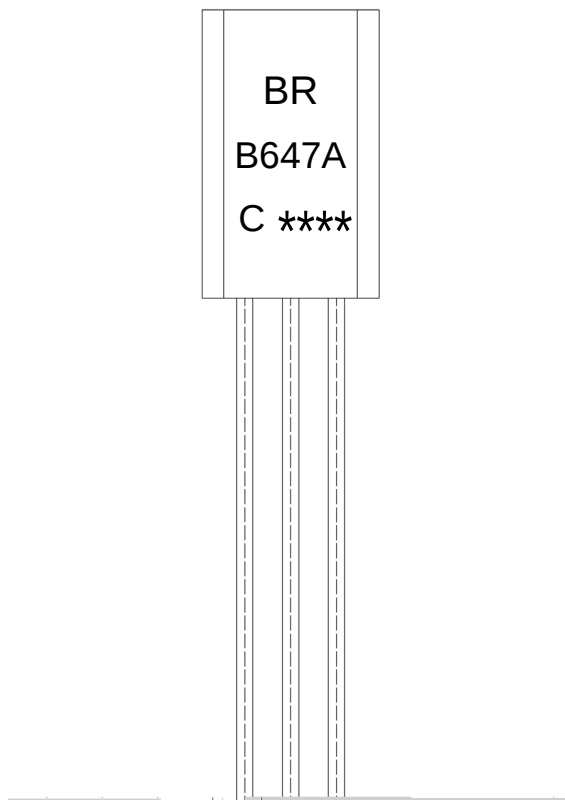
/ Package Dimensions

T0-92LM

Unit: mm



/ Marking Instructions



Note:

BR: Company Code.

B647A: Product Type.

C: h_{FE} Classifications Symbol

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

Figure 1 is a 3D scatter plot representing a 1000-dimensional latent space. The plot shows four distinct clusters of points, each representing a different class. The axes are labeled with numerical values, and the points are colored to distinguish between the classes. The clusters are located at different positions along the axes, indicating their separation in the latent space.

1 25 150 60 90sec;

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