

**/ Descriptions**

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

**/ Features**

KSA733  
Complementary pair with KSA733.

**/ Applications**

Audio frequency amplifier, high frequency OSC.

**/ Equivalent Circuit**



**/ Pinning**



PIN1   Collector          PIN 2   Base          PIN 3   Emitter

**/ hFE Classifications & Marking**

h <sub>FE</sub> Classifications Symbol	O	Y	G	L
h <sub>FE</sub> Range	70~140	120~240	200~400	350~700

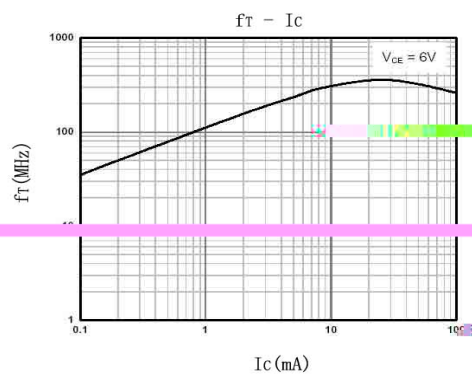
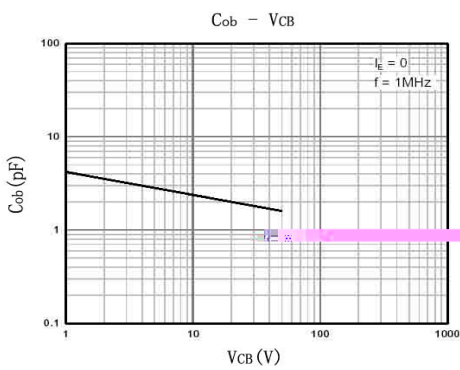
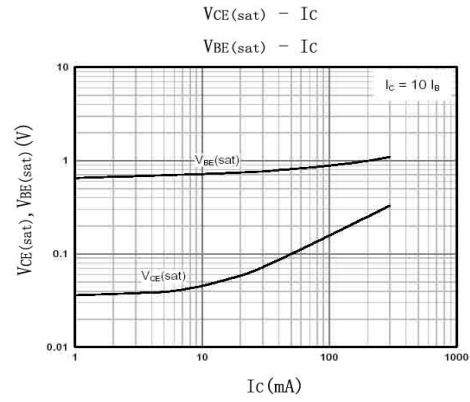
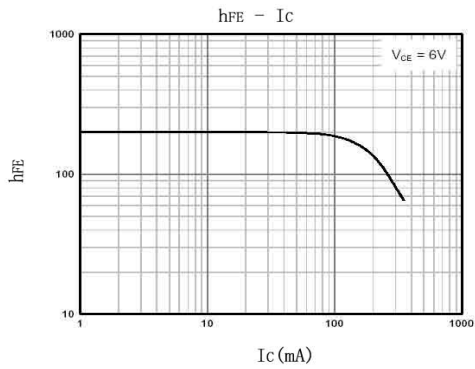
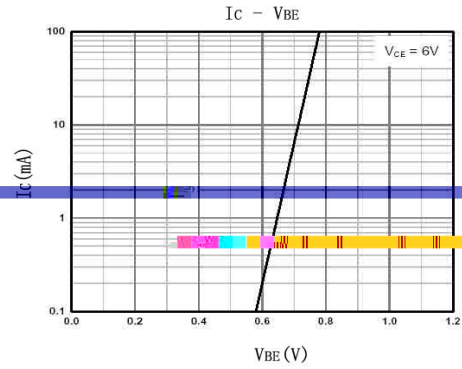
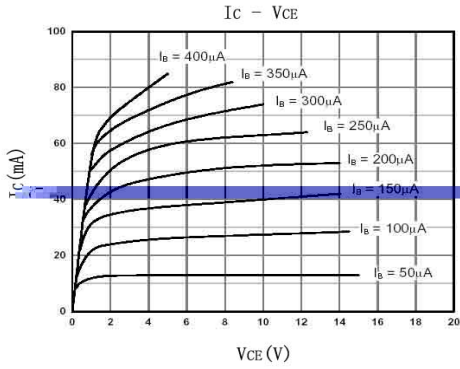
**/ Absolute Maximum Ratings(Ta=25 )**

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	$V_{CBO}$	60	V
Collector to Emitter Voltage	$V_{CEO}$	50	V
Emitter to Base Voltage	$V_{EBO}$	5.0	V
Collector Current - Continuous	$I_C$	150	mA
Collector Power Dissipation	$P_C$	250	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	$V_{CBO}$	$I_C=100\mu A$ $I_E=0$	60			V
Collector to Emitter Breakdown Voltage	$V_{CEO}$	$I_C=10mA$ $I_B=0$	50			V
Emitter to Base Breakdown Voltage	$V_{EBO}$	$I_E=-10\mu A$ $I_C=0$	5.0			V
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=40V$ $I_E=0$			0.1	$\mu A$
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB}=3.0V$ $I_C=0$			0.1	$\mu A$
DC Current Gain	$h_{FE}$	$V_{CE}=6.0V$ $I_C=1.0mA$	70		700	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=100mA$ $I_B=10mA$		0.15	0.3	V
Transition Frequency	$f_T$	$V_{CE}=6.0V$ $I_C=10mA$		300		MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB}=6.0V$ $I_E=0$ $f=1.0MHz$		2.5		pF
Noise Figure	NF	$V_{CE}=6.0V$ $I_E=-0.5mA$ $f=1.0KHz$ $R_S=500$		4.0		dB

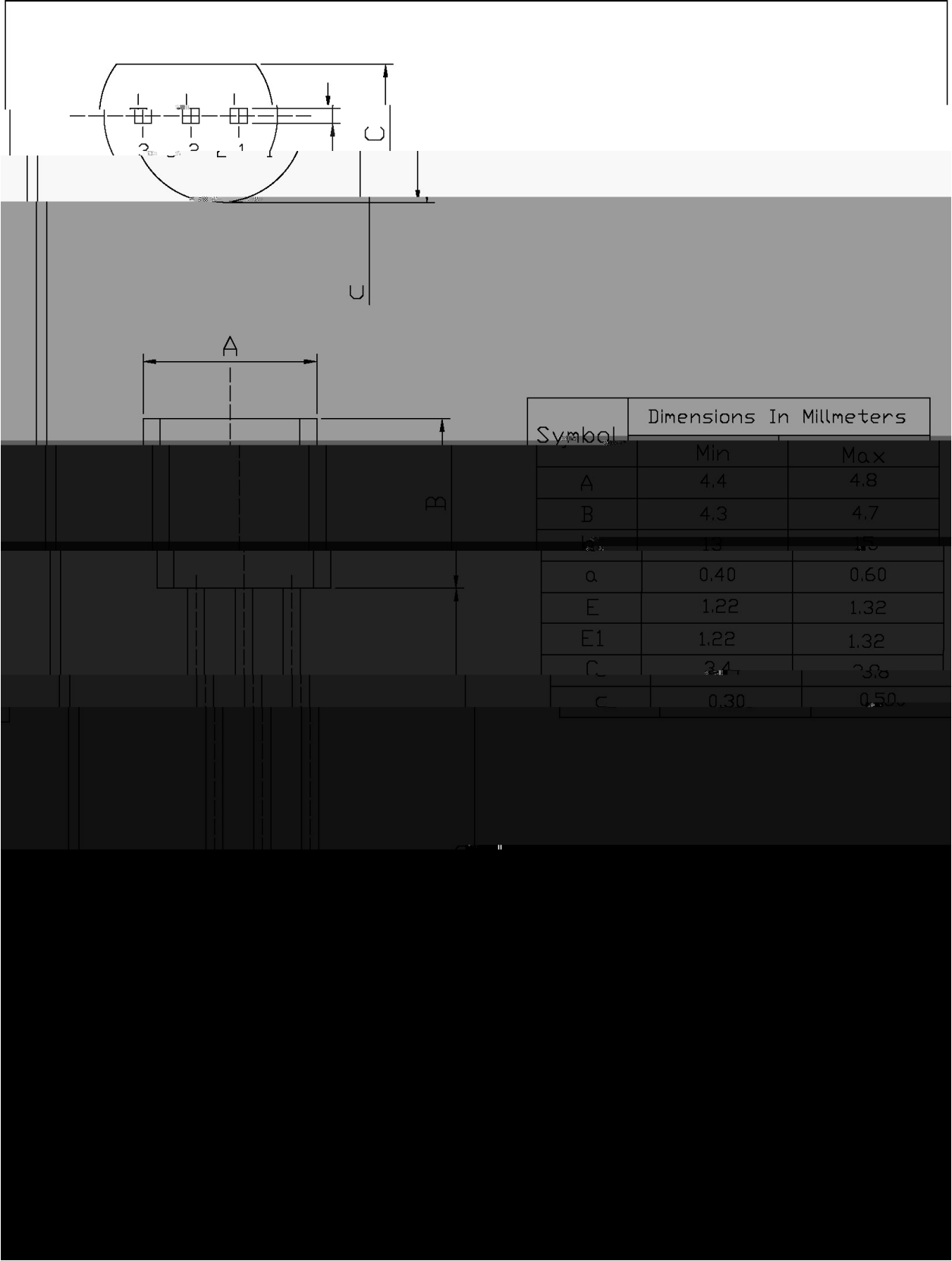
**/ Electrical Characteristic Curve**



**/ Package Dimensions**

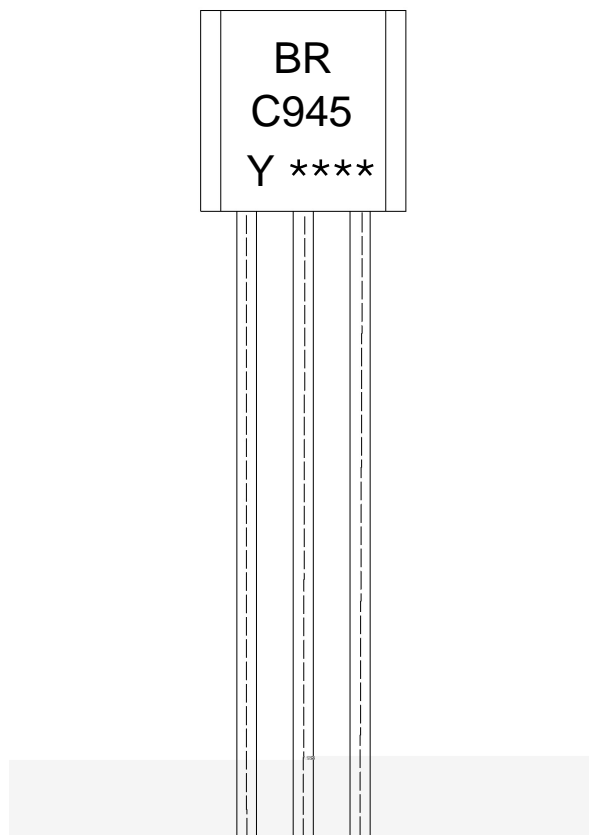
T0-92

Unit: mm



Symbol	Dimensions In Millimeters	
	Min	Max
A	4.4	4.8
B	4.3	4.7
C	2.1	2.3
a	0.40	0.60
E	1.22	1.32
E1	1.22	1.32
c	0.30	0.50

/ Marking Instructions



BR:

C945

Y:  $h_{FE}$

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Note:

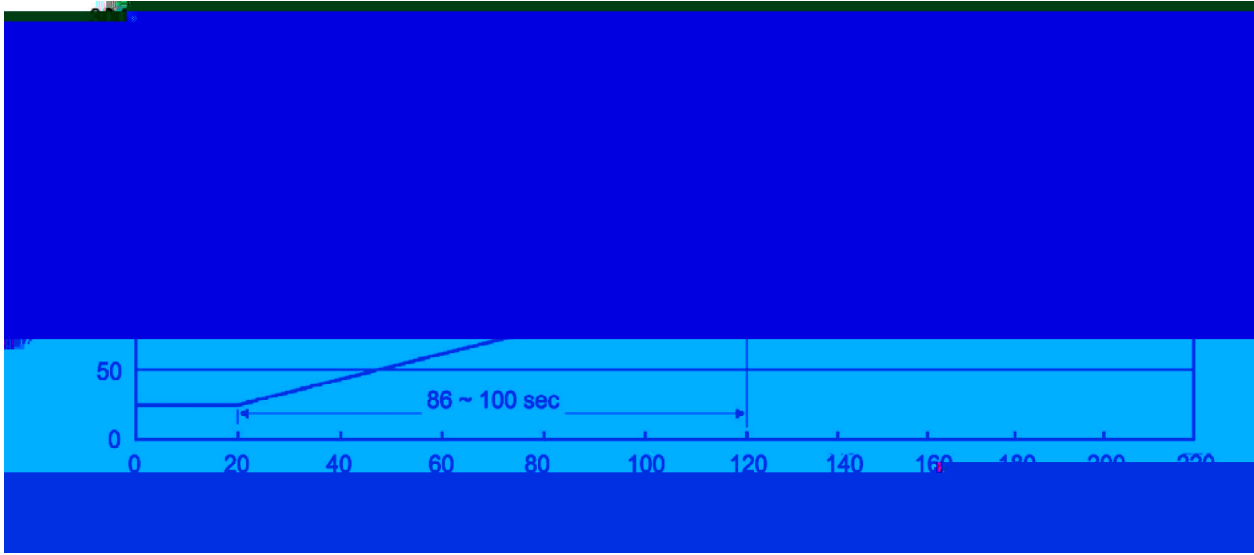
BR: Company Code.

C945: Product Type.

Y:  $h_{FE}$  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)		
	Units/Bag 只/袋	Bags/Inner Box 袋/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Bag 袋	Inner Box 盒	Outer Box 箱
TO-92	1,000	10	10,000	5	50,000	135×190	237×172×102	560×245×195
	1,000	10	10,000	10	100,000	135×190	237×172×102	560×245×375

/ AMMO

Package Type 封装形式	Units 包装数量			Dimension 包装尺寸 (unit: mm3)
	Units/tape 只/纸带	Tape/Inner Box 纸带/盒	Rows/Inner Box	