

/ Descriptions

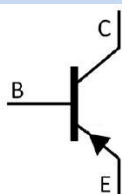
TO-92 PNP Silicon PNP transistor in a TO-92 Plastic Package.

/ Features

KSD1616(A)
 Complementary pair with KSD1616(A).

/ Applications

Audio frequency power amplifier, medium speed switching.

/ Equivalent Circuit**/ Pinning**

PIN1 Base PIN 2 Collector PIN 3 Emitter

/ hFE Classifications & Marking

h _{FE} Classifications Symbol	Y	G	L
h _{FE} Range	135~270	200~400	300~600

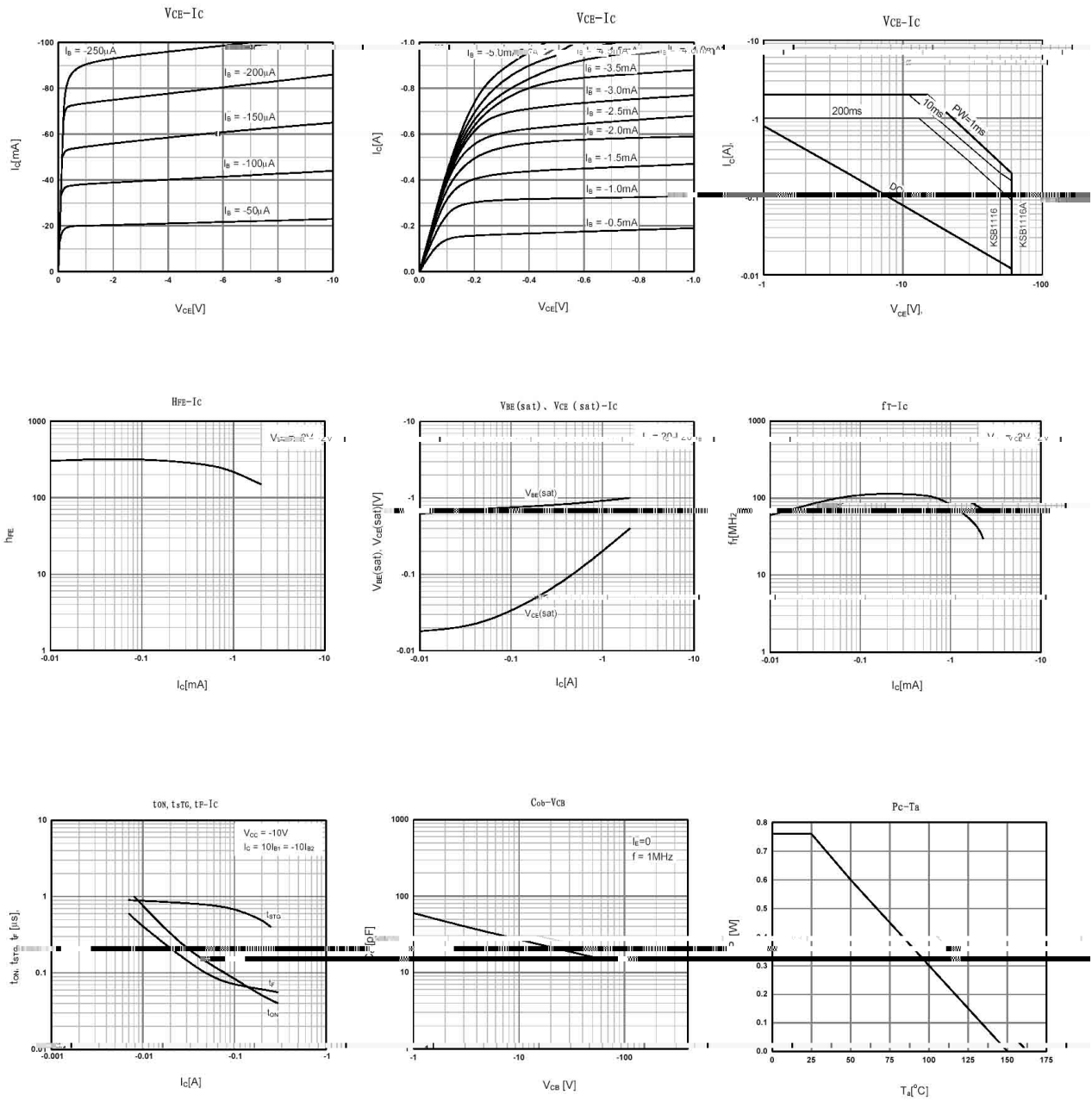
/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol		Rating	Unit
Collector to Base Voltage	V_{CBO}	KSB1116	-60	V
		KSB1116A	-120	
Collector to Emitter Voltage	V_{CEO}	KSB1116	-50	V
		KSB1116A	-60	
Emitter to Base Voltage	V_{EBO}		-6.0	V
Collector Current - Continuous	I_C		-1.0	A
Base Current – Continuous	I_B		-2.0	A
Collector Power Dissipation	P_C		750	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 Cut-Off Current	I_{CBO}		$V_{CB}=-60V$ $I_E=0$			-0.1	μA
Emitter Cut-Off Current	I_{EBO}		$V_{EB}=-6.0V$ $I_C=0$			-0.1	μA
DC Current Gain	$h_{FE(1)}$	KSB1116	$V_{CE}=-2.0V$ $I_C=-100mA$	135		600	
		KSB1116A		135		400	
	$h_{FE(2)}$		$V_{CE}=-2.0V$ $I_C=-1.0A$	81			
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$		$I_C=-1.0A$ $I_B=-50mA$		-0.2	-0.3	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$		$I_C=-1.0A$ $I_B=-50mA$		-0.9	-1.2	V
Base to Emitter On Voltage	$V_{BE(ON)}$		$V_{CE}=-2.0V$ $I_C=-50mA$	-0.60	-0.65	-0.70	V
Transition Frequency	f_T		$V_{CE}=-2.0V$ $I_C=-100mA$	70	120		MHz
Collector Output Capacitance	C_{ob}		$V_{CB}=-10V$ $I_E=0$ $f=1.0MHz$		25		pF
Turn-On Time	t_{on}		$V_{CC}=-10V$ $I_C=-100mA$		0.07		μs
Storage Time	t_{stg}		$I_{B1}=-I_{B2}=-10mA$		0.7		μs
Turn-Off Time	t_{off}		$V_{BE(off)}=2V\sim 3V$		0.07		μs

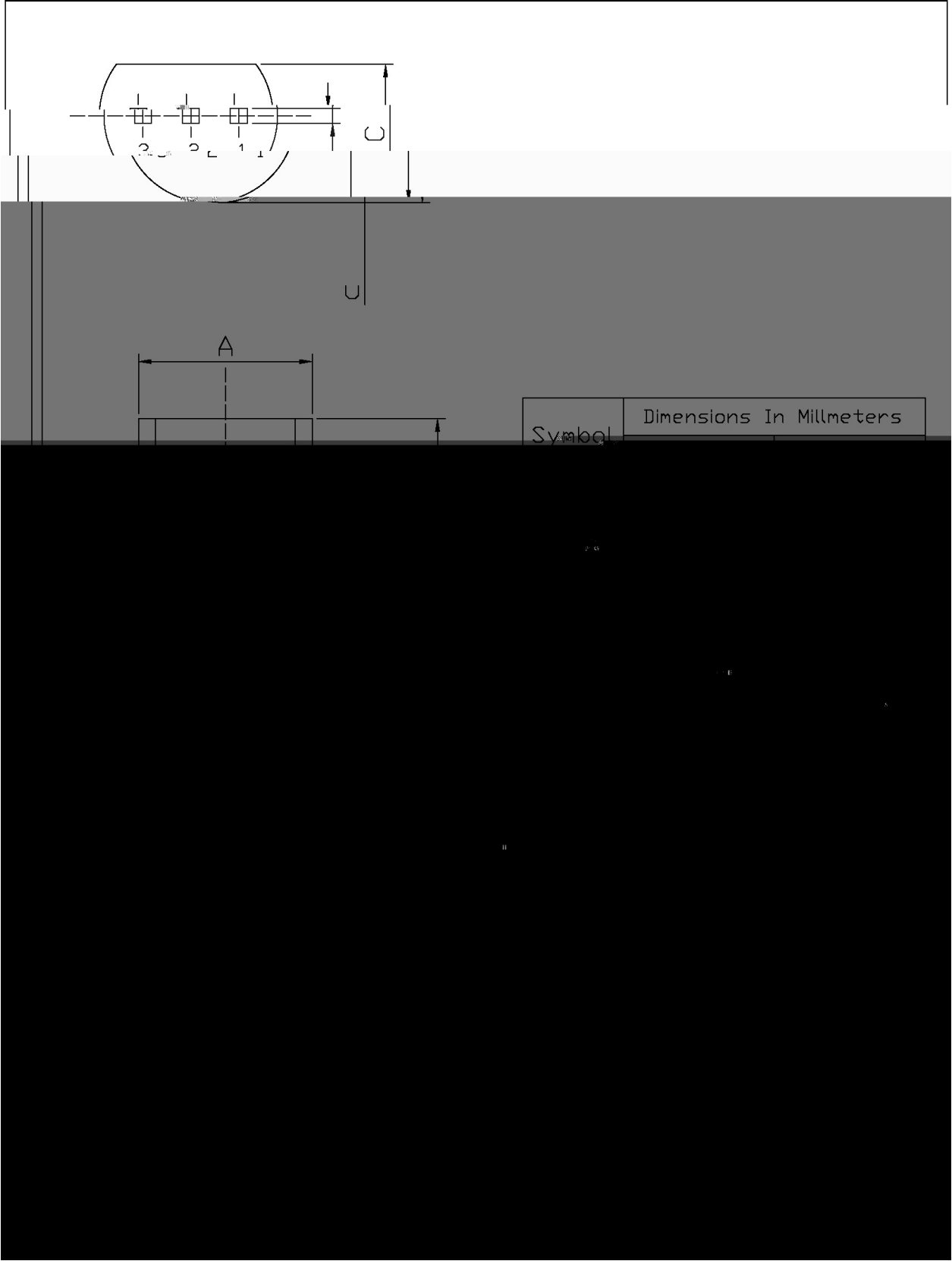
/ Electrical Characteristic Curve



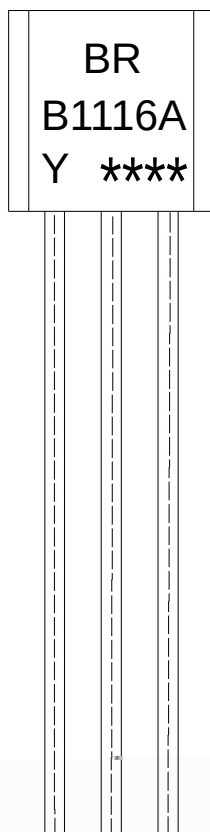
/ Package Dimensions

TO-92

Unit: mm



/ Marking Instructions



BR:

B1116

Y: h_{FE}

Note:

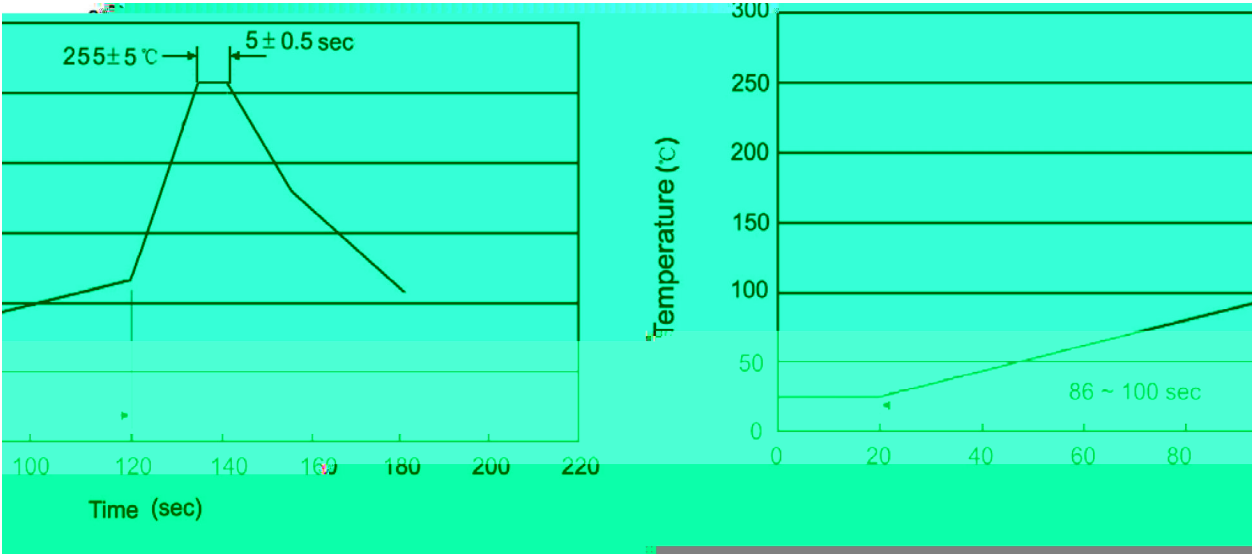
BR: Company Code.

B1116: 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;
- 2

255±5

5±0.5sec;
- 3

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