

# UTC 2SB1116/A PNP EPITAXIAL SILICON TRANSISTOR

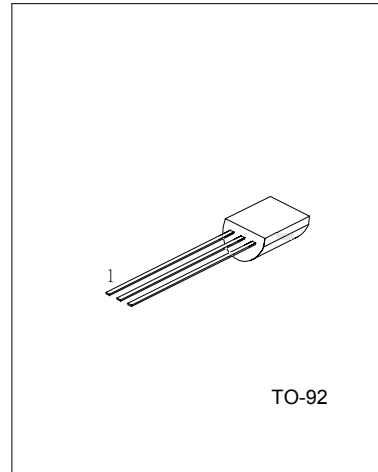
## PNP EPITAXIAL SILICON TRANSISTOR

### DESCRIPTION

\* Complement to 2SD1616/A

### APPLICATIONS

- \* Audio Frequency Power Amplifier
- \* Medium Speed Switching



1: Emitter 2: Collector 3: Base

### ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V <sub>CBO</sub>	-60	V
2SB1116 2SB1116A		-80	
Collector-Emitter Voltage	V <sub>CEO</sub>	-50	V
2SB1116 2SB1116A		-60	
Emitter-Base Voltage	V <sub>EBO</sub>	-6	V
Collector Current (DC)	I <sub>c</sub>	-1	A
Collector Current (Pulse)*	I <sub>cp</sub>	-2	A
Collector Power Dissipation	P <sub>c</sub>	0.75	W
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55 ~ +150	°C

\*PW ≤ 10ms, Duty Cycle ≤ 50%

### ELECTRICAL CHARACTERISTICS (Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector Cut-off Current	I <sub>CBO</sub>	V <sub>CB</sub> =-60V, I <sub>E</sub> =0			-100	nA
Emitter Cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> =-6V, I <sub>C</sub> =0			-100	nA
DC Current Gain*	h <sub>FE1</sub>	V <sub>CE</sub> =-2V, I <sub>C</sub> =-100mA	135		600	
			135		400	
	h <sub>FE2</sub>	V <sub>CE</sub> =-2V, I <sub>C</sub> =-1A	81			
Base-Emitter On Voltage*	V <sub>BE(on)</sub>	V <sub>CE</sub> =-2V, I <sub>C</sub> =-50mA	-600	-650	-700	mV
Collector-Emitter Saturation Voltage*	V <sub>CE(sat)</sub>	I <sub>C</sub> =-1A, I <sub>B</sub> =-50mA		-0.2	-0.3	V
Base-Emitter Saturation Voltage*	V <sub>BE(sat)</sub>	I <sub>C</sub> =-1A, I <sub>B</sub> =-50mA		-0.9	-1.2	V
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> =-10V, I <sub>E</sub> =0, f=1MHz		25		pF
Current Gain Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =-2V, I <sub>C</sub> =-100mA	70	120		MHz
Turn On Time	t <sub>ON</sub>	V <sub>CC</sub> =-10V, I <sub>C</sub> =-100mA		0.07		μs
Storage Time	t <sub>STG</sub>	I <sub>B1</sub> =-I <sub>B2</sub> =-10mA		0.7		μs
Fall Time	t <sub>F</sub>	V <sub>BE(off)</sub> =2 ~ 3V		0.07		μs

\*Pulse Test: PW ≤ 350μs, Duty Cycle ≤ 2%

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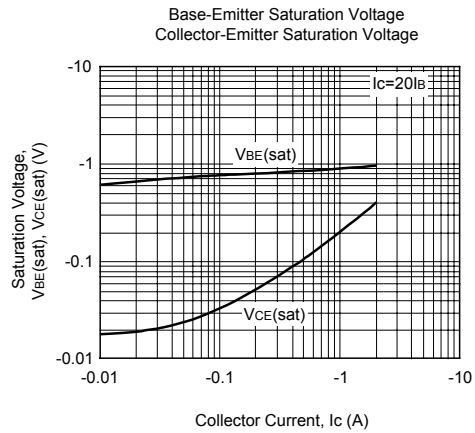
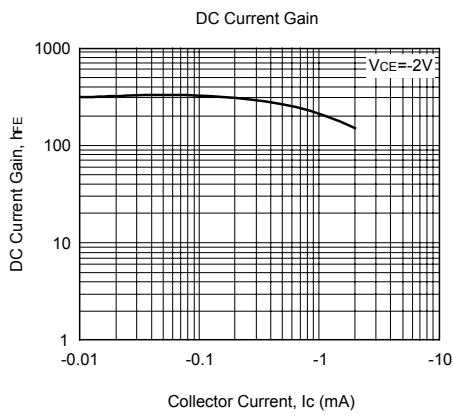
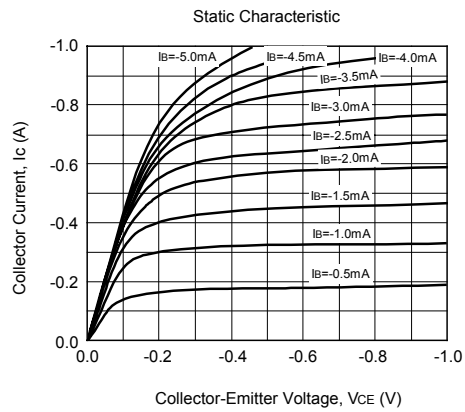
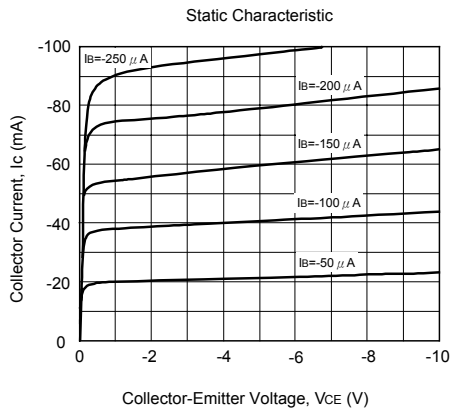
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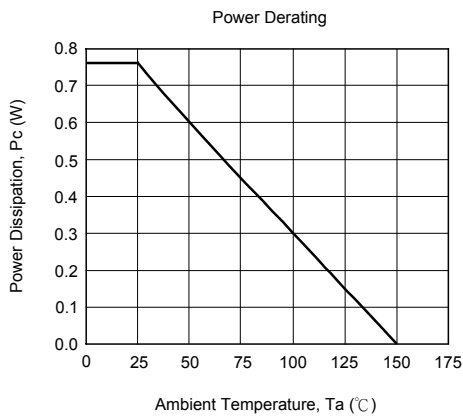
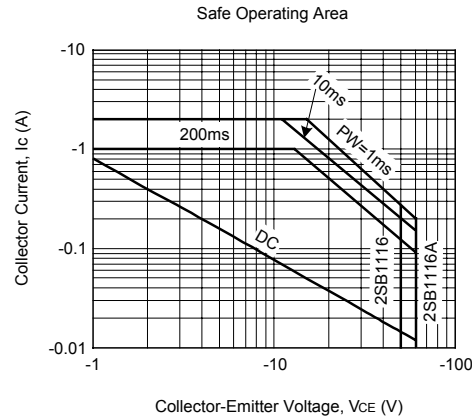
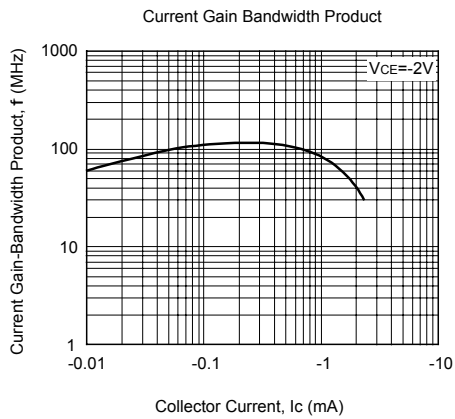
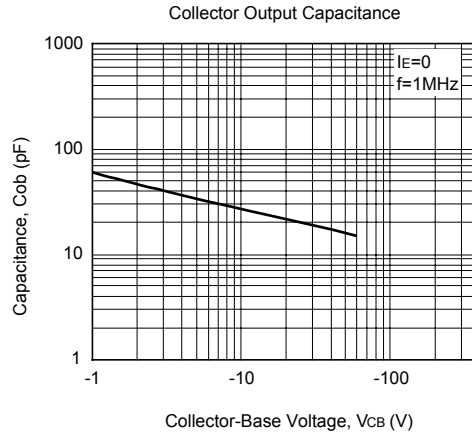
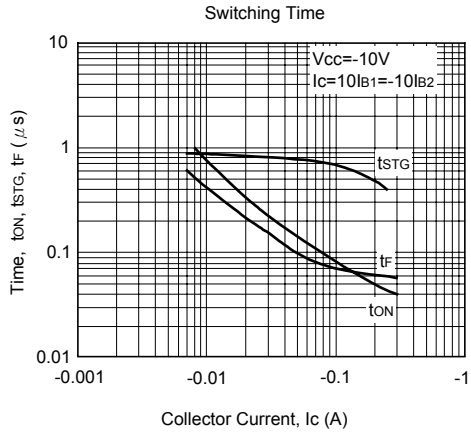
## CLASSIFICATION of $h_{FE1}$

RANK	Y	G	L
$h_{FE1}$	135 ~ 270	200 ~ 400	300 ~ 600

## TYPICAL CHARACTERISTICS



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