



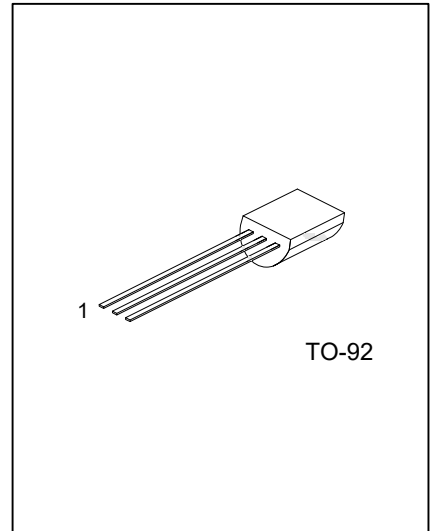
# 2SA1015

## PNP SILICON TRANSISTOR

### LOW FREQUENCY PNP AMPLIFIER TRANSISTOR

#### FEATURES

- \* Collector-Emitter Voltage:  $BV_{CE0}=-50V$
- \* Collector Current up to 150mA
- \* High  $h_{FE}$  Linearity
- \* Complement to UTC 2SC1815



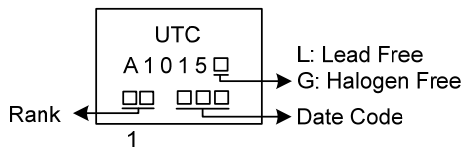
#### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free Plating	Halogen Free		1	2	3	
2SA1015L-xx-T92-B	2SA1015G-xx-T92-B	TO-92	E	C	B	Tape Box
2SA1015L-xx-T92-K	2SA1015G-xx-T92-K	TO-92	E	C	B	Bulk

Note: Pin Assignment: E: Emitter    C: Collector    B: Base

<p>2SA1015G-xx-T92-B</p> <p>(1)Packing Type (2)Package Type (3)Rank (4)Green Package</p>	<p>(1) B: Tape Box, K: Bulk (2) T92: TO-92 (3) xx: refer to Classification of <math>h_{FE}</math> (4) G: Halogen Free and Lead Free, L: Lead Free</p>
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#### MARKING



■ ABSOLUTE MAXIMUM RATING (T<sub>A</sub>=25°C, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V <sub>CB0</sub>	-50	V
Collector-Emitter Voltage	V <sub>CEO</sub>	-50	V
Emitter-Base Voltage	V <sub>EBO</sub>	-5	V
Collector Current	I <sub>C</sub>	-150	mA
Base Current	I <sub>B</sub>	-50	mA
Collector Power Dissipation	P <sub>C</sub>	400	mW
Junction Temperature	T <sub>J</sub>	125	°C
Storage Temperature	T <sub>STG</sub>	-55 ~ +125	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.

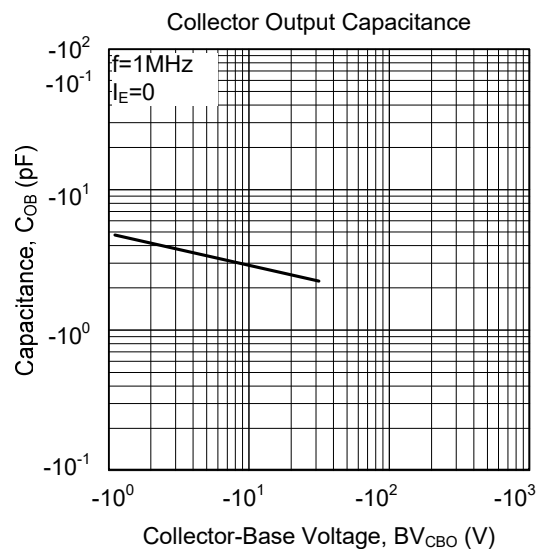
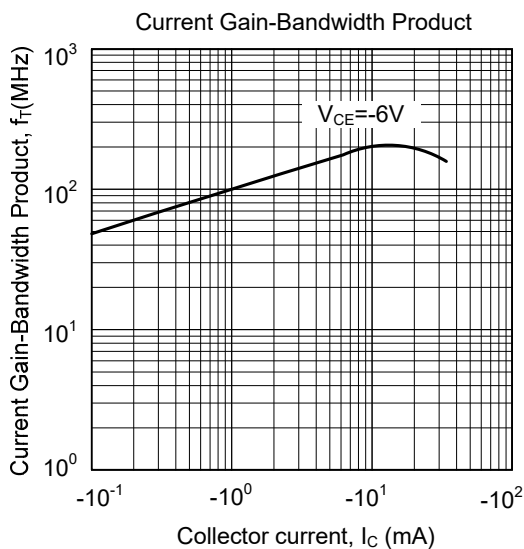
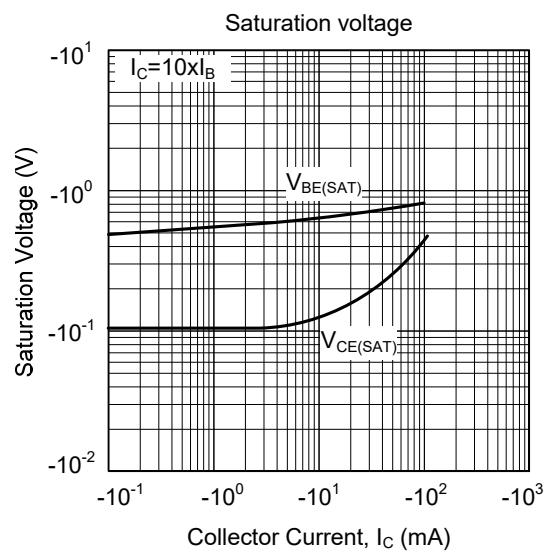
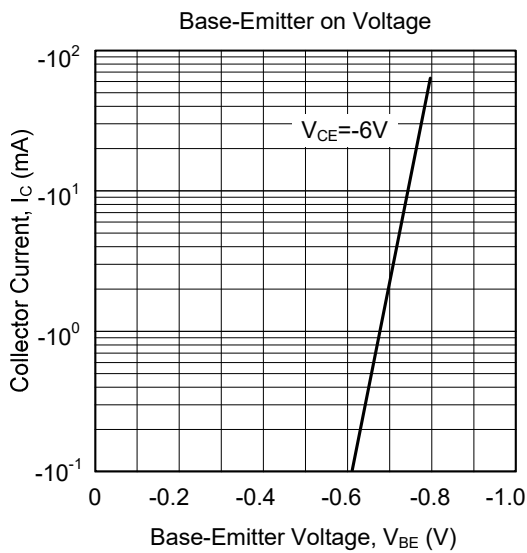
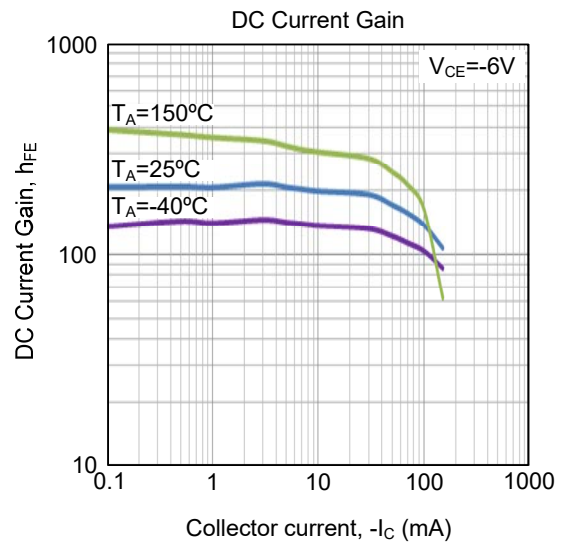
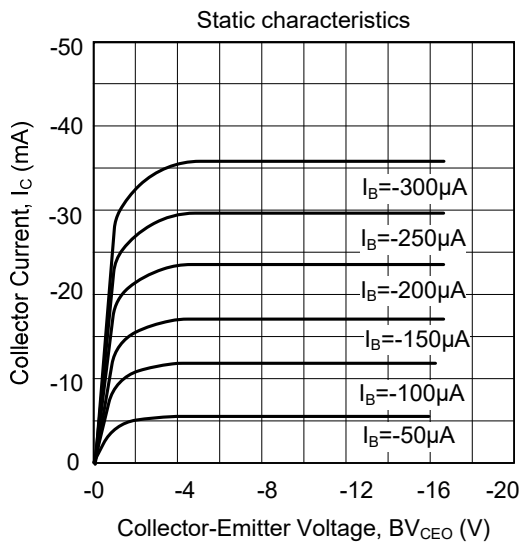
■ ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV <sub>CB0</sub>	I <sub>C</sub> =-100μA, I <sub>E</sub> =0	-50			V
Collector-Emitter Breakdown Voltage	BV <sub>CEO</sub>	I <sub>C</sub> =-10mA, I <sub>B</sub> =0	-50			V
Emitter-Base Breakdown Voltage	BV <sub>EBO</sub>	I <sub>E</sub> =-10μA, I <sub>C</sub> =0	-5			V
Collector Cut-off Current	I <sub>CB0</sub>	V <sub>CB</sub> =-50V, I <sub>E</sub> =0			-100	nA
Emitter Cut-off Current	I <sub>EBO</sub>	V <sub>EB</sub> =-5V, I <sub>C</sub> =0			-100	nA
DC Current Gain	h <sub>FE1</sub>	V <sub>CE</sub> =-6V, I <sub>C</sub> =-2mA	120		700	
	h <sub>FE2</sub>	V <sub>CE</sub> =-6V, I <sub>C</sub> =-150mA	25			
Collector-Emitter Saturation Voltage	V <sub>CE(SAT)</sub>	I <sub>C</sub> =-100mA, I <sub>B</sub> =-10mA		-0.1	-0.3	V
Base-Emitter Saturation Voltage	V <sub>BE(SAT)</sub>	I <sub>C</sub> =-100mA, I <sub>B</sub> =-10mA			-1.1	V
Output Capacitance	C <sub>OB</sub>	V <sub>CB</sub> =-10V, I <sub>E</sub> =0, f=1MHz		4.0	7.0	pF
Current Gain Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =-10V, I <sub>C</sub> =-1mA	80			MHz
Noise Figure	NF	V <sub>CE</sub> =-6V, I <sub>C</sub> =-0.1mA, R <sub>C</sub> =1kΩ, f=100Hz		0.5	6	dB

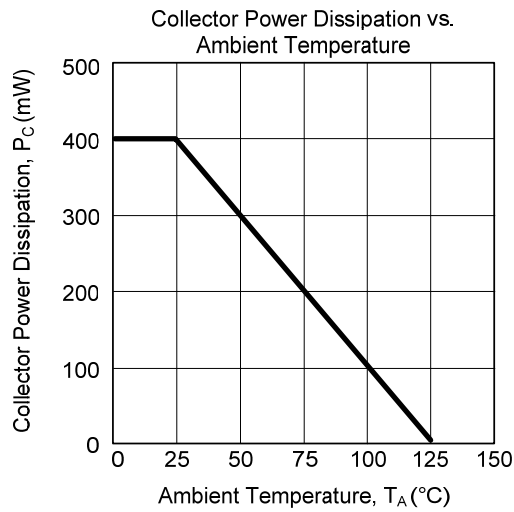
■ CLASSIFICATION OF h<sub>FE1</sub>

RANK	Y	GR	BL
RANGE	120-240	200-400	350-700

## TYPICAL CHARACTERISTICS



### ■ TYPICAL CHARACTERISTICS (Cont.)



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