



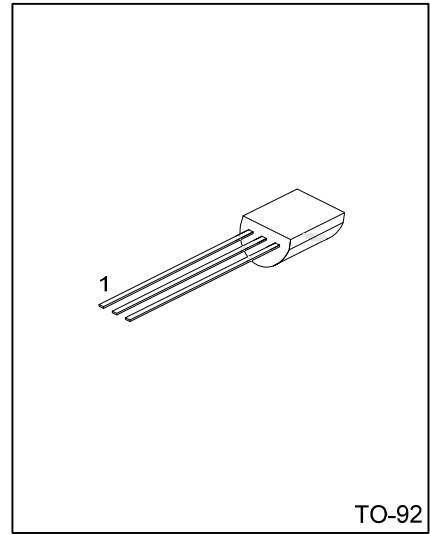
# 2SA1015

## PNP SILICON TRANSISTOR

### LOW FREQUENCY PNP AMPLIFIER TRANSISTOR

#### FEATURES

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



Lead-free: 2SA1015L  
 Halogen-free: 2SA1015G

#### ORDERING INFORMATION

Ordering Number			Package	Pin Assignment			Packing
Normal	Lead Free Plating	Halogen Free		1	2	3	
2SA1015-x-T92-B	2SA1015L-x-T92-B	2SA1015G-x-T92-B	TO-92	E	C	B	Tape Box
2SA1015-x-T92-K	2SA1015L-x-T92-K	2SA1015G-x-T92-K	TO-92	E	C	B	Bulk

<p>2SA1015L-x-T92-B</p> <p>(1)Packing Type        (2)Package Type        (3)Rank        (4)Lead Plating</p>	<p>(1) B: Tape Box, K: Bulk        (2) T92: TO-92        (3) x: refer to Classification of <math>h_{FE}</math>        (4) G: Halogen Free, L: Lead Free Plating, Blank: Pb/Sn</p>
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■ ABSOLUTE MAXIMUM RATING (Ta=25°C, unless otherwise specified )

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V <sub>CBO</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 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.

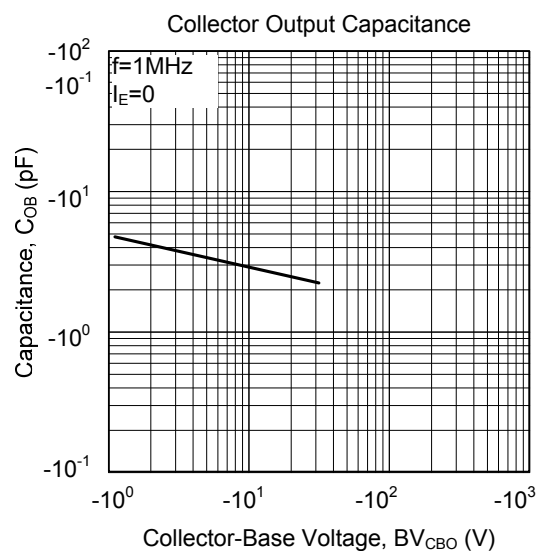
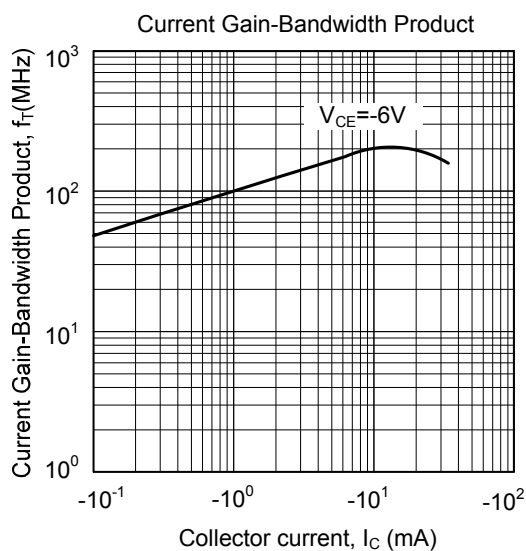
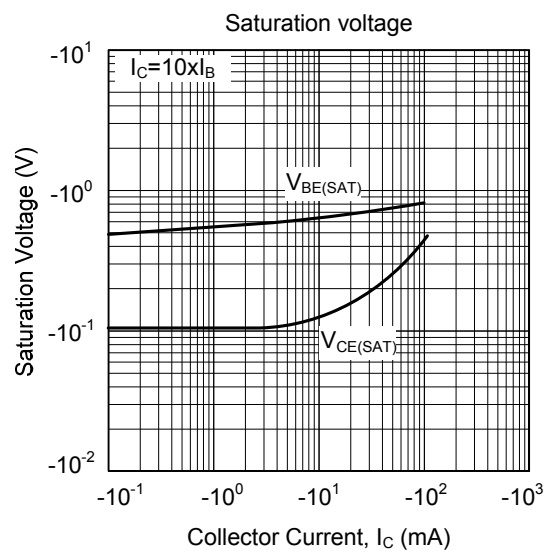
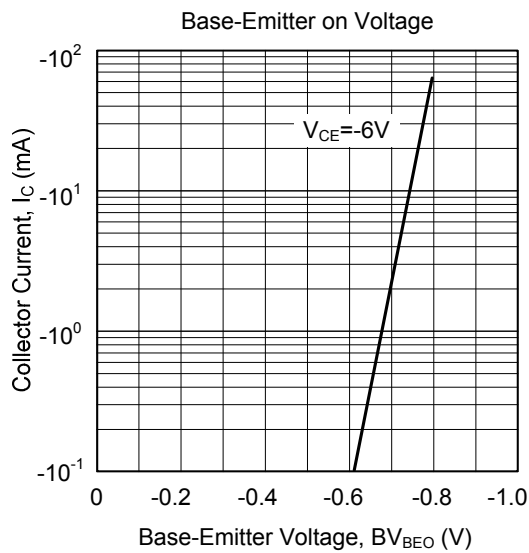
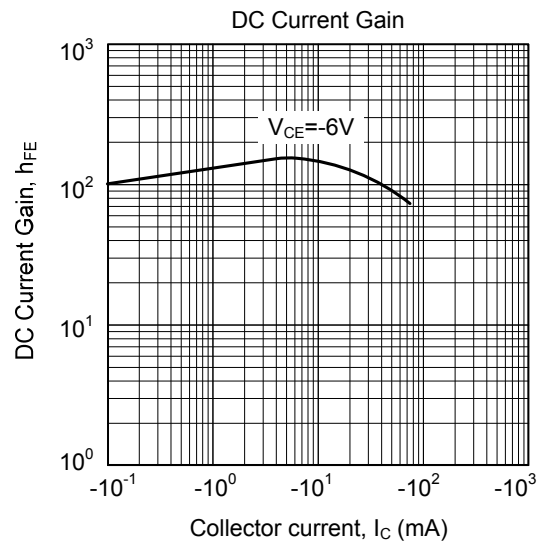
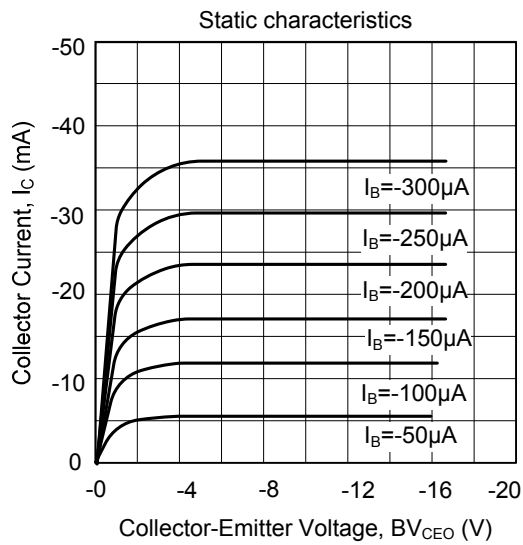
■ ELECTRICAL CHARACTERISTICS (Ta=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV <sub>CBO</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>CBO</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>G</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



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