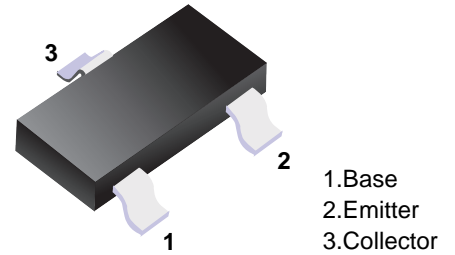


## 2SC1015

### PNP Transistors

#### Features

- High voltage and high current  
 $V_{CE0} = -50V(\text{min.}), I_C = -150mA(\text{max.})$
- Low noise:  $NF = 1dB(\text{Typ.})$  at  $f = 1KHz$



■ Simplified outline(SOT-23)

#### Absolute Maximum Ratings $T_a = 25^\circ C$

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	$V_{CBO}$	-50	V
Collector-Emitter Voltage	$V_{CEO}$	-50	V
Emitter-Base Voltage	$V_{EBO}$	-5	V
Collector Current -Continuous	$I_C$	-150	mA
Collector Power Dissipation	$P_C$	200	mW
Junction Temperature	$T_J$	150	$^\circ C$
Storage Temperature	$T_{stg}$	-55 to 150	$^\circ C$

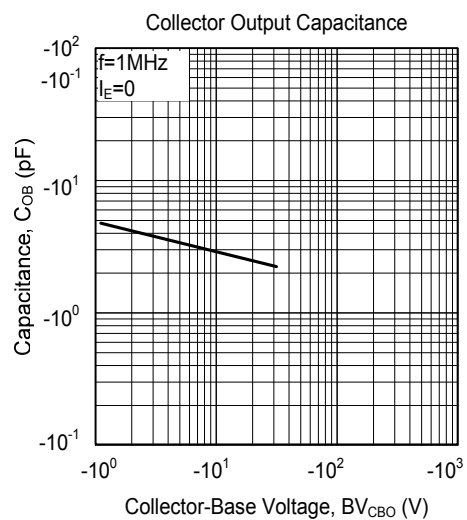
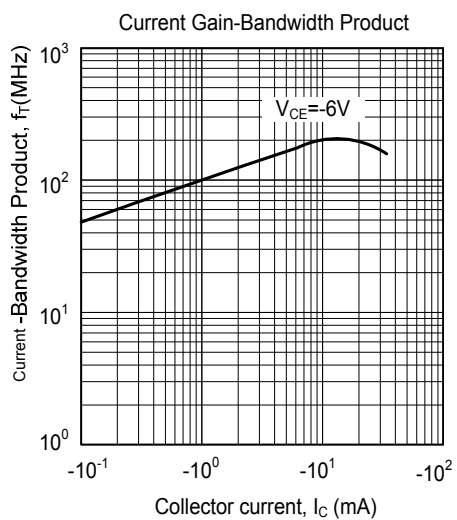
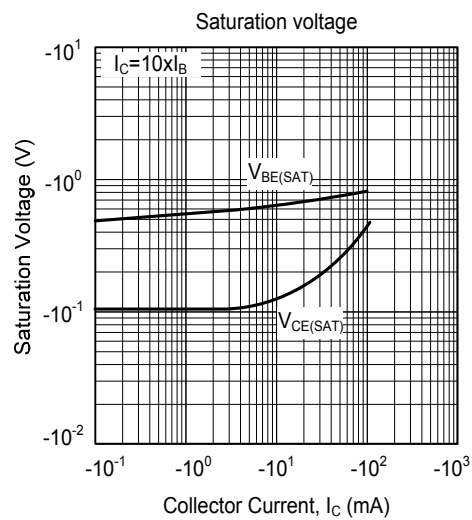
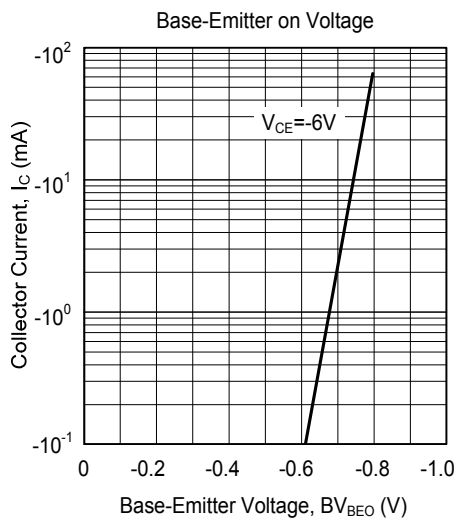
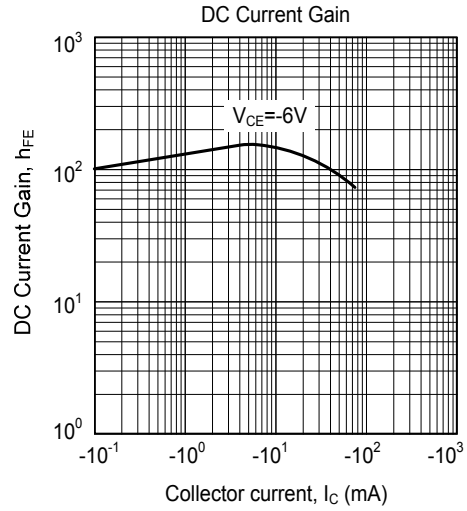
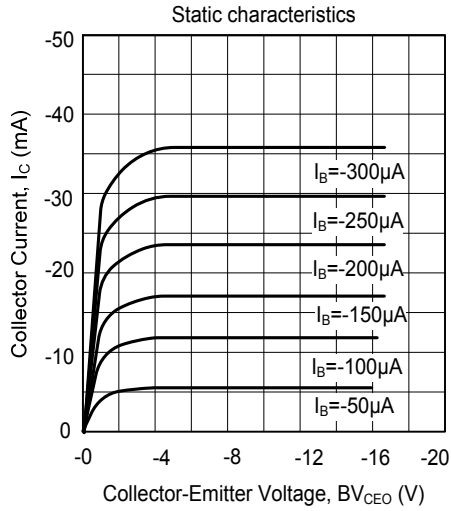
#### Electrical Characteristics $T_a = 25^\circ C$

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{CBO}$	$I_C = -100 \mu A, I_E = 0$	-50			V
Collector-emitter breakdown voltage	$V_{CEO}$	$I_C = -0.1mA, I_B = 0$	-50			V
Emitter-base breakdown voltage	$V_{EBO}$	$I_E = -100 \mu A, I_C = 0$	-5			V
Collector cut-off current	$I_{CBO}$	$V_{CB} = -50V, I_E = 0$			-0.1	$\mu A$
Collector cut-off current	$I_{CEO}$	$V_{CE} = -50V, I_B = 0$			-0.1	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -5V, I_C = 0$			-0.1	$\mu A$
DC current gain	$h_{FE}$	$V_{CE} = -6V, I_C = -2mA$	130		400	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -100mA, I_B = -10mA$			-0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -100mA, I_B = -10mA$			-1.1	V
Transition frequency	$f_T$	$V_{CE} = -10V, I_C = -1mA, f = 30MHz$	80			MHz

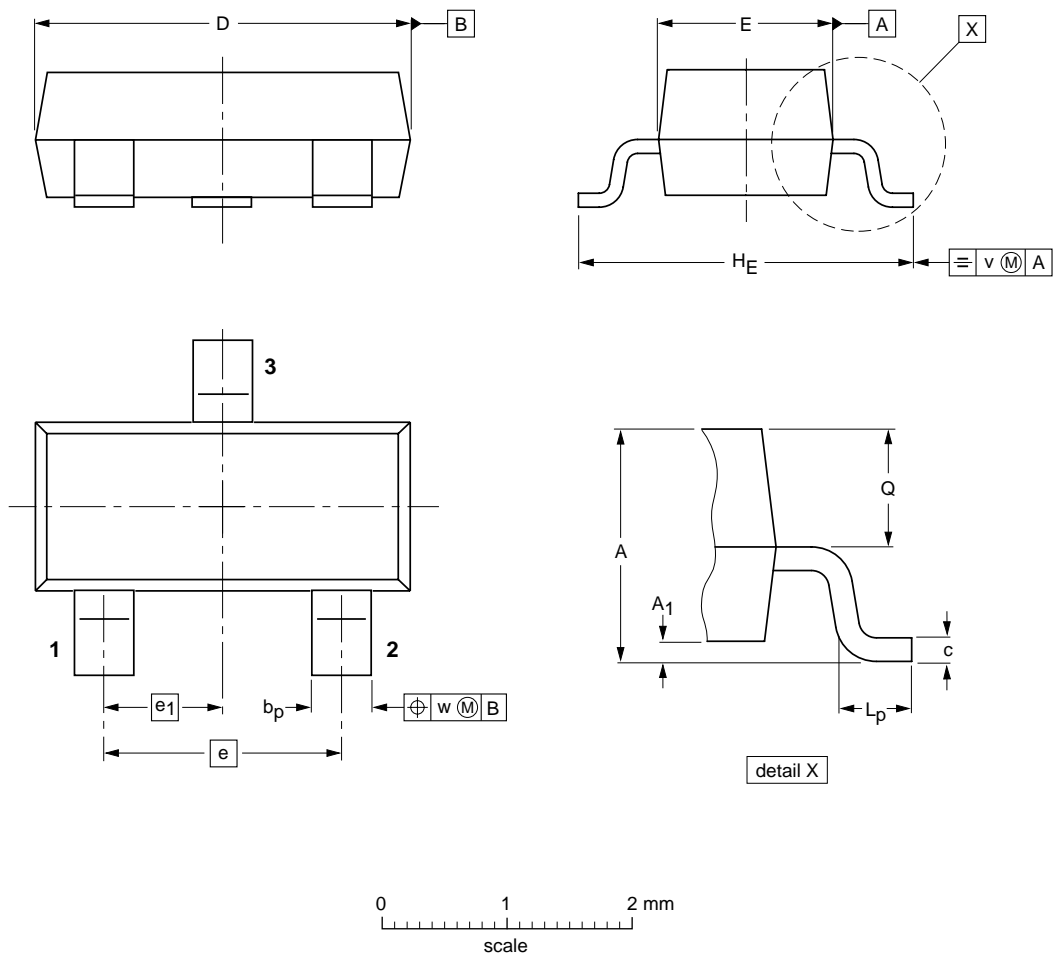
#### hFE Classification

Type	2SA1015-L	2SA1015-H
Range	130-200	200-400
Marking	BAL	BA

■ Typical Characteristics



■ SOT-23



**DIMENSIONS (mm are the original dimensions)**

UNIT	A	A <sub>1</sub> max.	b <sub>p</sub>	c	D	E	e	e <sub>1</sub>	H <sub>E</sub>	L <sub>p</sub>	Q	v	w
mm	1.1 0.9	0.1	0.48 0.38	0.15 0.09	3.0 2.8	1.4 1.2	1.9	0.95	2.5 2.1	0.45 0.15	0.55 0.45	0.2	0.1