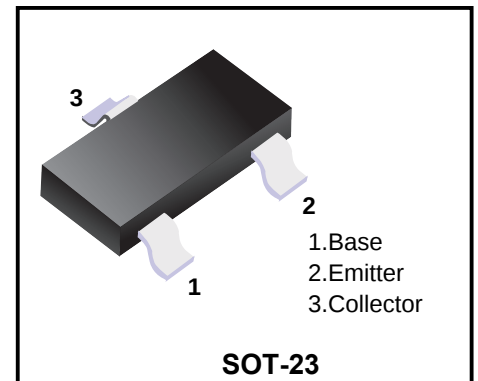


PNP Transistors

Features

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



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	$^\circ C$

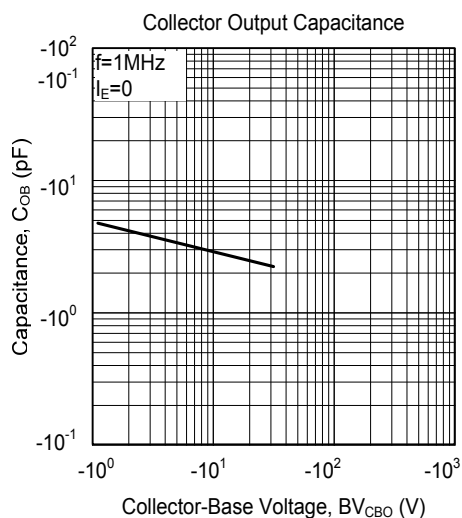
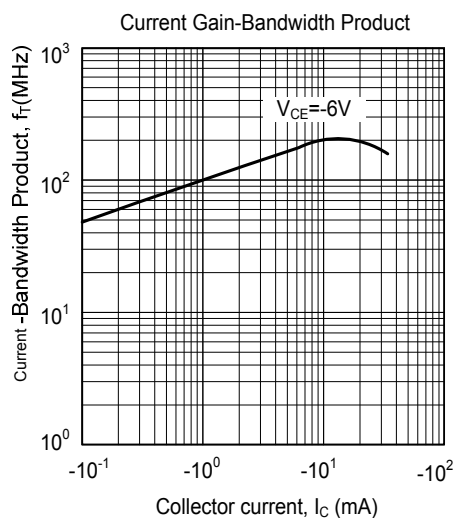
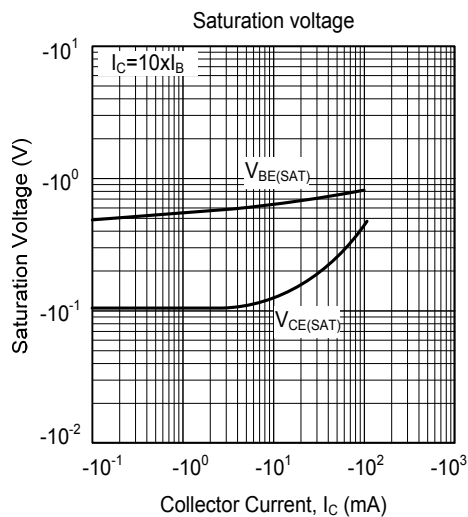
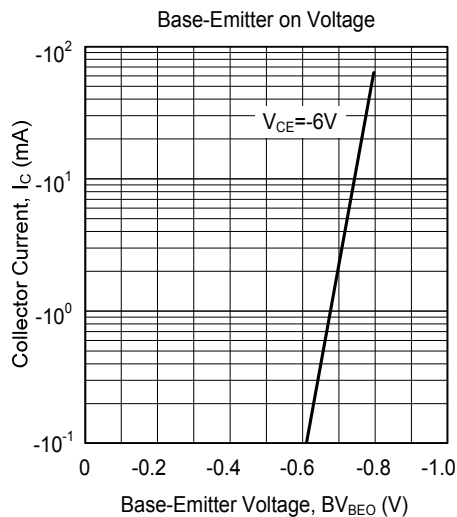
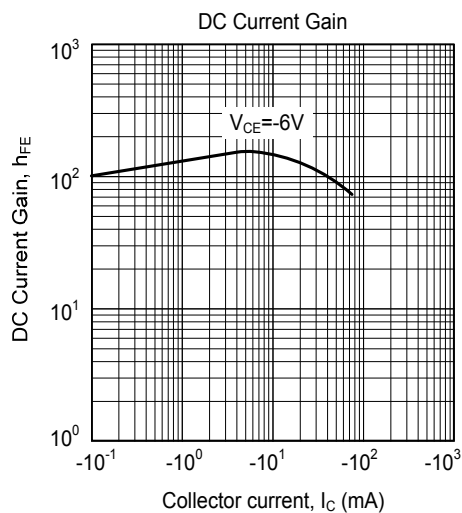
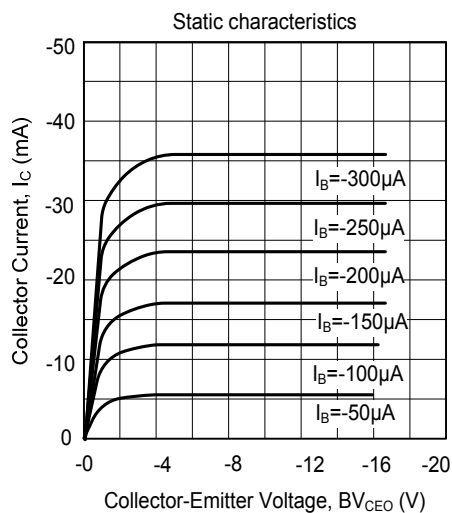
Electrical Characteristics ($T_a = 25^\circ C$ unless otherwise specified.)

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	μA
Collector cut-off current	I_{CEO}	$V_{CE} = -50V, I_B = 0$			-0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -5V, I_C = 0$			-0.1	μA
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

h_{FE} Classification

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

Typical Characteristics



Ordering information

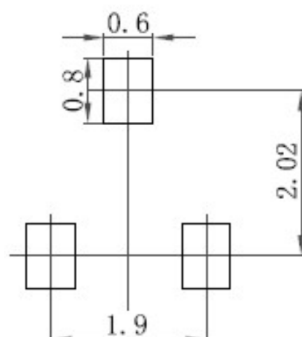
Package	Packing Description	Base Quantity	Packing Quantity
SOT-23	Tape/Reel, 7" reel	3000pcs/Reel	24000PCS/Box 120000PCS/Carton

Package Dimensions

SOT-23

Dim.	Millimeter (mm)		mil	
	Min.	Max.	Min.	Max.
A	0.9	1.15	35	45
A1	0.1		3.9	
bp	0.38	0.48	15	19
C	0.09	0.15	3.54	5.9
D	2.8	3.0	110	118
E	1.2	1.4	47	55
E	1.9		75	
E1	0.95		37	
HE	2.1	2.55	83	100
Lp	0.15	0.45	5.9	18
Q	0.45	0.55	18	22
v	0.2		7.9	
W	0.1		4	

The recommended mounting pad size



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