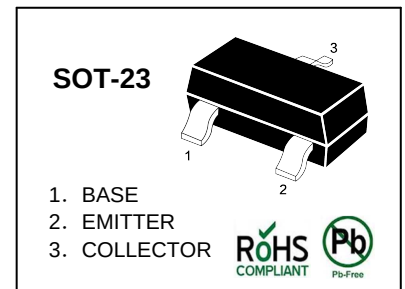


NPN Silicon Epitaxial Transistor

for switching and amplifier applications

As complementary types the PNP transistors BC856...BC860 is recommended.



Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Value	Units
Collector Base Voltage	BC846	V_{CBO}	80
	BC847, BC850	V_{CBO}	50
	BC848, BC849	V_{CBO}	30
Collector Emitter Voltage	BC846	V_{CEO}	65
	BC847, BC850	V_{CEO}	45
	BC848, BC849	V_{CEO}	30
Emitter Base Voltage	BC846, BC847	V_{EBO}	6
	BC848, BC849, BC850	V_{EBO}	5
Collector Current	I_C	100	mA
Peak Collector Current	I_{CM}	200	mA
Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_S	- 65 to + 150	$^\circ\text{C}$

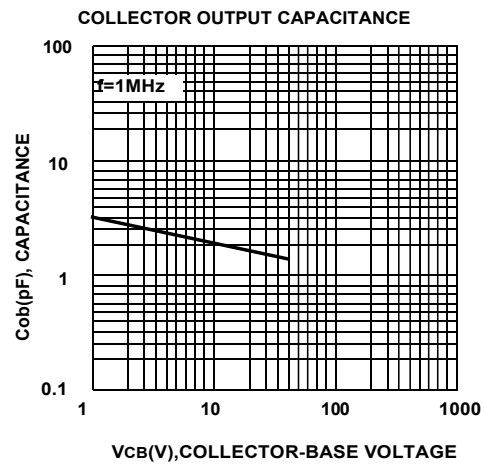
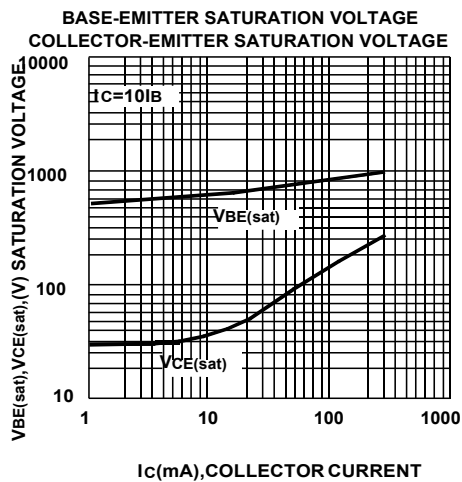
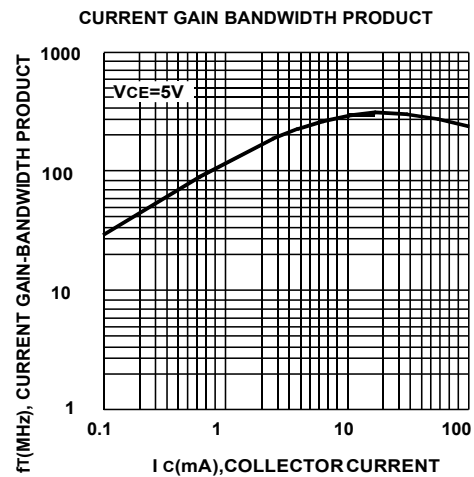
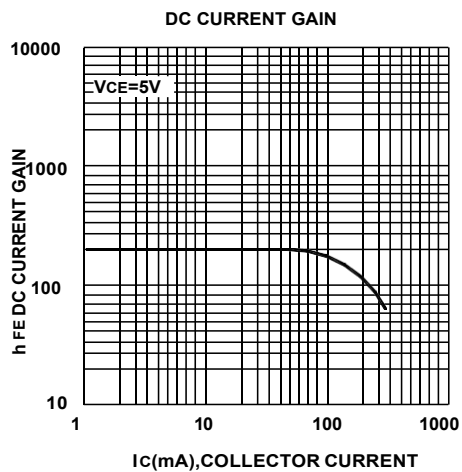
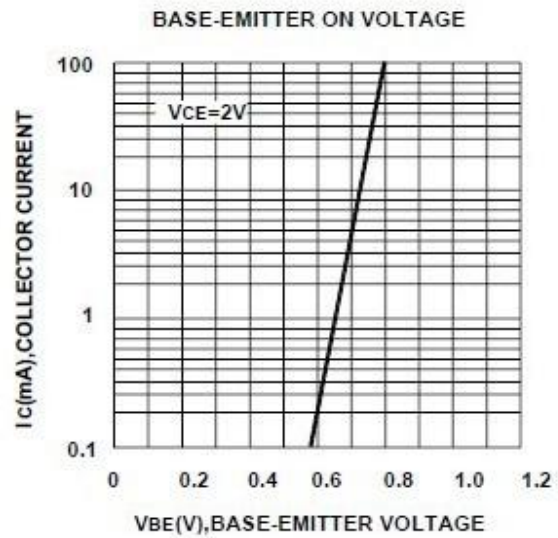
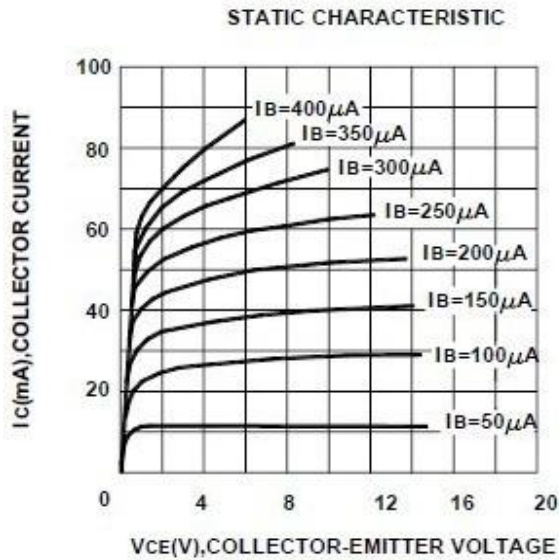
MARKING CODE

TYPE	846A	846B	846C	847A	847B	847C	848A	848B	848C	849A	849B	849C	850A	850B	850C
MARK	1A	1B	1C	1E	1F	1G	1J	1K	1L	2A	2B	2C	2E	2F	2G

Characteristics at $T_{amb} = 25\text{ }^{\circ}\text{C}$

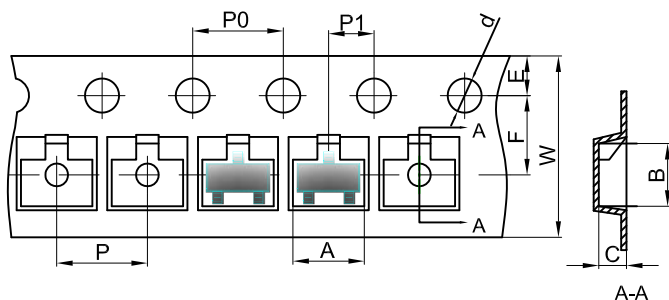
Parameter	Symbol	Min.	Typ.	Max.	Units
DC Current Gain at $V_{CE} = 5\text{ V}$, $I_C = 2\text{ mA}$	A h_{FE}	110	-	220	-
	B h_{FE}	200	-	450	-
	C h_{FE}	420	-	800	-
Collector Emitter Saturation Voltage at $I_C = 10\text{ mA}$, $I_B = 0.5\text{ mA}$ at $I_C = 100\text{ mA}$, $I_B = 5\text{ mA}$	V_{CEsat}	-	-	250	mV
	V_{CEsat}	-	-	600	mV
Base Emitter On Voltage at $I_C = 2\text{ mA}$, $V_{CE} = 5\text{ V}$ at $I_C = 10\text{ mA}$, $V_{CE} = 5\text{ V}$	$V_{BE(on)}$	580	-	700	mV
	$V_{BE(on)}$	-	-	720	mV
Collector Cutoff Current at $V_{CB} = 30\text{ V}$	I_{CBO}	-	-	15	nA
Current Gain Bandwidth Product at $V_{CE} = 5\text{ V}$, $I_C = 10\text{ mA}$, $f = 100\text{ MHz}$	f_T	-	300	-	MHz
Output Capacitance at $V_{CB} = 10\text{ V}$, $f = 1\text{ MHz}$	C_{ob}	-	-	6	pF
Input Capacitance at $V_{EB} = 0.5\text{ V}$, $f = 1\text{ MHz}$	C_{ib}	-	9	-	pF
Noise Figure					
at $I_C = 200\text{ }\mu\text{A}$, $V_{CE} = 5\text{ V}$, $R_G = 2\text{ K}\Omega$, $f = 1\text{ KHz}$	BC846, BC847, BC848 BC849, BC850	NF NF	- -	- -	10 4 dB dB
at $I_C = 200\text{ }\mu\text{A}$, $V_{CE} = 5\text{ V}$, $R_G = 2\text{ K}\Omega$, $f = 30 \sim 15\text{ KHz}$	BC849 BC850	NF NF	- -	- -	4 3 dB dB

Typical Characteristics



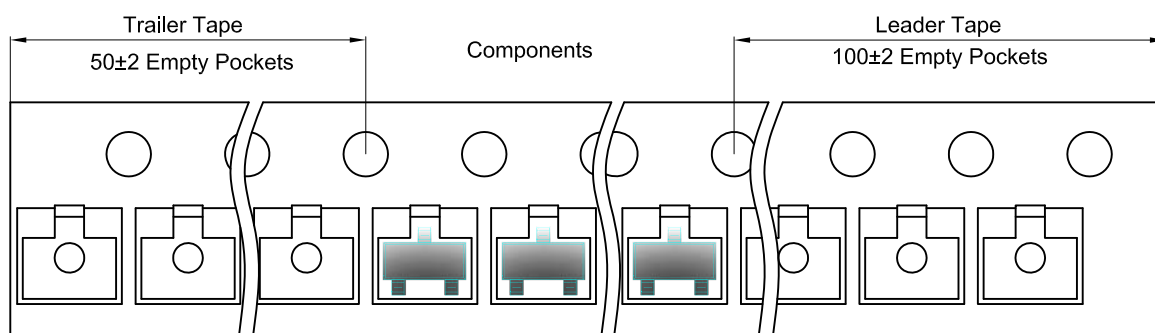
SOT-23 Tape and Reel

SOT-23 Embossed Carrier Tape

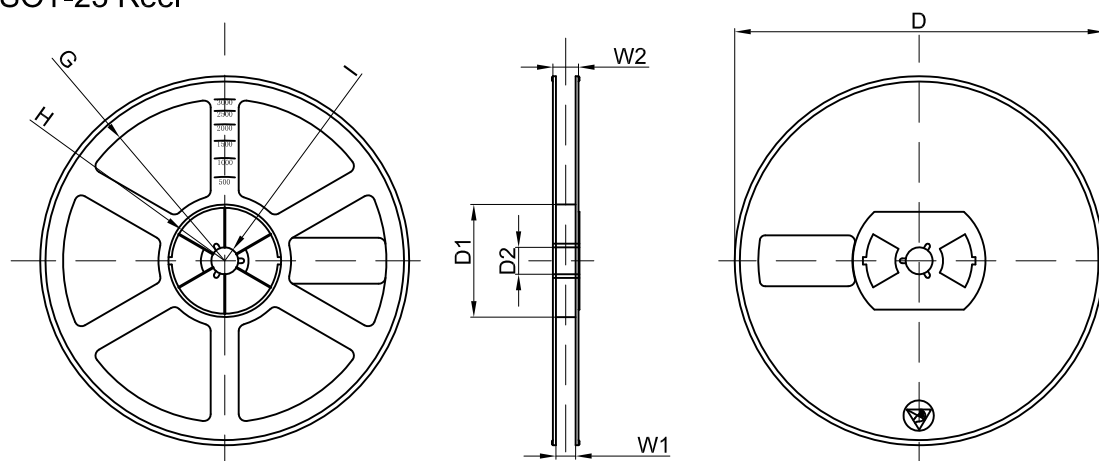


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

SOT-23 Tape Leader and Trailer

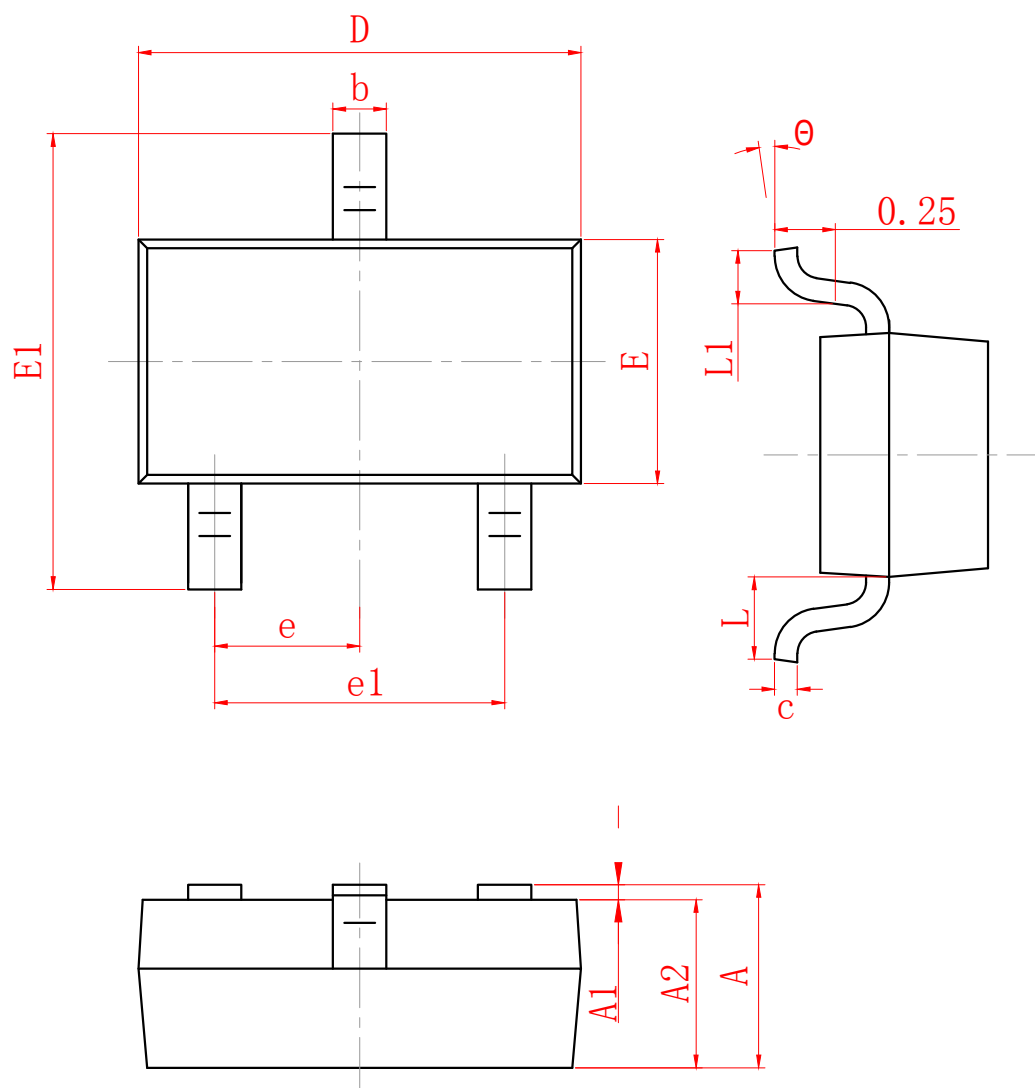


SOT-23 Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000 pcs	7 inch	45,000 pcs	203×203×195	180,000 pcs	438×438×220	



SYMBOL	MILLIMETER	
	MIN	MAX
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950 TYP	
e1	1.800	2.000
L	0.550 REF	
L1	0.300	0.500
θ	0°	8°

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