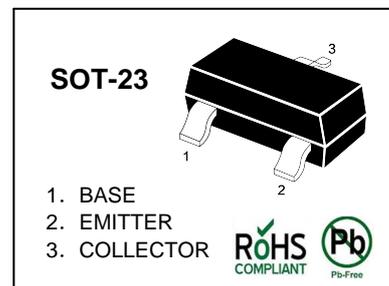


PNP Silicon Epitaxial Transistor

for switching and amplifier applications



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

Parameter	Symbol	Value	Unit	
Collector Base Voltage	BC856	$-V_{CBO}$	80	V
	BC857, BC860	$-V_{CBO}$	50	V
	BC858, BC859	$-V_{CBO}$	30	V
Collector Emitter Voltage	BC856	$-V_{CEO}$	65	V
	BC857, BC860	$-V_{CEO}$	45	V
	BC858, BC859	$-V_{CEO}$	30	V
Emitter Base Voltage	$-V_{EBO}$	5	V	
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_{stg}	- 65 to + 150	$^\circ\text{C}$	

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

Parameter	Symbol	Min.	Max.	Unit	
DC Current Gain at $-V_{CE} = 5\text{ V}$, $-I_C = 2\text{ mA}$	Current Gain Group A	h_{FE}	110	220	-
	B	h_{FE}	200	450	-
	C	h_{FE}	420	800	-
Collector Base Cutoff Current at $-V_{CB} = 30\text{ V}$	$-I_{CBO}$	-	15	nA	
Collector Base Breakdown Voltage at $-I_C = 10\text{ }\mu\text{A}$	BC856	$-V_{(BR)CBO}$	80	-	V
	BC857, BC860	$-V_{(BR)CBO}$	50	-	V
	BC858, BC859	$-V_{(BR)CBO}$	30	-	V
Collector Emitter Breakdown Voltage at $-I_C = 10\text{ }\mu\text{A}$	BC856	$-V_{(BR)CES}$	80	-	V
	BC857, BC860	$-V_{(BR)CES}$	50	-	V
	BC858, BC859	$-V_{(BR)CES}$	30	-	V
Collector Emitter Breakdown Voltage at $-I_C = 10\text{ mA}$	BC856	$-V_{(BR)CEO}$	65	-	V
	BC857, BC860	$-V_{(BR)CEO}$	45	-	V
	BC858, BC859	$-V_{(BR)CEO}$	30	-	V
Emitter Base Breakdown Voltage at $-I_E = 1\text{ }\mu\text{A}$	$-V_{(BR)EBO}$	5	-	V	
Collector Emitter Saturation Voltage at $-I_C = 10\text{ mA}$, $-I_B = 0.5\text{ mA}$ at $-I_C = 100\text{ mA}$, $-I_B = 5\text{ mA}$	$-V_{CE(sat)}$	-	0.3	V	
	$-V_{CE(sat)}$	-	0.65	V	
Base Emitter On Voltage at $-I_C = 2\text{ mA}$, $-V_{CE} = 5\text{ V}$ at $-I_C = 10\text{ mA}$, $-V_{CE} = 5\text{ V}$	$-V_{BE(on)}$	0.6	0.75	V	
	$-V_{BE(on)}$	-	0.82	V	
Current Gain Bandwidth Product at $-V_{CE} = 5\text{ V}$, $-I_C = 10\text{ mA}$, $f = 100\text{ MHz}$	f_T	100	-	MHz	
Output Capacitance at $-V_{CB} = 10\text{ V}$, $f = 1\text{ MHz}$	C_{ob}	-	6	pF	
Noise Figure at $-I_C = 200\text{ }\mu\text{A}$, $-V_{CE} = 5\text{ V}$, $R_G = 2\text{ K}\Omega$, $f = 1\text{ KHz}$ at $-I_C = 200\text{ }\mu\text{A}$, $-V_{CE} = 5\text{ V}$, $R_G = 2\text{ K}\Omega$, $f = 30\text{ } \sim 15\text{ KHz}$	BC856, BC857, BC858	NF	-	10	dB
	BC859, BC860	NF	-	4	
	BC859	NF	-	4	
	BC860	NF	-	2	

Typical Characteristics

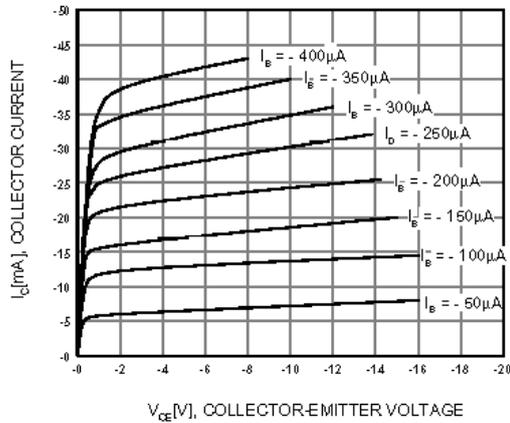


Figure 1. Static Characteristic

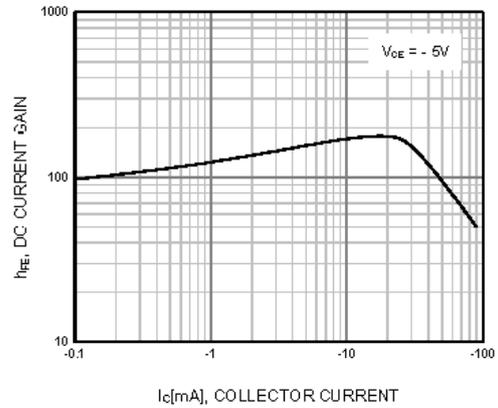


Figure 2. DC current Gain

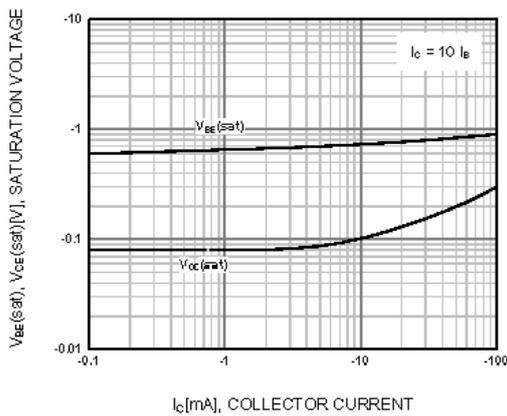


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

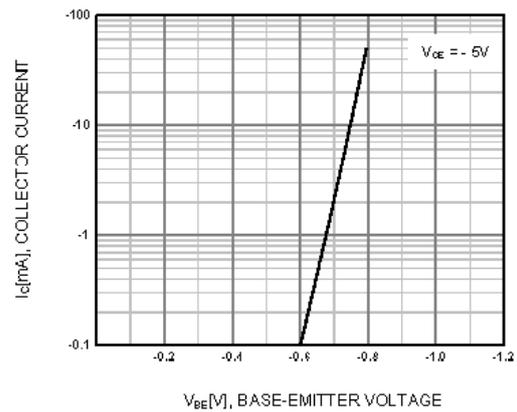


Figure 4. Base-Emitter On Voltage

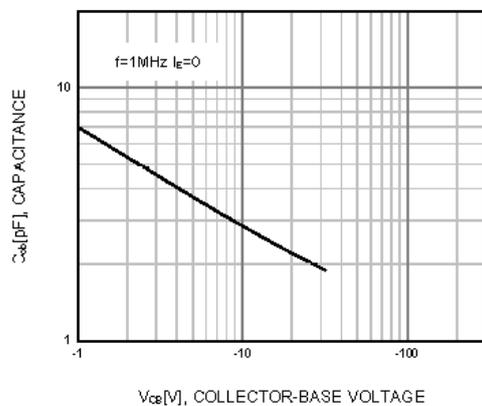


Figure 5. Collector Output Capacitance

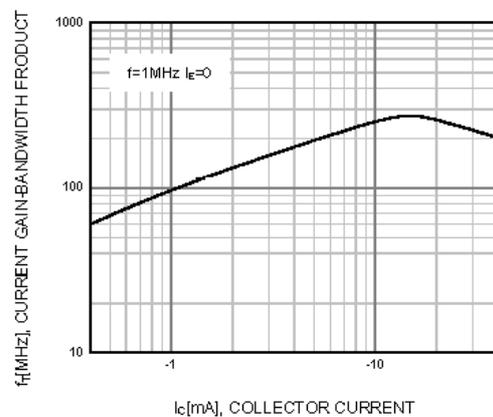
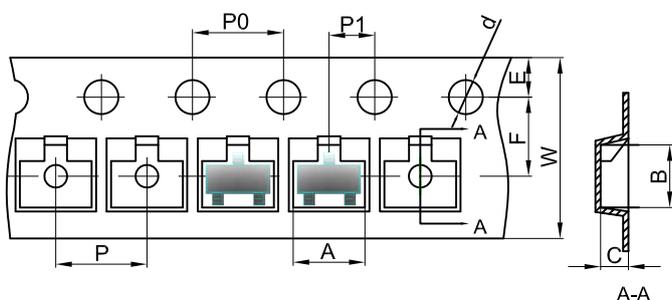


Figure 6. Current Gain Bandwidth Product

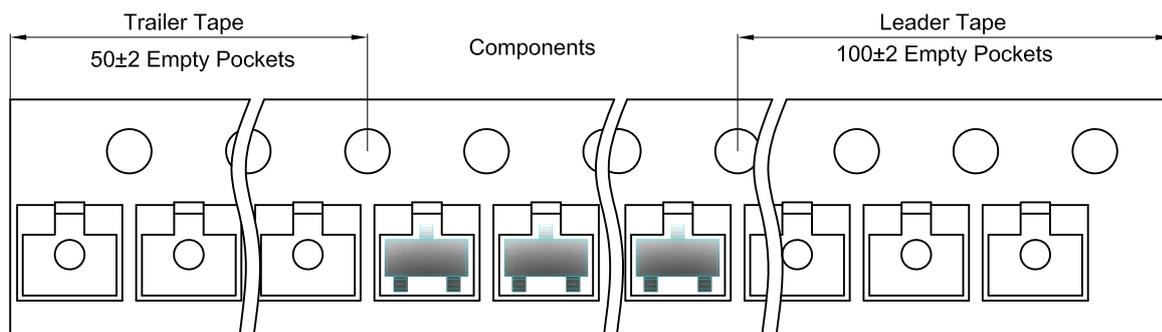
SOT-23 Tape and Reel

SOT-23 Embossed Carrier Tape

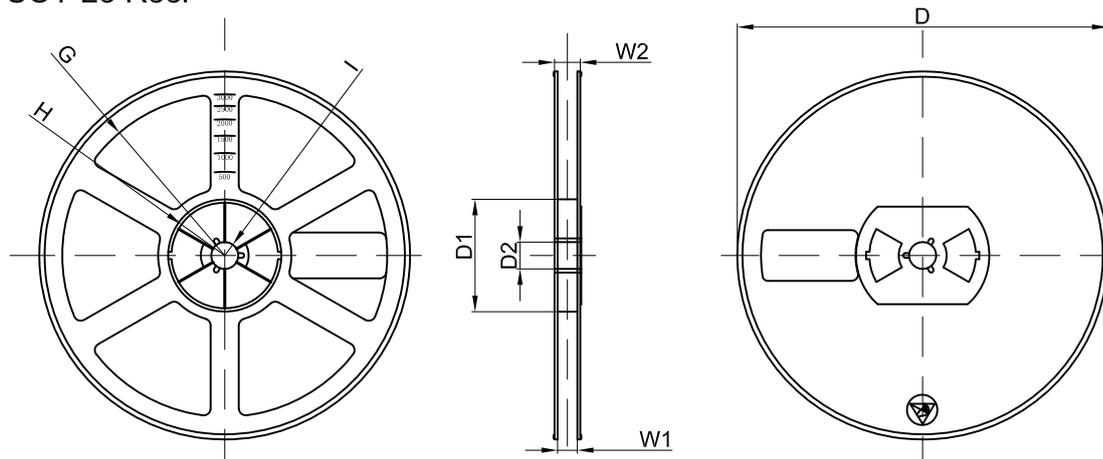


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

SOT-23 Tape Leader and Trailer

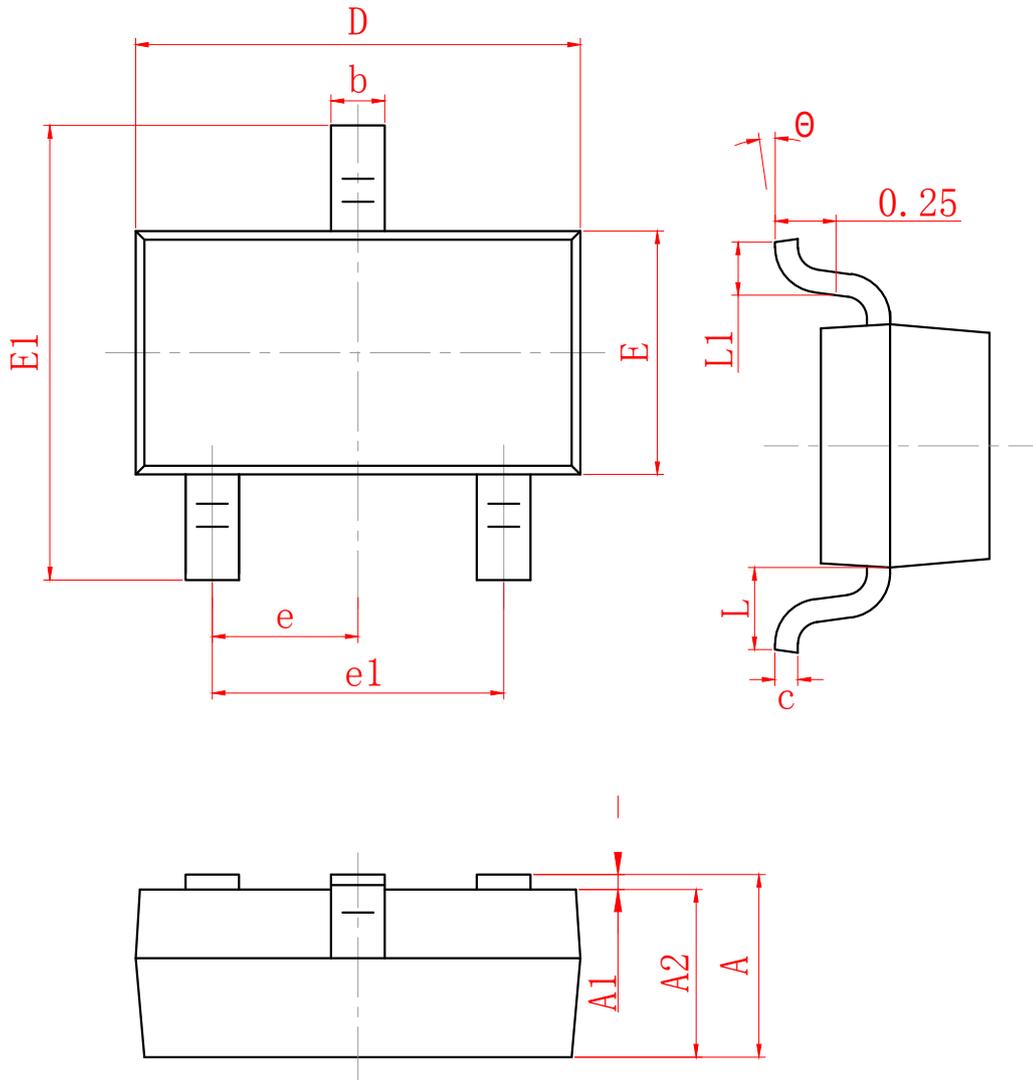


SOT-23 Reel



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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