

BC847T Transistor(NPN)

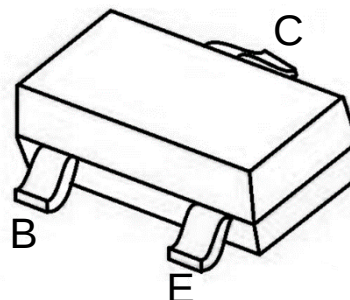
Feature

- Ideally suited for automatic insertion
- For Switching and AF Amplifier Applications

MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CB0}	50	V
Collector-Emitter Voltage	V_{CE0}	45	V
Emitter-Base Voltage	V_{EB0}	6	V
Collector Current -Continuous	I_c	0.1	A
Collector Power Dissipation	P_c	0.15	W
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^{\circ}\text{C}$

SOT-523



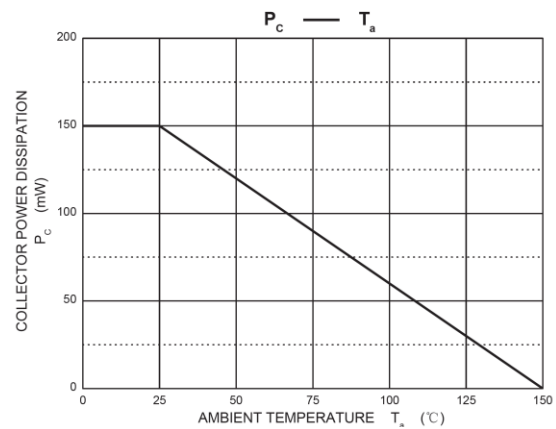
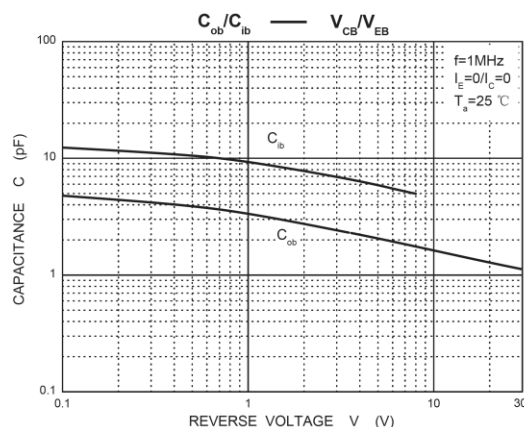
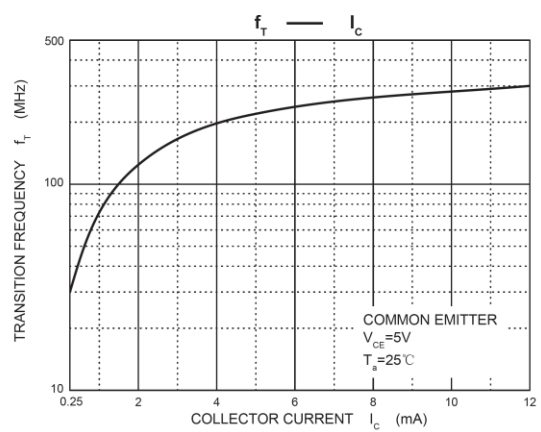
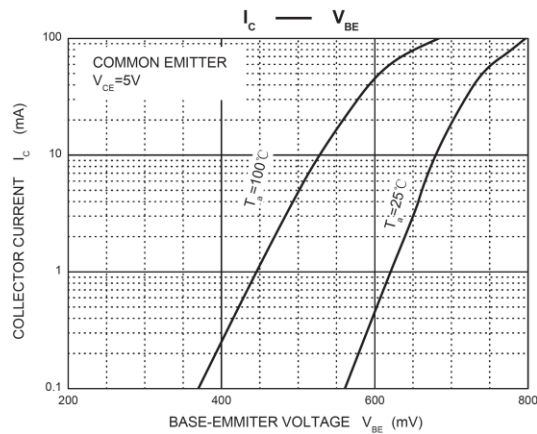
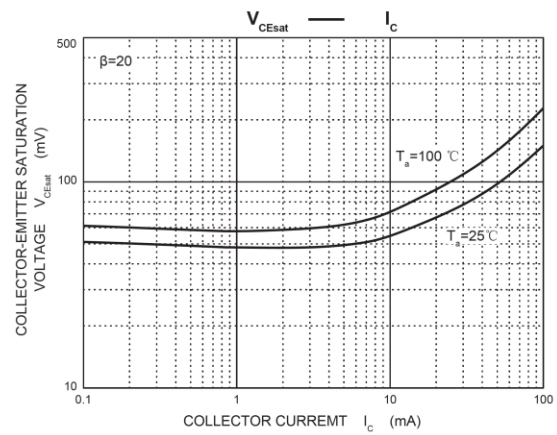
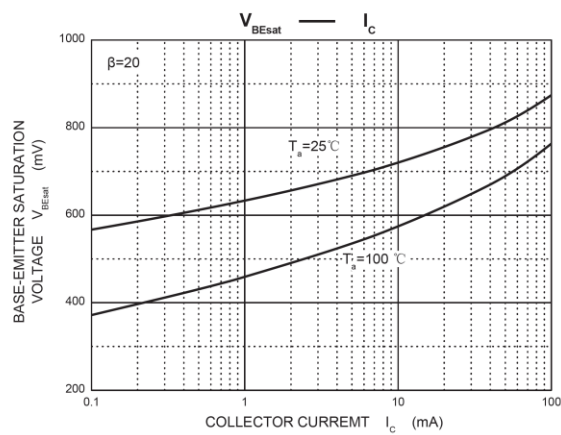
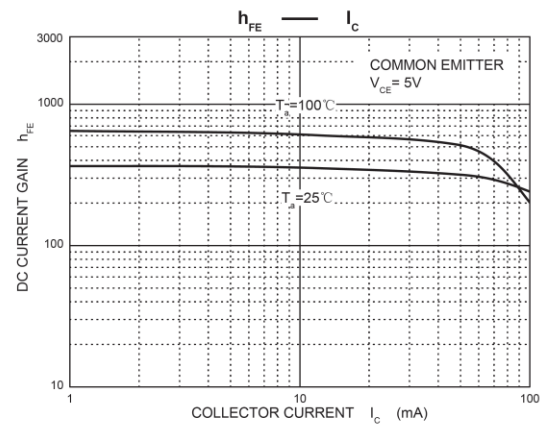
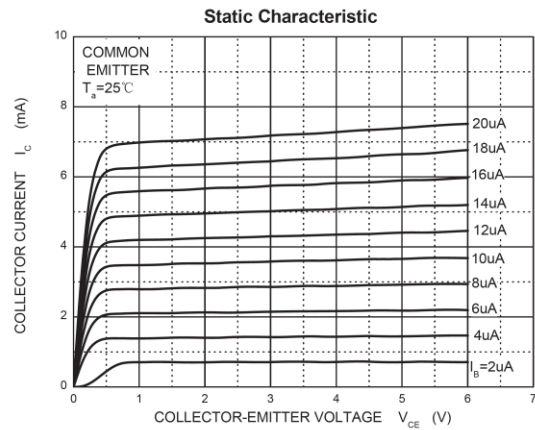
ELECTRICAL CHARACTERISTICS($T_a=25^{\circ}\text{C}$ unless otherwise noted)

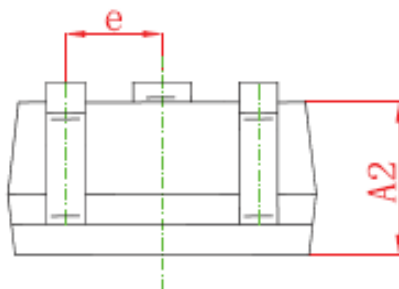
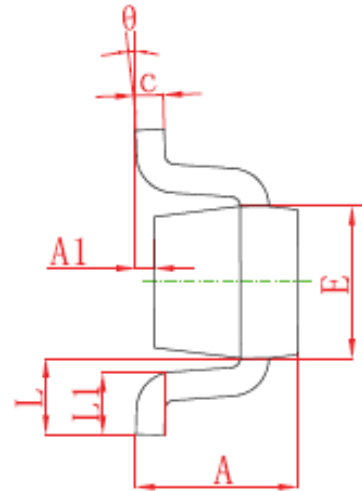
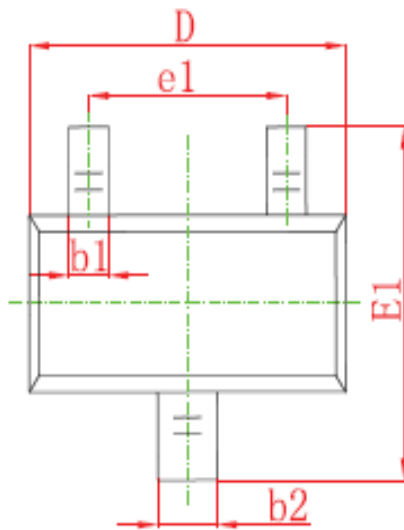
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_c=10\mu\text{A}$, $I_E=0$	50			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_c=10\text{mA}$, $I_B=0$	45			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=1\mu\text{A}$, $I_c=0$	6			V
Collector cut-off current	I_{CBO}	$V_{CB}=30\text{V}$,			15	nA
DC current gain	h_{FE}	$V_{CE}=5\text{V}$, $I_c=2\text{mA}$	125		800	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_c=10\text{mA}$, $I_B=0.5\text{mA}$			0.25	V
		$I_c=100\text{mA}$, $I_B=5\text{mA}$			0.6	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_c=10\text{mA}$, $I_B=0.5\text{mA}$		0.7		V
		$I_c=100\text{mA}$, $I_B=5\text{mA}$		0.9		V
Transition frequency	f_T	$V_{CE}=5\text{V}$, $I_c=10\text{mA}$, $f=100\text{MHz}$	100			MHZ
Base-emitter voltage	$V_{BE(on)}$	$V_{CE}=5\text{V}$, $I_c=2\text{mA}$	580	660	700	mV
		$V_{CE}=5\text{V}$, $I_c=10\text{mA}$			770	mV
Collector output capacitance	C_{ob}	$V_{CB}=10\text{V}$, $f=1\text{MHz}$			4.5	pF
Noise figure	NF	$V_{CE}=5\text{V}$, $I_c=0.2\text{mA}$, $f=1\text{kHz}$, $R_S=2\text{k}\Omega$, $BW=200\text{Hz}$			10	dB

CLASSIFICATION OF h_{FE}

Rank	A	B	C
Range	110~220	200~450	420~800
Marking	1E	1F	1G

Typical Characteristics

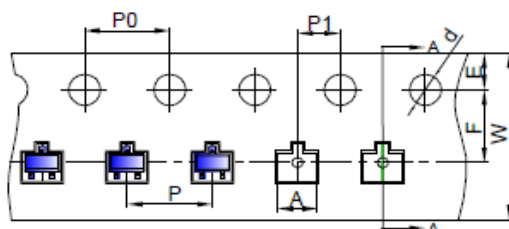


SOT-523 Package Information


Symbol	Dimensions In Millimeters	
	Min	Max
A	0.700	0.900
A1	0.000	0.100
A2	0.700	0.800
b1	0.150	0.250
b2	0.250	0.350
C	0.100	0.200
D	1.500	1.700
E	0.700	0.900
E1	1.450	1.750
e	0.500 TYP	
e1	0.900	1.100
L	0.400 REF	
L1	0.260	0.460
θ	0°	8°

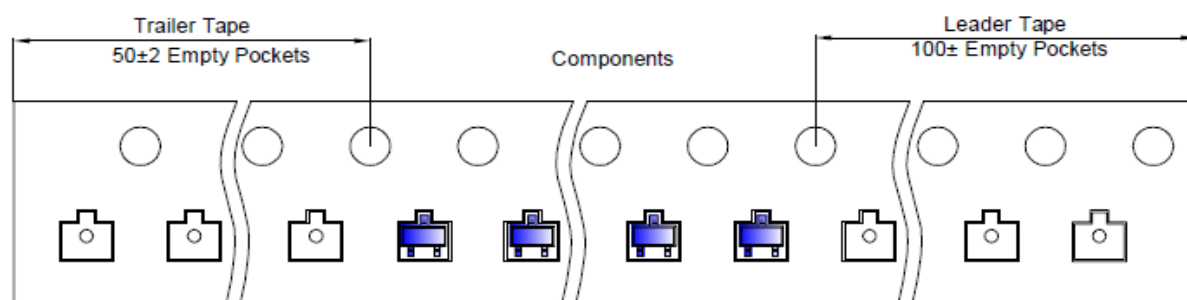
SOT-523 Tape and reel

SOT-523 Embossed Carrier Tape

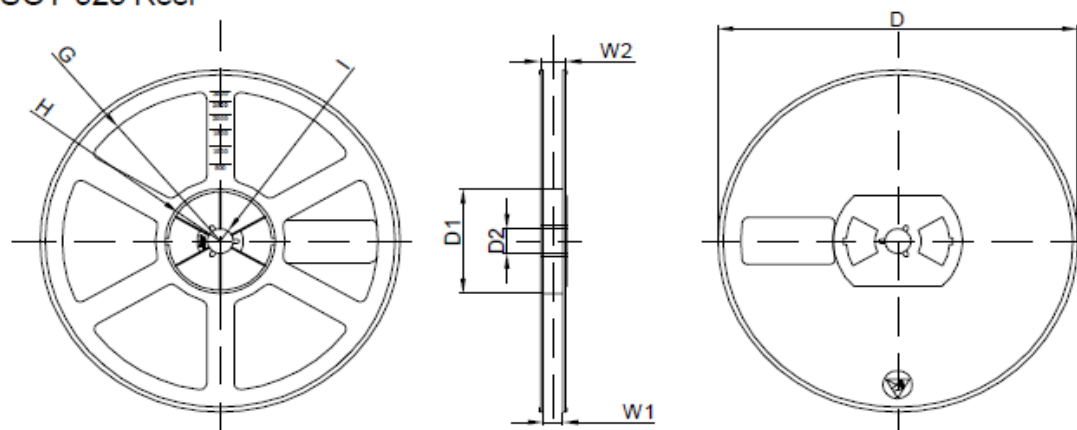


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-523	1.85	1.85	0.875	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

SOT-523 Tape Leader and Trailer



SOT-523 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	30,000 pcs	203×203×195	120,000 pcs	438×438×220	