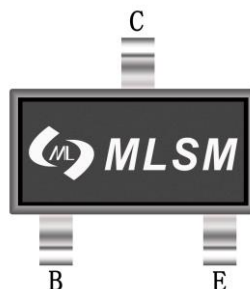


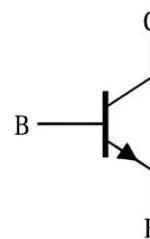
Features

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

Marking: BC847AT=1E; BC847BT=1F;
 BC847CT=1G



SOT-523 top view



Schematic diagram



RoHS



Halogen-Free

Maximum Ratings (Ta=25°C unless otherwise noted)

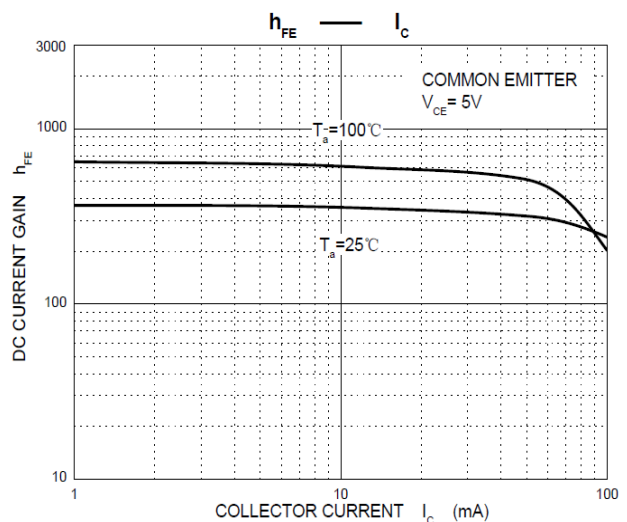
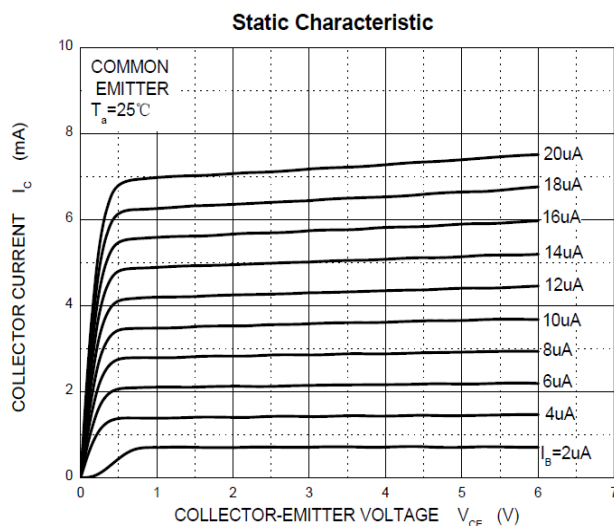
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	50	V
V_{CEO}	Collector-Emitter Voltage	45	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current	0.1	A
P_C^*	Collector Power Dissipation	150	W
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	°C

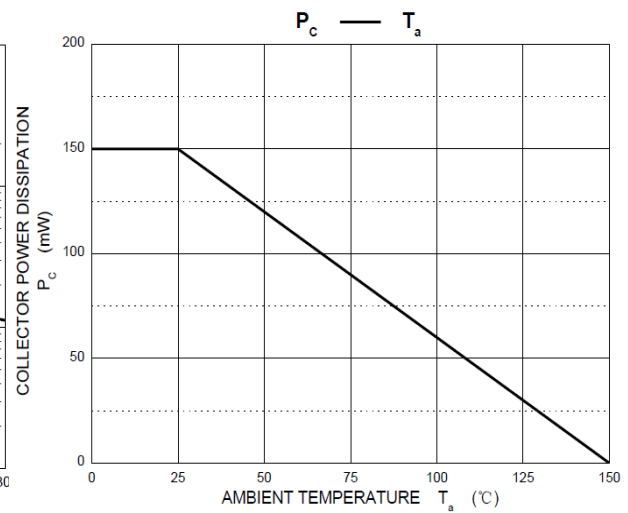
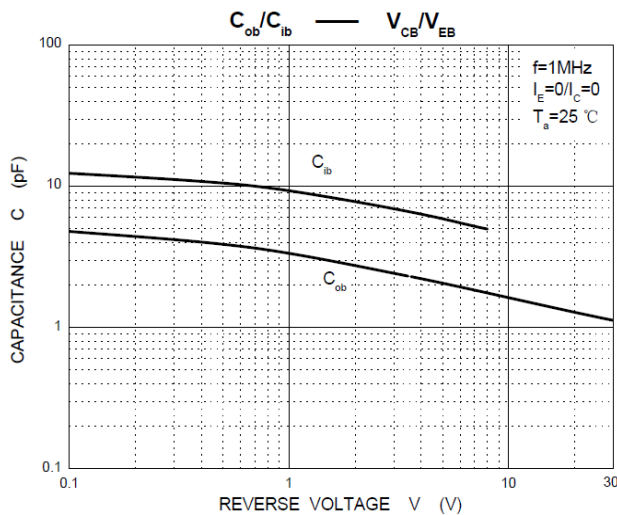
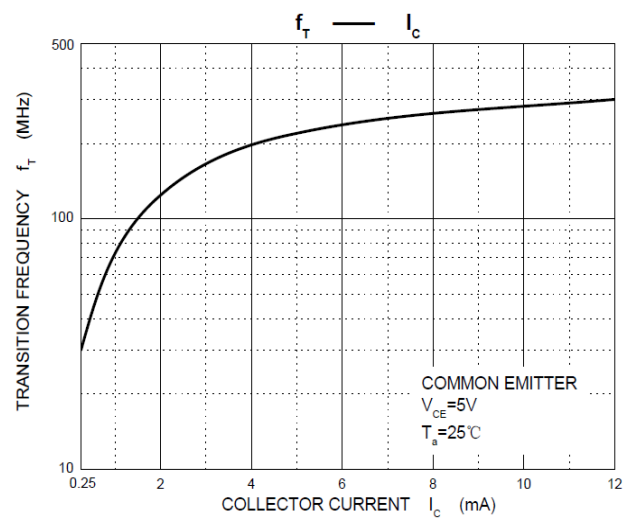
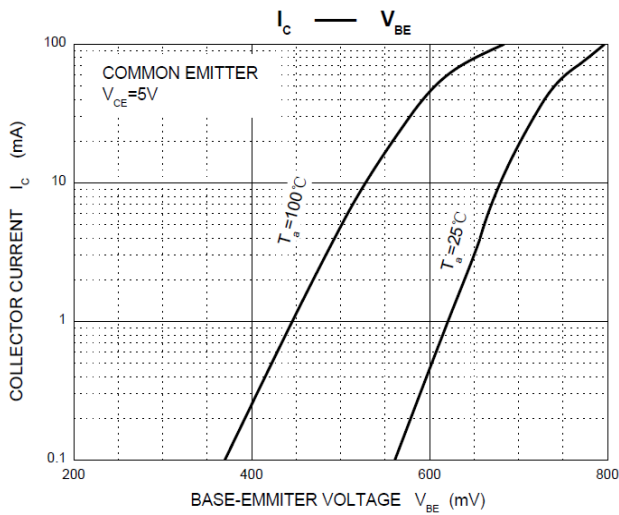
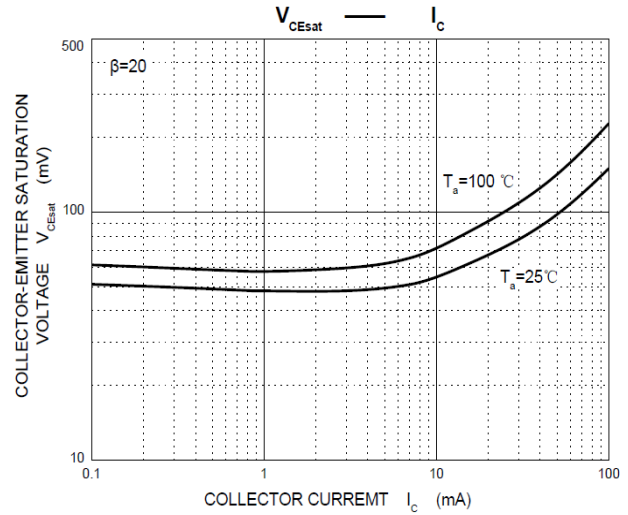
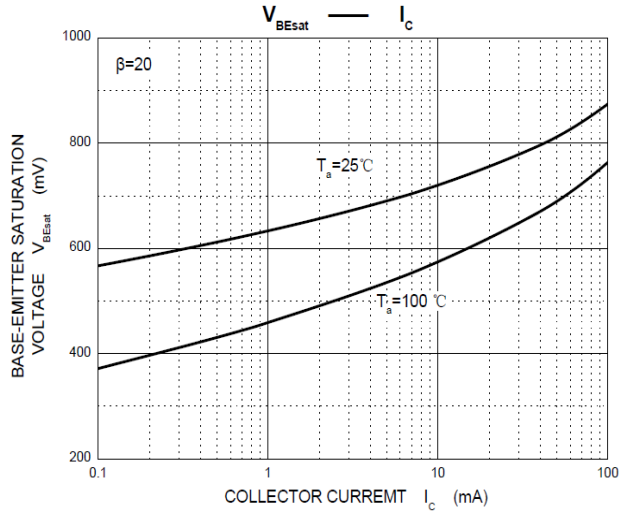
Ordering Information (Example)

Type	Package	Marking	Minimum Package(pcs)	Inner Box Quantity(pcs)	Outer Carton Quantity(pcs)	Delivery Mode
BC847AT	SOT-523	1E	3,000	45,000	180,000	7"reel
BC847BT	SOT-523	1F	3,000	45,000	180,000	8"reel
BC847CT	SOT-523	1G	3,000	45,000	180,000	9"reel

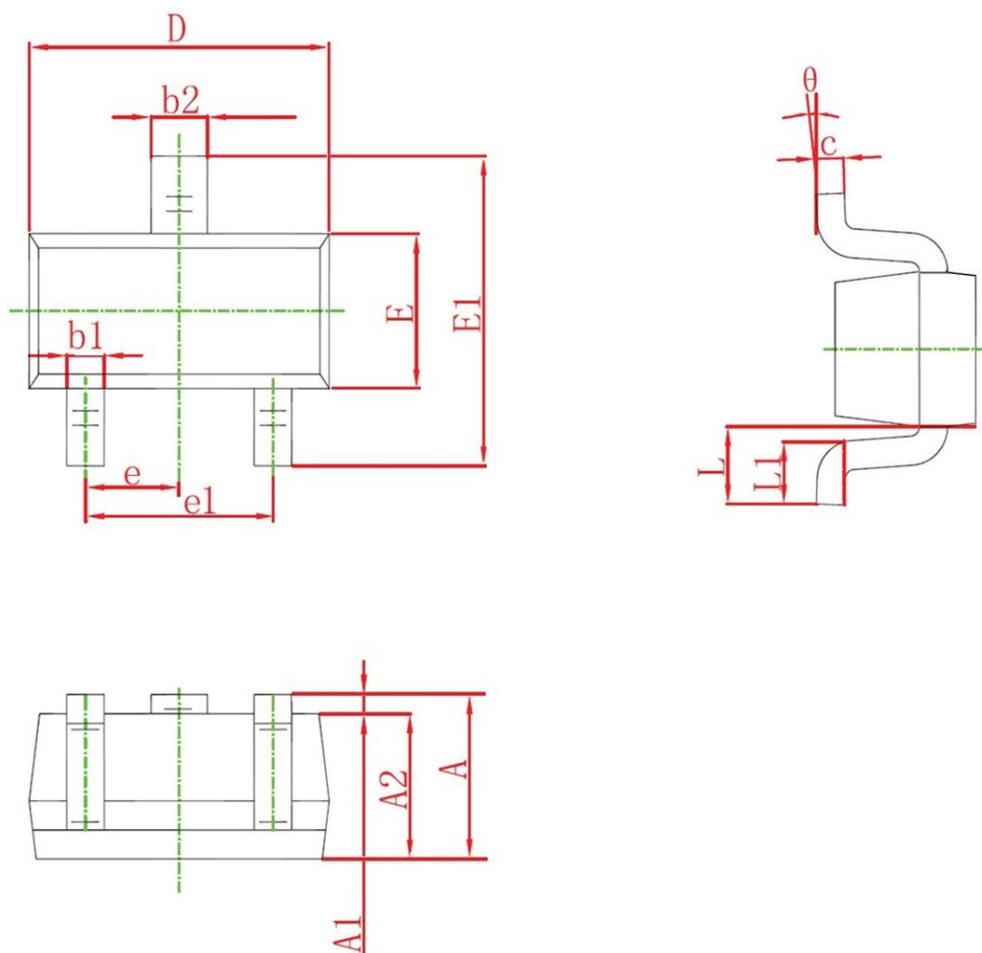
Electrical Characteristics (Ta=25°C unless otherwise specified)

Symbol	Parameter	Condition	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C=10\mu A, I_E=0$	50	--	--	V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=10mA, I_B=0$	45	--	--	V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E=1\mu A, I_C=0$	6	--	--	V
I_{CBO}	Collector cut-off current	$V_{CB}=30V$	--	--	15	nA
H_{FE}	DC current gain BC847AT	$V_{CE}=5V, I_C=2mA$	110	--	220	--
	DC current gain BC847BT		200	--	450	
	DC current gain BC847CT		420	--	800	
$V_{CE(sat)}$	Collector-emitter saturation voltage	$I_C=10mA, I_B=0.5mA$	--	--	0.25	V
		$I_C=100mA, I_B=5mA$	--	--	0.6	
$V_{BE(sat)}$	Base-emitter saturation voltage	$I_C=10mA, I_B=0.5mA$	--	0.7	--	V
		$I_C=100mA, I_B=5mA$	--	0.9	--	
$V_{BE(on)}$	Base-emitter voltage	$V_{CE}=5V, I_C=2mA$	580	660	700	mV
		$V_{CE}=5V, I_C=10mA$	--	--	770	
C_{ob}	Collector output capacitance	$V_{CB}=10V, f=1MHz$	--	--	4.5	pF
NF	Noise figure BC847BT	$V_{CE}=5V, f=1kHz$	--	--	10	dB
	Noise figure BC847CT	$R_S=2k\Omega, BW=200Hz$	--	--	4	
f_T	Transition frequency	$V_{CE}=5V, I_C=10mA, f=100MHz$	100	--	--	MHz

Typical Characteristics




SOT-523 Package information



Symbol	Dimensions in Millimeters(mm)		Dimensions In Inches	
	Min	Max	Min	Max
A	0.700	0.900	0.028	0.035
A1	0.000	0.100	0.000	0.004
A2	0.700	0.800	0.028	0.031
b1	0.150	0.250	0.006	0.010
b2	0.250	0.350	0.010	0.014
c	0.100	0.200	0.004	0.008
D	1.500	1.700	0.059	0.067
E	0.700	0.900	0.028	0.035
E1	1.450	1.750	0.057	0.069
e	0.500TYP		0.020TYP	
e1	0.900	1.100	0.035	0.043
L	0.400REF		0.016REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°