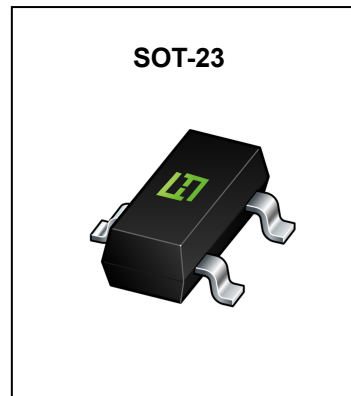


FEATURES

- Ideally suited for automatic insertion
- Epitaxial planar die construction
- Complementary NPN type available(BC817)

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

Symbol	Parameter	Value	Unit
V_{CB0}	Collector-Base Voltage	-50	V
V_{CE0}	Collector-Emitter Voltage	-45	V
V_{EB0}	Emitter-Base Voltage	-5	V
I_C	Collector Current	-500	mA
P_C	Collector Power Dissipation	300	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	417	$^{\circ}\text{C/W}$
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	$^{\circ}\text{C}$

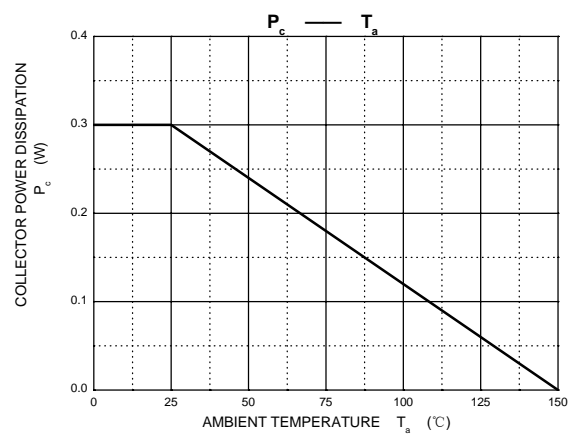
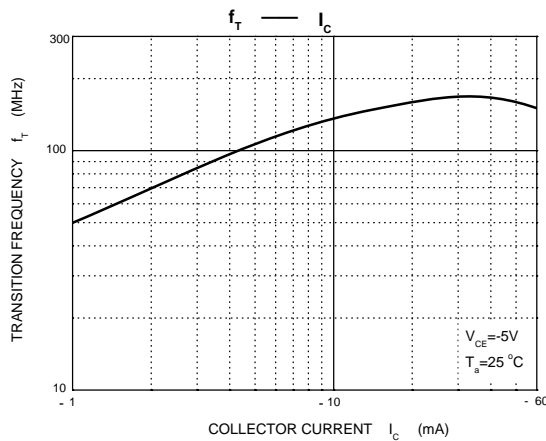
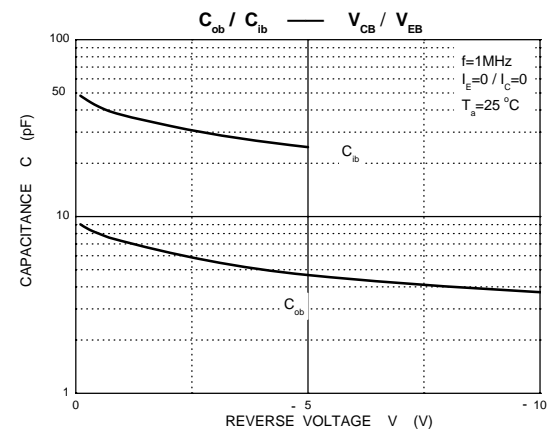
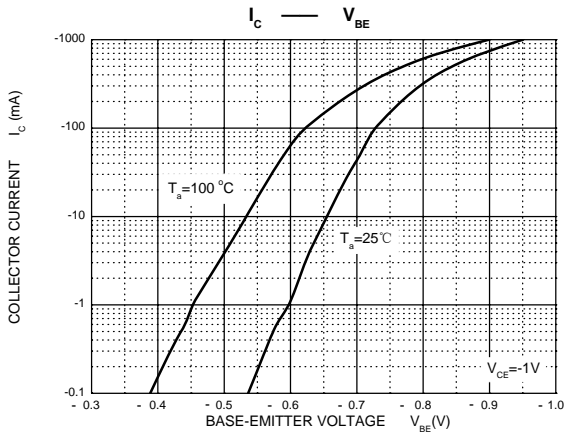
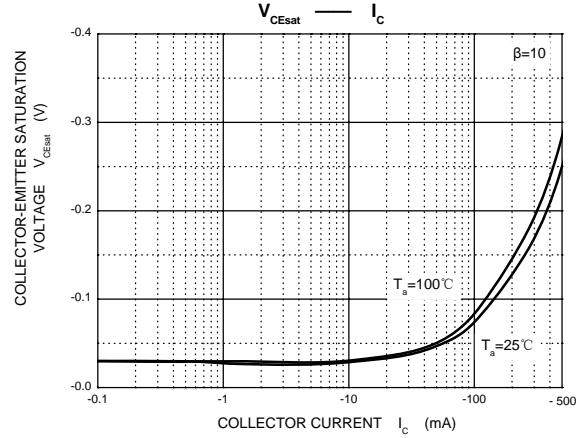
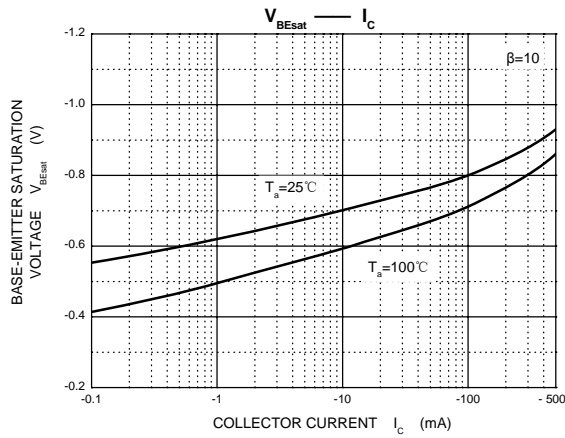
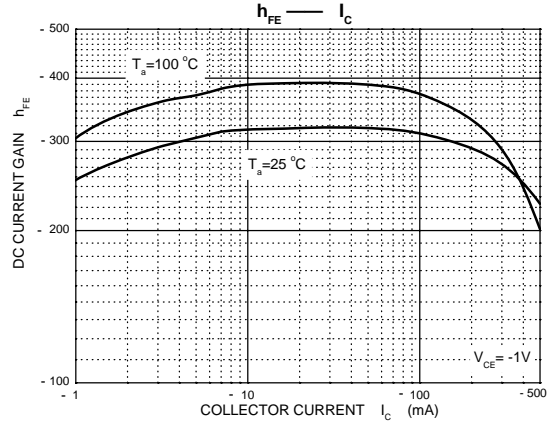
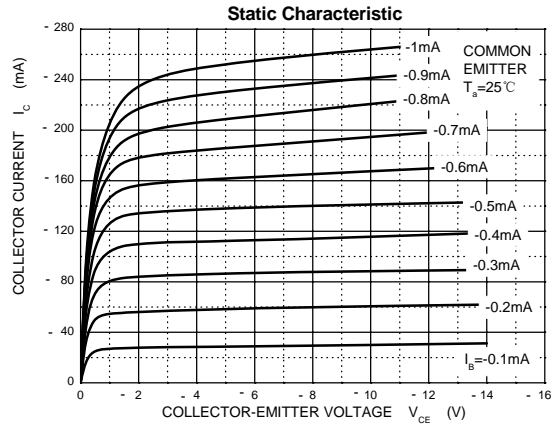


ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$ unless otherwise specified)

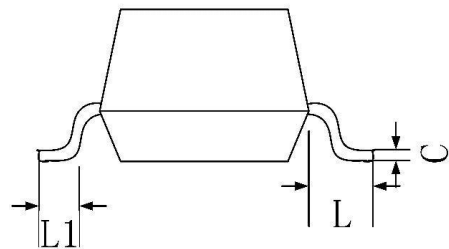
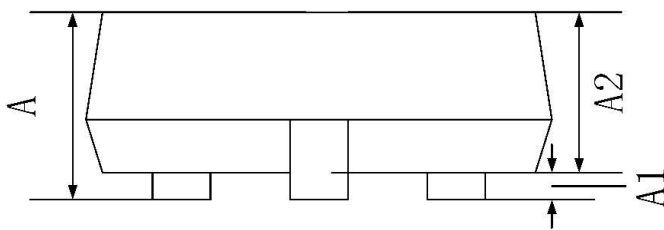
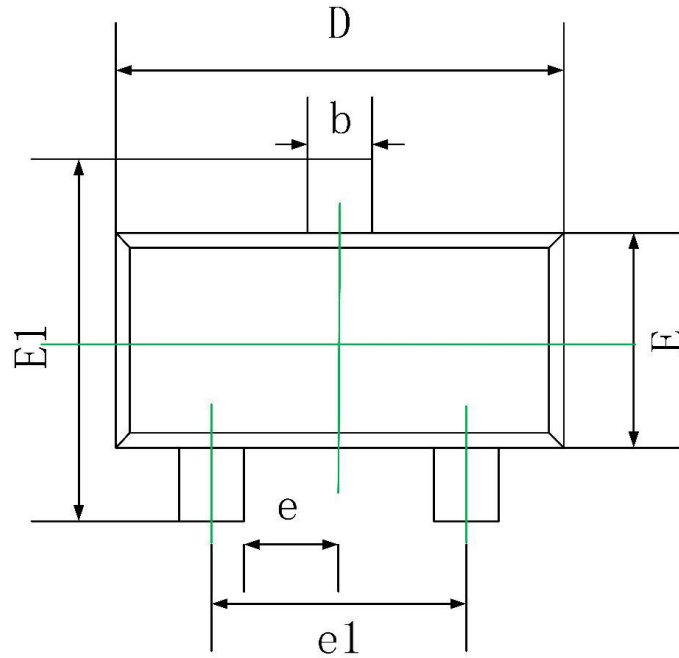
Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	V_{CB0}	$I_C = -10\mu\text{A}, I_E = 0$	-50		V
Collector-emitter breakdown voltage	V_{CE0}	$I_C = -10\text{mA}, I_B = 0$	-45		V
Emitter-base breakdown voltage	V_{EB0}	$I_E = -1\mu\text{A}, I_C = 0$	-5		V
Collector cut-off current	I_{CB0}	$V_{CB} = -45\text{V}, I_E = 0$		-0.1	μA
Emitter cut-off current	I_{EB0}	$V_{EB} = -4\text{V}, I_C = 0$		-0.1	μA
DC current gain	$h_{FE(1)}$	$V_{CE} = -1\text{V}, I_C = -100\text{mA}$	100	600	
	$h_{FE(2)}$	$V_{CE} = -1\text{V}, I_C = -500\text{mA}$	40		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -500\text{mA}, I_B = -50\text{mA}$		-0.7	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -500\text{mA}, I_B = -50\text{mA}$		-1.2	V
Transition frequency	f_T	$V_{CE} = -5\text{V}, I_C = -10\text{mA}$ $f = 100\text{MHz}$	100		MHz

CLASSIFICATION OF $h_{FE(1)}$

Rank	BC807-16	BC807-25	BC807-40
Range	100-250	160-400	250-600
Marking	5A	5B	5C



SOT-23 Package Information



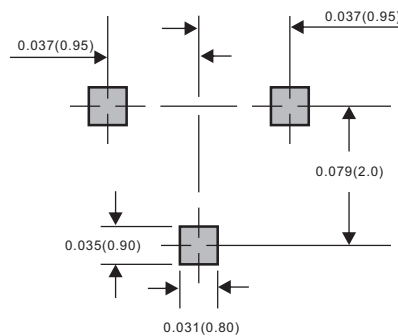
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP.		0.037 TYP.	
e1	1.800	2.000	0.071	0.079
L	0.550 REF.		0.022 REF.	
L1	0.300	0.500	0.012	0.020

Pinning information

Pin	Simplified outline	Symbol
PinB Base PinC Collector PinE Emitter		

Suggested solder pad layout

SOT-23



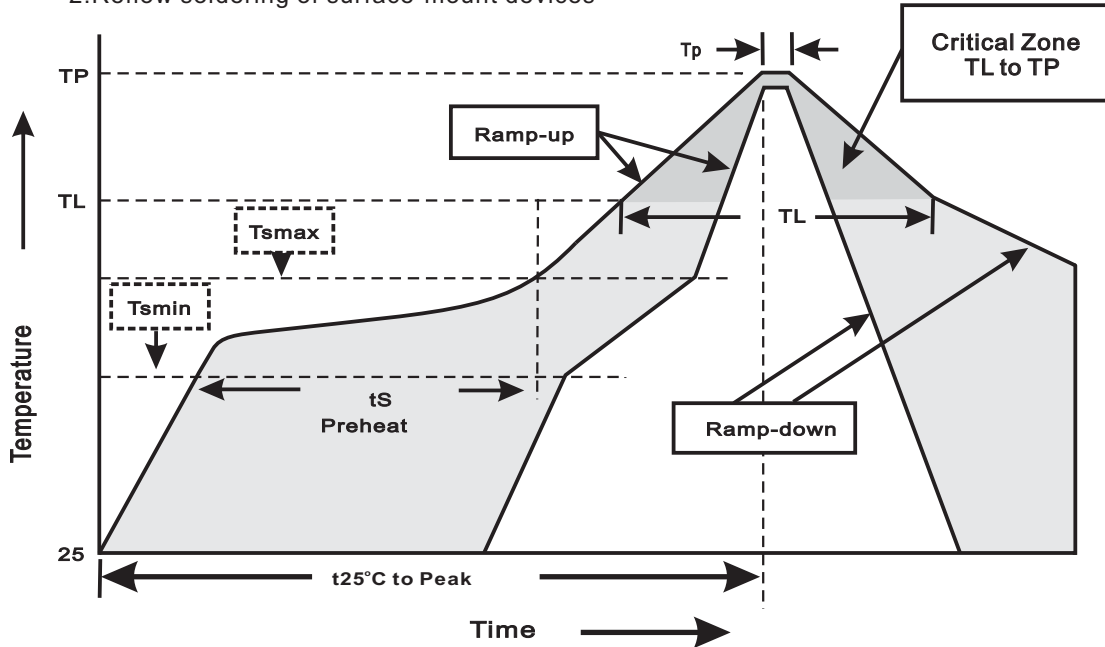
Dimensions in inches and (millimeters)

Reel packing

PACKAGE	REEL SIZE	REEL (pcs)	COMPONENT SPACING (m/m)	BOX (pcs)	INNER BOX (m/m)	REEL DIA, (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
SOT-23	7"	3,000	4.0	30,000	183*123*183	178	382*257*387	240,000	11.6

Suggested thermal profiles for soldering processes

- 1.Storage environment: Temperature=5°C~40°C Humidity=55%±25%
- 2.Reflow soldering of surface-mount devices



3.Reflow soldering

Profile Feature	Soldering Condition
Average ramp-up rate(TL to TP)	<3°C/sec
Preheat -Temperature Min(Tsmin) -Temperature Max(Tsmax) -Time(min to max)(ts)	150°C 200°C 60~120sec
Tsmax to TL -Ramp-upRate	<3°C/sec
Time maintained above: -Temperature(TL) -Time(tL)	217°C 60~260sec
Peak Temperature(TP)	255°C-0/+5°C
Time within 5°C of actual Peak Temperature(tp)	10~30sec
Ramp-down Rate	<6°C/sec
Time 25°C to Peak Temperature	<6minutes