



## FEATURES

- Collector Current:  $I_C=0.5A$
- Power Dissipation of 300mw

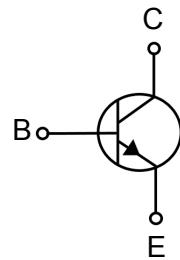


SOT-23

## Package Marking and Ordering Information

Product ID	Pack	Qty(PCS)
BC817-16/25/40	SOT-23	3000

Marking		
BC87-16	BC87-25	BC87-40
100-250	160-400	250-600
6A	6B	6C



## MAXIMUM RATINGS (Ta=25 unless otherwise noted)

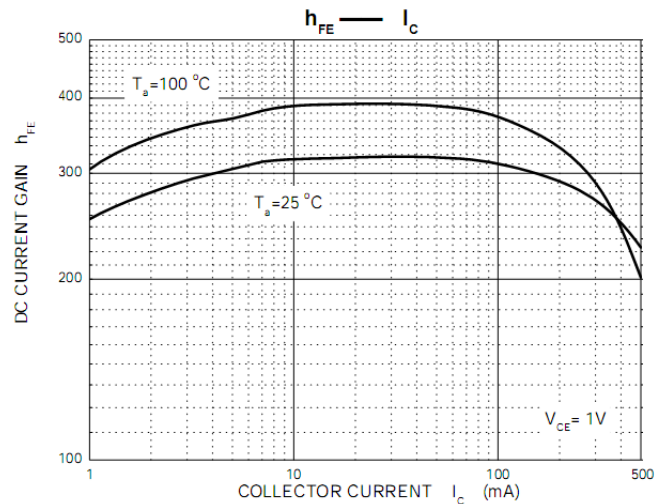
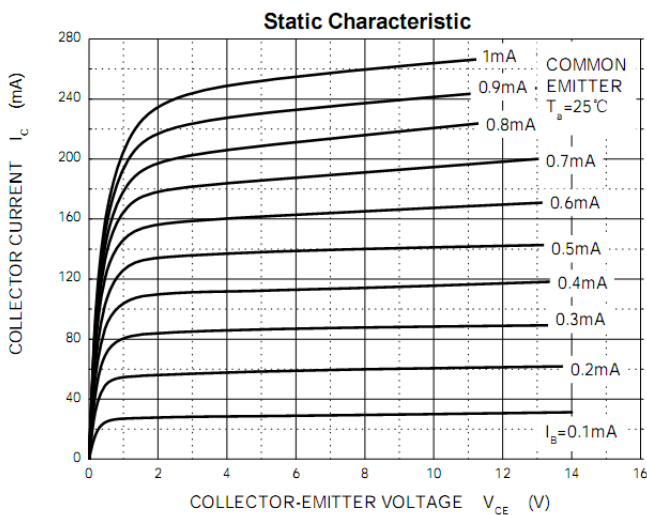
Parameter	Symbol	Limit	Unit
Collector-Base Voltage	$V_{CBO}$	50	V
Collector-Emitter Voltage	$V_{CEO}$	45	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Collector Current	$I_C$	500	mA
Collector Power Dissipation	$P_C$	300	mW
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	417	$^{\circ}C/W$
Junction Temperature	$T_j$	150	$^{\circ}C$
Storage Temperature	$T_{stg}$	-55~+150	$^{\circ}C$

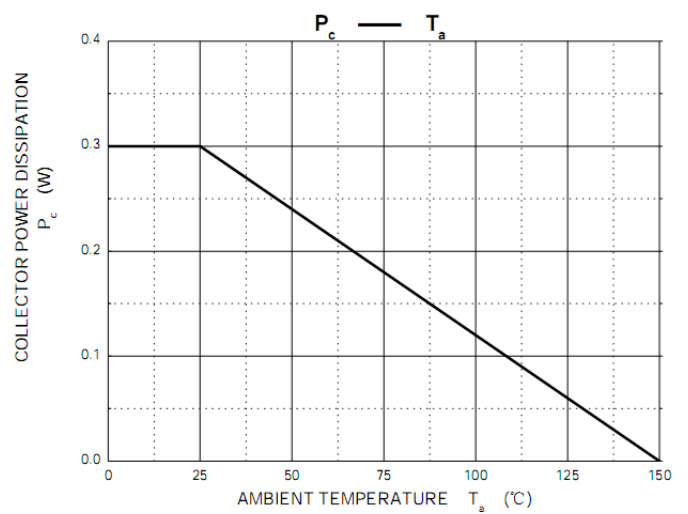
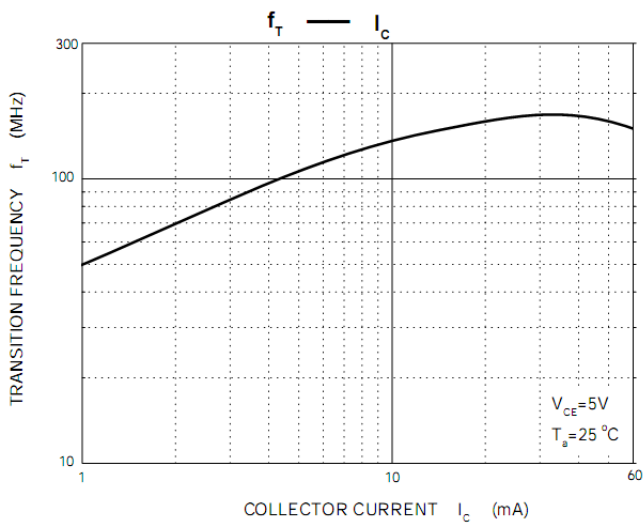
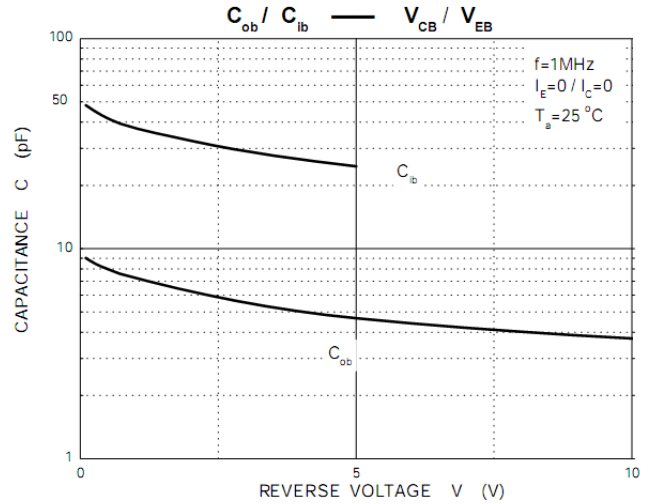
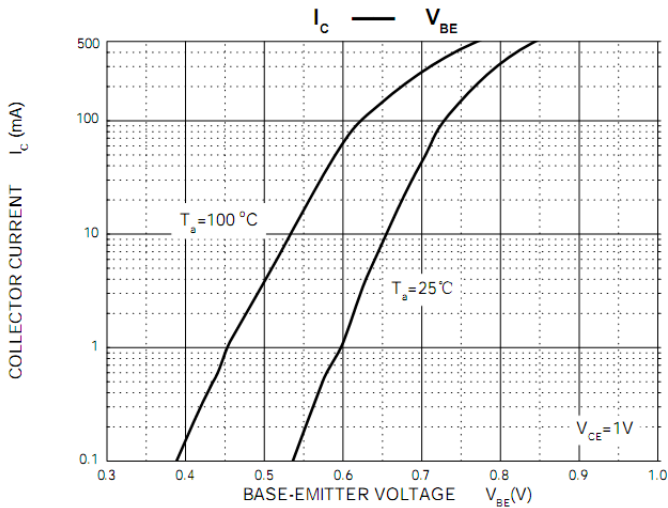
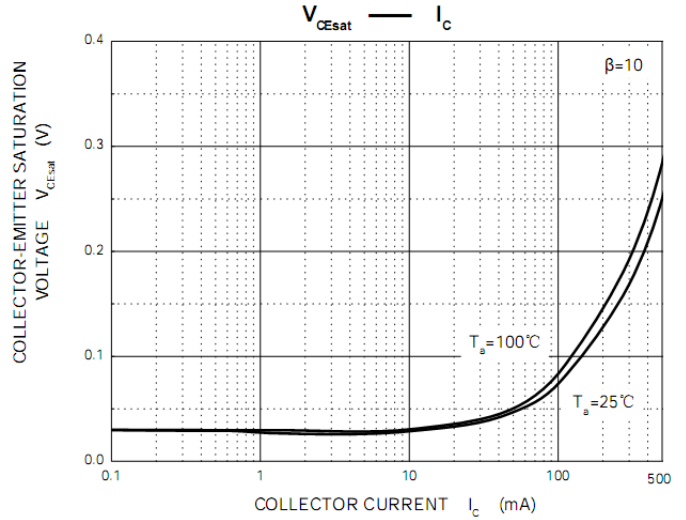
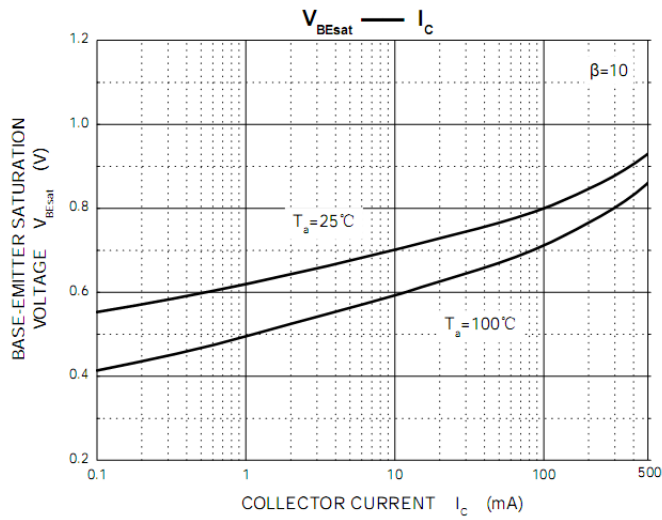


**ELECTRICAL CHARACTERISTICS (Ta=25 unless otherwise specified)**

Symbol	Parameter	Test Conditions	Typical Value	Max. Value	Unit
$V_{CB0}$	Collector-Base Voltage	$I_C = 10\mu A, I_E = 0$	50		V
$V_{CE0}$	Collector-Emitter Voltage	$I_C = 10mA, I_B = 0$	45		V
$V_{E0}$	Emitter-Base Voltage	$I_E = 1\mu A, I_C = 0$	5		V
$I_{CB0}$	Collector-Base Current	$V_{CB} = 45V, I_E = 0$		0.1	$\mu A$
$I_{E0}$	Emitter-Base Current	$V_{EB} = 4V, I_C = 0$		0.1	$\mu A$
$h_{FE(1)}$	DC Current Gain	$V_{CE} = 1V, I_C = 100mA$	100	600	
		$V_{CE} = 1V, I_C = 500mA$	40		
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 500mA, I_B = 50mA$		0.7	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = 500mA, I_B = 50mA$		1.2	V
$V_{BE}$	Base-Emitter Voltage	$V_{CE} = 1V, I_C = 500mA$		1.2	V
$C_{ob}$	Output Capacitance	$V_{CB} = 10V, f = 1MHz$	10		pF
$f_T$	Transition Frequency	$V_{CE} = 5V, I_C = 10mA, f = 100MHz$	100		MHz

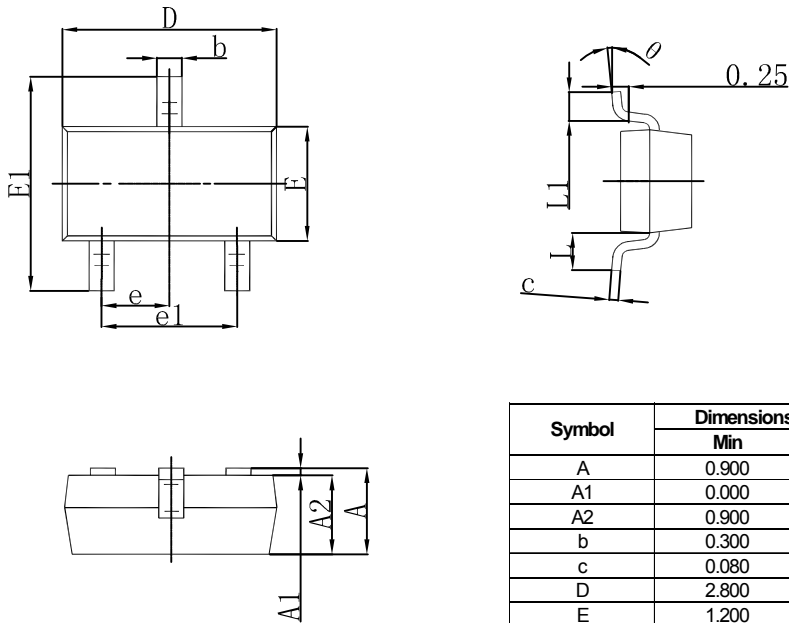
**Typical Characteristics**





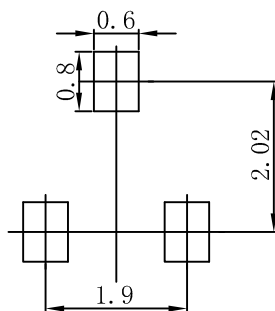


### SOT-23 Package Outline Dimensions



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
θ	0°	8°	0°	8°

### SOT-23 Suggested Pad Layout



- Note:
1. Controlling dimension: in millimeters.
  2. General tolerance:  $\pm 0.05\text{mm}$ .
  3. The pad layout is for reference purposes only.



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