

BC817

DATASHEET

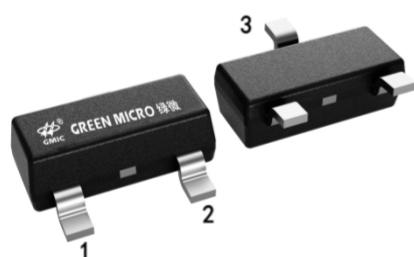
Specification Revision History:

Version	Date	Description
V1.0	2021/08	New
V1.1	2023/05	Modify Ordering Information
V1.2	2024/02	Modify Ordering Information
V1.3	2025/05	Add application precautions and overall typesetting.

FEATURES

- ※ TRANSISTOR (NPN)
- ※ For general AF applications
- ※ High collector current
- ※ High current gain
- ※ Low collector-emitter saturation voltage
- ※ Complementary types: BC807 (PNP)

THE APPEARANCE OF THE PRODUCT



- 1、BASE
- 2、EMITTER
- 3、COLLECTOR

SOT-23

ORDERING INFORMATION

Product Model	Package Type	Packing	Packing Qty
BC817-25(GMIC)	SOT-23	REEL	3000PCS/REEL
BC817-16(GMIC)	SOT-23	REEL	3000PCS/REEL
BC817-25	SOT-23	REEL	3000PCS/REEL
BC817-16	SOT-23	REEL	3000PCS/REEL

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	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	°C/W
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	°C

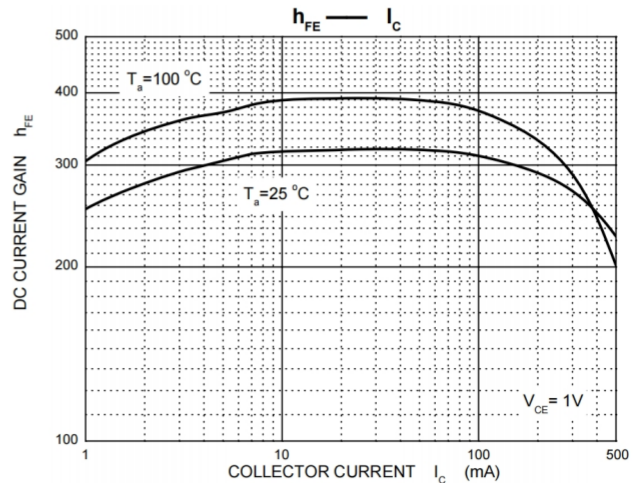
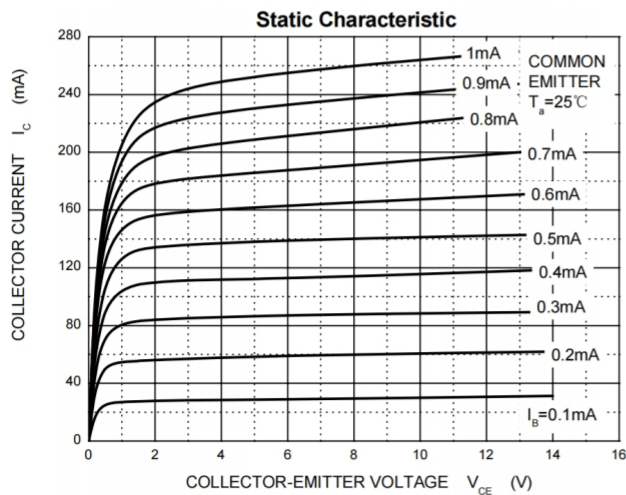
ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector_base breakdown voltage	V_{CBO}	$I_C = 10\mu A, I_E = 0$	50			V
Collector_emitter breakdown voltage	V_{CEO}	$I_C = 10mA, I_B = 0$	45			V
Emitter_base breakdown voltage	V_{EBO}	$I_E = 1\mu A, I_C = 0$	5			V
Collector cut_off current	I_{CBO}	$V_{CB} = 45V, I_E = 0$			0.1	μA
Emitter cut_off current	I_{EBO}	$V_{EB} = 4V, I_C = 0$			0.1	μA
DC current gain	$h_{FE(1)}$	$V_{CE} = 1V, I_C = 100mA$	100		600	
	$h_{FE(2)}$	$V_{CE} = 1V, I_C = 500mA$	40			
Collector_emitter saturation voltage	$V_{CE(sat)}$	$I_C = 500mA, I_B = 50mA$			0.7	V
Base_emitter saturation voltage	$V_{BE(sat)}$	$I_C = 500mA, I_B = 50mA$			1.2	V
Base_emitter voltage	V_{BE}	$V_{CE} = 1V, I_C = 500mA$			1.2	V
Collector capacitance	C_{ob}	$V_{CB} = 10V, f = 1MHz$		10		pF
Transition frequency	f_T	$V_{CE} = 5V, I_C = 10mA, f = 100MHz$	100			MHz

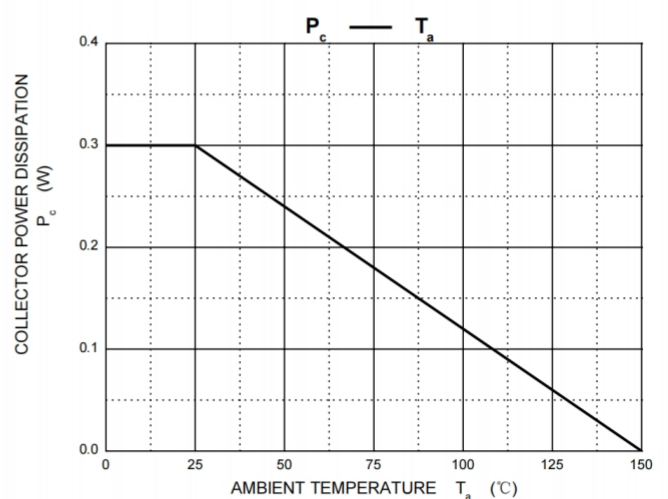
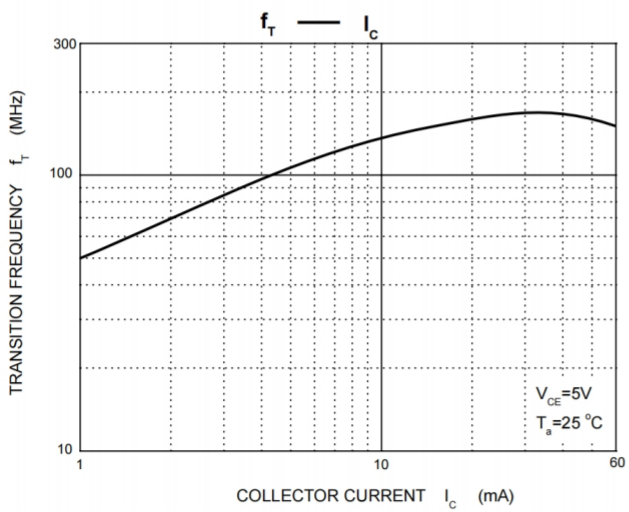
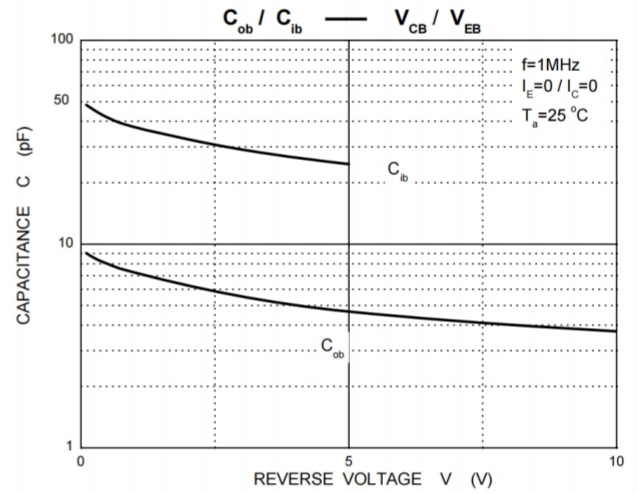
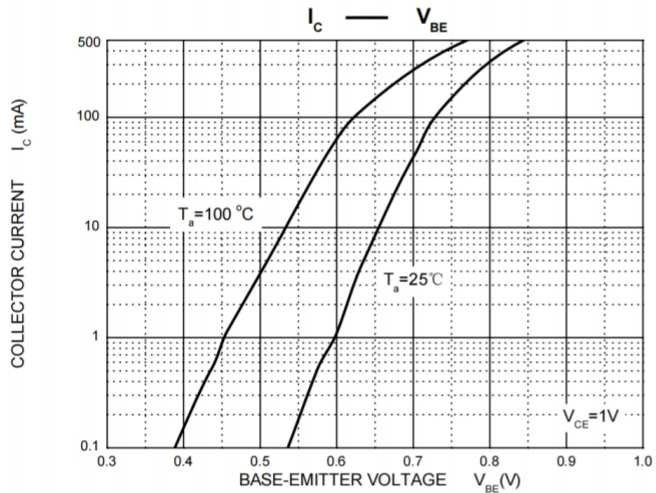
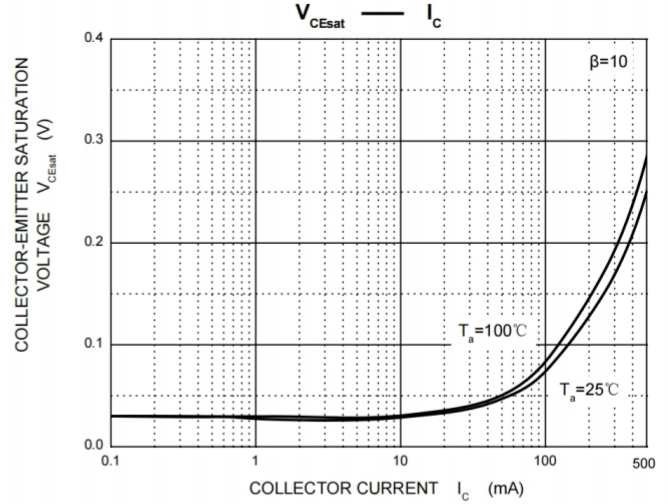
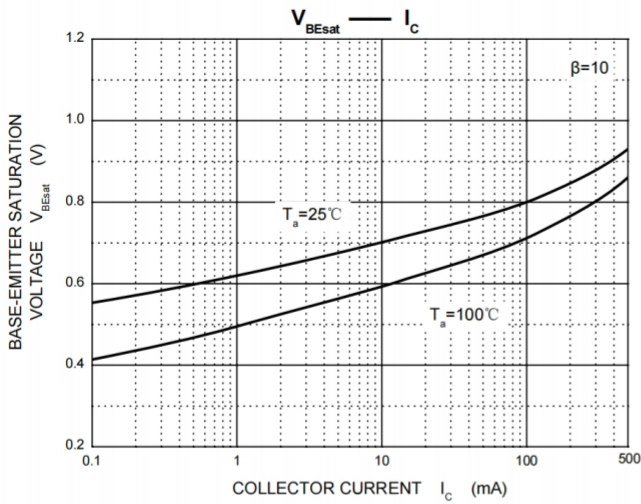
CLASSIFICATION OF $h_{FE(1)}$

Rank	BC817-16	BC817-25	BC817-40
Range	100-250	160-400	250-600
Marking	6A	6B	6C

TYPICAL CHARACTERISTICS

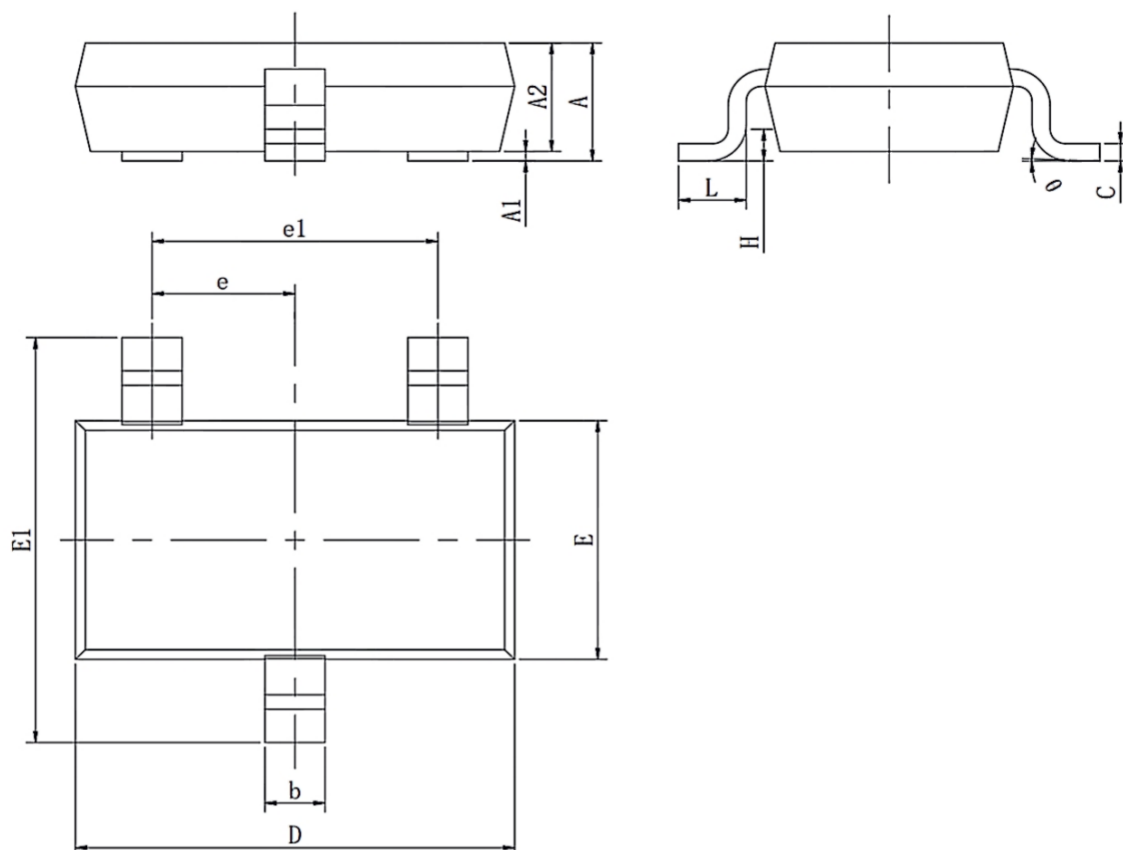


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OUTLINE DIMENSIONS

SOT-23



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	0.200	0.003	0.008
D	2.800	3.020	0.110	0.119
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.95 (BSC)		0.037(BSC)	
e1	1.90 (BSC)		0.075(BSC)	
L	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

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