

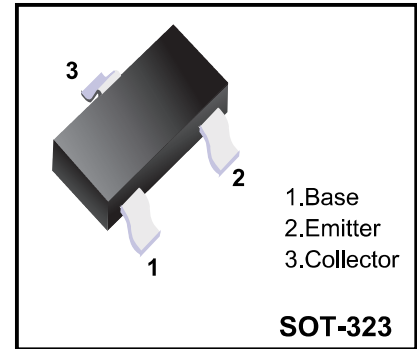
Plastic-Encapsulate Transistors
TRANSISTOR (NPN)

FEATURE

- ◆For General AF Applications
- ◆High Collector Current
- ◆High Current Gain
- ◆Low Collector-Emitter Saturation Voltage

Mechanical Data

- ◆Case: SOT-323
- ◆Epoxy UL: 94V-0
- ◆Mounting Position: Any



Maximum Ratings & Thermal Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified.)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	45	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current -Continuous	I_C	500	mA
Collector Power Dissipation	P_D	200	mW
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55~+150	°C
Thermal resistance From junction to ambient	$R_{\theta JA}$	625	°C/W

Electrical Characteristics

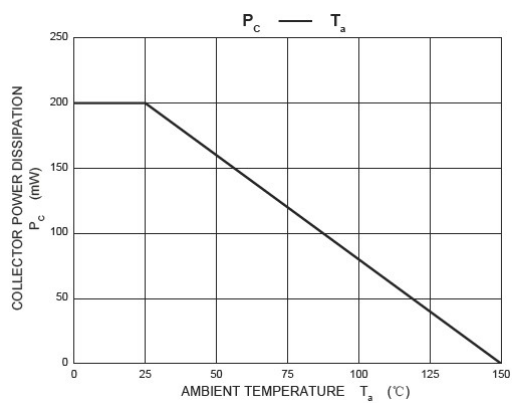
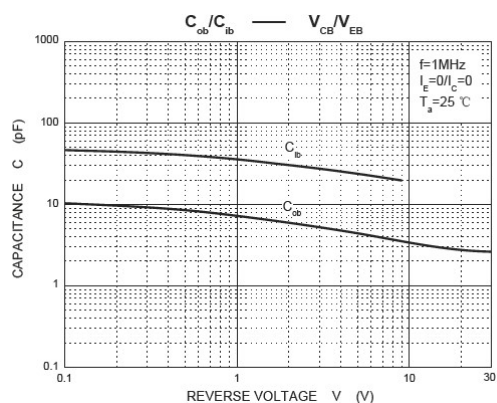
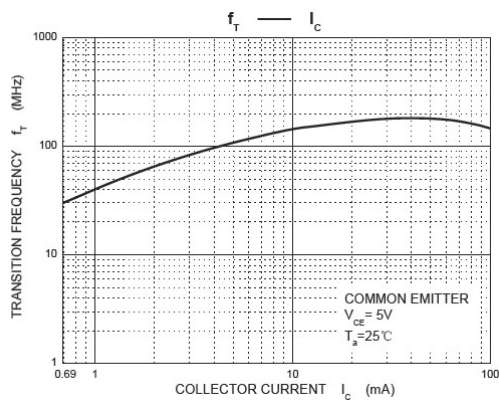
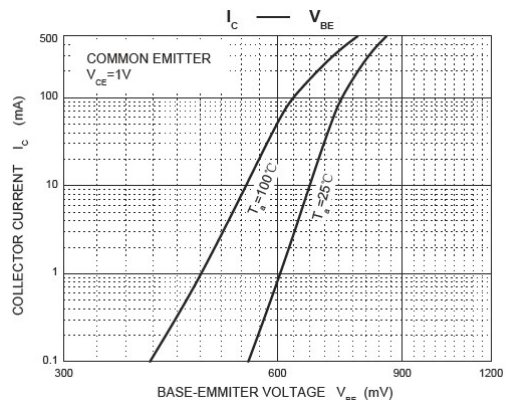
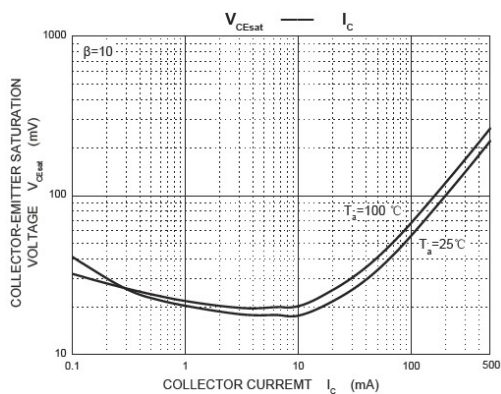
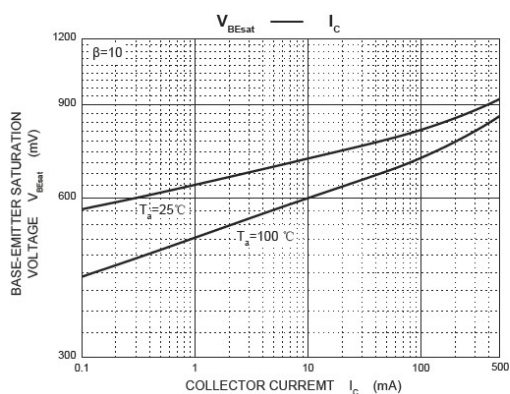
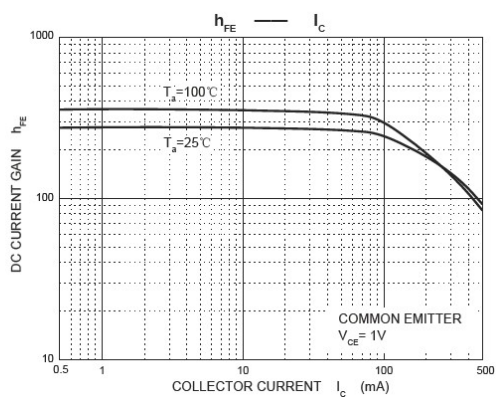
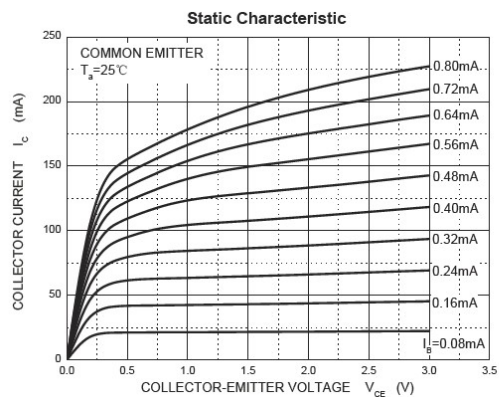
(Ratings at 25°C ambient temperature unless otherwise specified.)

Parameter	Test Condition	Symbols	Limits		Unit
			Min	Max	
Collector-base breakdown voltage	$I_C=10\mu A, I_E=0$	$V_{(BR)CBO}$	50		V
Collector-emitter breakdown voltage	$I_C=10mA, I_B=0$	$V_{(BR)CEO}$	45		V
Emitter-base breakdown voltage	$I_E=1\mu A, I_C=0$	$V_{(BR)EBO}$	5		V
Collector cut-off current	$V_{CB}=20V, I_E=0$	I_{CBO}		100	nA
Emitter cut-off current	$V_{EB}=5V, I_C=0$	I_{EBO}		100	nA
DC current gain	$V_{CE}=1V, I_C=100mA$	$h_{FE(1)}$	100	600	
	$V_{CE}=1V, I_C=500mA$	$h_{FE(2)}$	40		
Collector-emitter saturation voltage	$I_C=500mA, I_B=50mA$	$V_{CE(sat)}$		0.70	V
Base-emitter saturation voltage	$I_C=500mA, I_B=50mA$	$V_{BE(sat)}$		1.2	V
Base-emitter voltage	$V_{CE}=1V, I_C=-500mA$	$V_{BE(on)}$		1.2	V
Collector output capacitance	$V_{CB}=10V, I_E=0, f=1MHz$	C_{ob}		5	pF
Transition frequency	$V_{CE}=5V, I_C=10mA, f=100MHz$	f_T	100		MHz

CLASSIFICATION OF h_{FE}

Rank	BC817W-16	BC817W-25	BC817W-40
Range	100-250	160-400	250-600
Marking	6A	6B	6C

Typical Characteristics



Ordering information

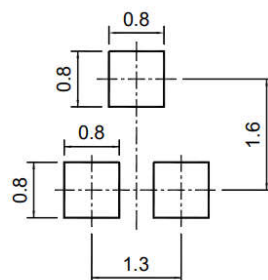
Package	Packing Description	Base Quantity	Packing Quantity
SOT-323	Tape/Reel, 7" reel	3000pcs/Reel	24000PCS/Box 120000PCS/Carton

Package Dimensions

SOT-323

Dim.	Millimeter (mm)		mil	
	Min.	Max.	Min.	Max.
A	0.8	1.1	32	43
A1	0.1		4	
bp	0.3	0.4	12	16
C	0.10	0.25	4	10
D	1.8	2.2	71	87
E	1.15	1.35	45	53
E	1.3		51	
E1	0.65		26	
HE	2.0	2.2	79	87
Lp	0.15	0.45	6	18
Q	0.13	0.23	5.1	9
v	0.2		8	
W	0.2		8	

The recommended mounting pad size



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