

Features

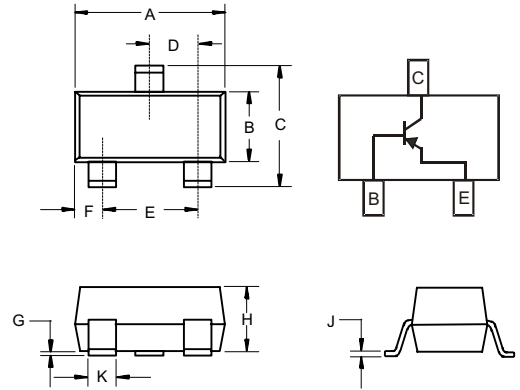
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Capable of 0.2Watts of Power Dissipation.
- Collector-current 0.5A
- Operating and storage junction temperature range: -55°C to $+150^{\circ}\text{C}$
- Halogen free available upon request by adding suffix "-HF"

Mechanical Data

- Case: SOT-323 Molded Plastic
- Terminals: Solderable per MIL-STD-202, Method 208
- Weight: 0.005 grams (approx.)



SOT-323



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	.071	.087	1.80	2.20	
B	.045	.053	1.15	1.35	
C	.083	.096	2.10	2.45	
D	.026 Nominal		0.65Nominal		
E	.047	.055	1.20	1.40	
F	.012	.016	.30	.40	
G	.000	.004	.000	.100	
H	.035	.039	.90	1.00	
J	.004	.010	.100	.250	
K	.006	.016	.15	.40	

Maximum Ratings $T_A = 25^{\circ}\text{C}$ unless otherwise specified

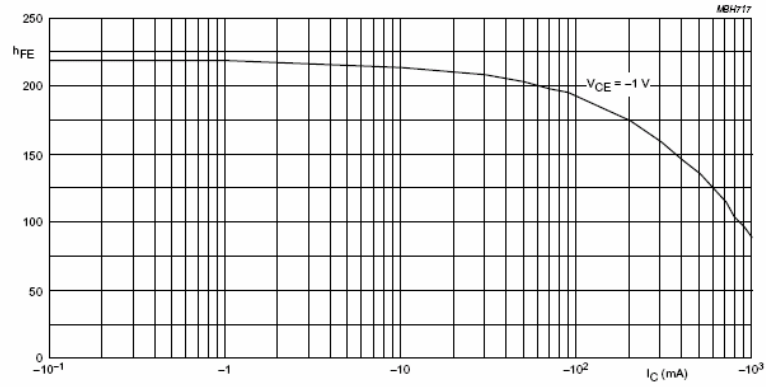
Parameter	Symbol	Min	Max	Units
collector-base voltage open emitter	V_{CBO}	-	-50	V
collector-emitter voltage open base; $I_C = -10\text{ mA}$	V_{CEO}	-	-45	V
emitter-base voltage open collector	V_{EBO}	-	-5	V
collector current (DC)	I_C	-	-500	mA
peak collector current	I_{CM}	-	-1	A
peak base current	I_{BM}	-	-200	mA
total power dissipation $T_{amb} \leq 25^{\circ}\text{C}$; note 1	P_{tot}	-	200	mW
storage temperature	T_{stg}	-65	+150	$^{\circ}\text{C}$
junction temperature	T_j	-	150	$^{\circ}\text{C}$
operating ambient temperature	T_{amb}	-65	+150	$^{\circ}\text{C}$



Maximum Ratings and Electrical Characteristics T_A = 25°C unless otherwise specified

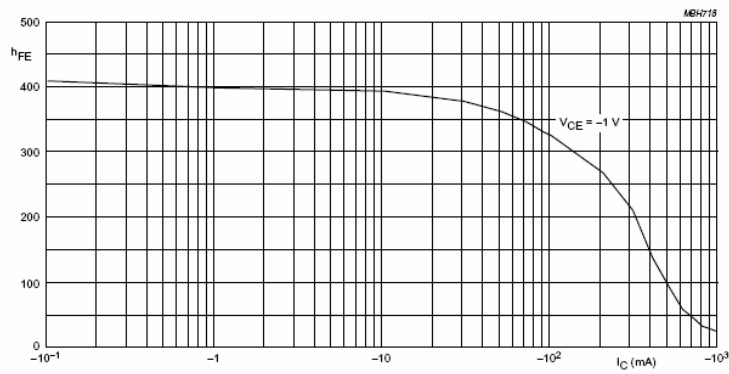
Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter	Symbol	Min	Max	Units
Collector-Emitter Breakdown Voltage ($I_C=10\text{mA}$, $I_B=0$)	$V_{(BR)CEO}$	45	---	Vdc
Collector-Base Breakdown Voltage ($I_C=10\text{uA}$, $I_E=0$)	$V_{(BR)CBO}$	50	---	Vdc
Collector-Emitter Breakdown Voltage ($I_E=1.0\text{uA}$, $I_C=0$)	$V_{(BR)EBO}$	5.0	---	Vdc
Collector Cutoff Current ($V_{CB}=20\text{Vdc}$, $I_E=0$)	I_{CBO}	---	0.1	uA
Collector Cutoff Current ($V_{CE}=20\text{Vdc}$, $I_B=0$)	I_{CEO}	---	0.2	uA
Emitter Cutoff Current ($V_{EB}=5.0\text{Vdc}$, $I_C=0$)	I_{EBO}	---	0.1	uA
DC Current Gain ($I_C=100\text{mA}$, $V_{CE}=1.0\text{Vdc}$) BC807-16W BC807-25W BC807-40W	$h_{FE(1)}$	100 160 250	250 400 600	---
DC Current Gain ($I_C=500\text{mA}$, $V_{CE}=1.0\text{Vdc}$)	$h_{FE(2)}$	40	---	---
Collector-Emitter Saturation Voltage ($I_C=500\text{mA}$, $I_B=50\text{mA}$)	$V_{CE(sat)}$	---	0.7	Vdc
Base-Emitter Voltage ($I_C=500\text{mA}$, $V_{CE}=1\text{Vdc}$)	$V_{BE(on)}$	---	1.2	Vdc
Current-Gain-Bandwidth Product ($V_{CE}=5.0\text{V}$, $f=100\text{MHz}$, $I_C=10\text{mA}$)	f_T	80	---	MHz
Collector output capacitance ($V_{CB}=10\text{V}$, $f=1\text{MHz}$)	C_{ob}		10	pF



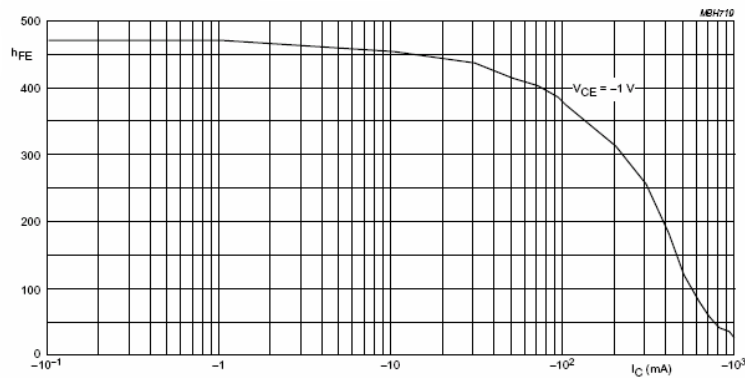
BC807-16W.

Fig.2 DC current gain; typical values.



BC807-25W.

Fig.3 DC current gain; typical values.



BC807-40W.

Fig.4 DC current gain; typical values.