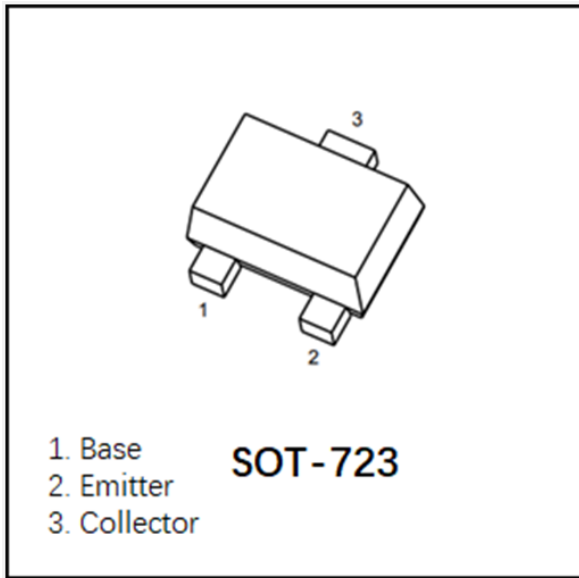


NPN Transistor



Features

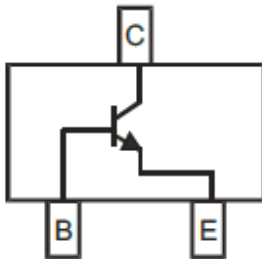
- Epoxy meets UL-94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Halogen free available upon request by adding suffix "HF"
- NPN

Mechanical Data

- **Package:** SOT-723
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:**

BC846AM3	1A
BC846BM3	1B
BC847AM3	1E
BC847BM3	1F
BC847CM3	1G
BC848AM3	1J
BC848BM3	1K
BC848CM3	1L

Equivalent circuit



Maximum Ratings (Ta=25°C Unless otherwise specified)

Symbol	Parameter	Value	Unit
VCBO	Collector-Base Voltage BC846 BC847 BC848	80 50 30	V
VCEO	Collector-Emitter Voltage BC846 BC847 BC848	65 45 30	V
VEBO	Emitter-Base Voltage	6	V
IC	Collector Current	0.1	A
PC	Collector Power Dissipation	100	mW
RθJA	Thermal Resistance From Junction To Ambient	1250	°C/W
Tj	Junction Temperature	150	°C
Tstg	Storage Temperature	-55~+150	°C



BC846AM3 THRU BC848CM3

■Electrical Characteristics (Ta=25°C unless otherwise specified)

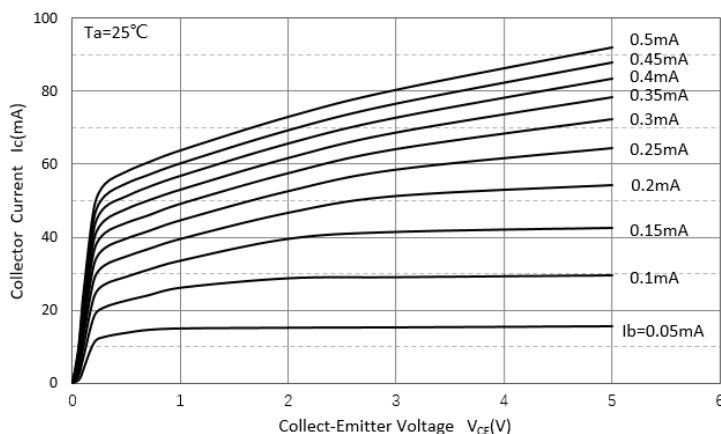
Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage BC846 BC847 BC848	V_{CBO}	$I_C = 10\mu A, I_E = 0$	80 50 30		V
Collector-emitter breakdown voltage BC846 BC847 BC848	V_{CEO}	$I_C = 10mA, I_B = 0$	65 45 30		V
Emitter-base breakdown voltage	V_{EBO}	$I_E = 10\mu A, I_C = 0$	6		V
Collector-base cut-off current BC846 BC847 BC848	I_{CBO}	$V_{CB} = 70V, I_E = 0$ $V_{CB} = 50V, I_E = 0$ $V_{CB} = 30V, I_E = 0$		0.1	μA
Collector-emitter cut-off current BC846 BC847 BC848	I_{CEO}	$V_{CE} = 60V, I_B = 0$ $V_{CE} = 45V, I_B = 0$ $V_{CE} = 30V, I_B = 0$		0.1	μA
Emitter-base cut-off current	I_{EBO}	$V_{EB} = 5V, I_C = 0$		0.1	μA
DC current gain BC846A,847A,848A BC846B,847B,848B BC847C,BC848C	h_{FE}	$V_{CE} = 5V, I_C = 2mA$	110 200 420	220 450 800	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 100mA, I_B = 5mA$		0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 100mA, I_B = 5mA$		1.1	V
Transition frequency	f_T	$V_{CE} = 5V, I_C = 10mA$ $f = 100MHz$	100		MHz
Collector-base output capacitance	C_{ob}	$V_{CB} = 10V, f = 1MHz$		4.5	pF

■ Ordering Information (Example)

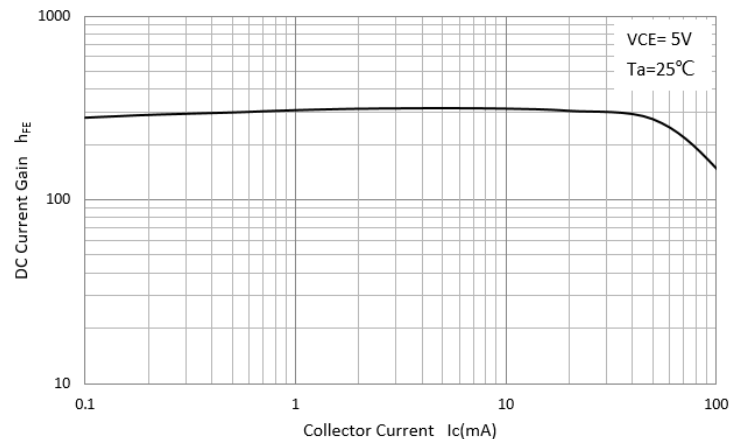
PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
BC846AM3 THRU BC848CM3	F2	Approximate 0.0013	8000	80000	320000	7" reel

■ Characteristics (Typical)

Static Characteristic



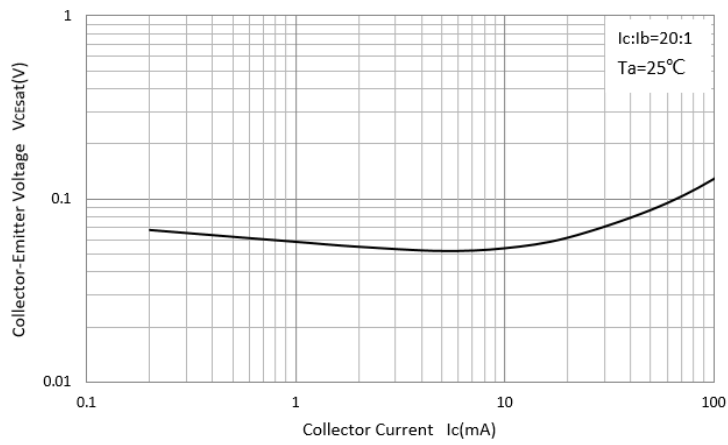
DC Current Gain



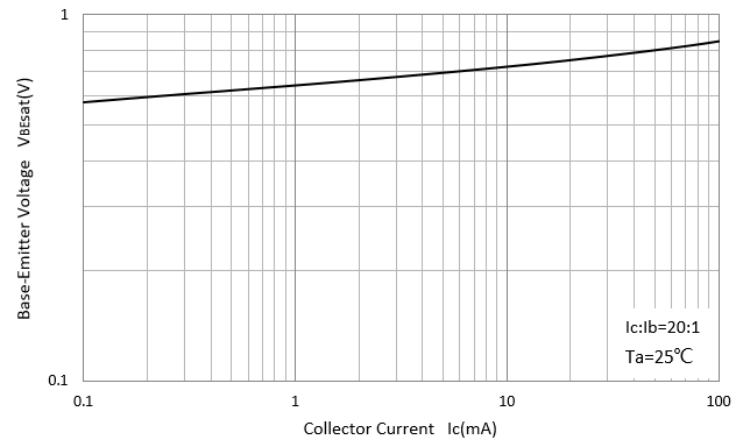


BC846AM3 THRU BC848CM3

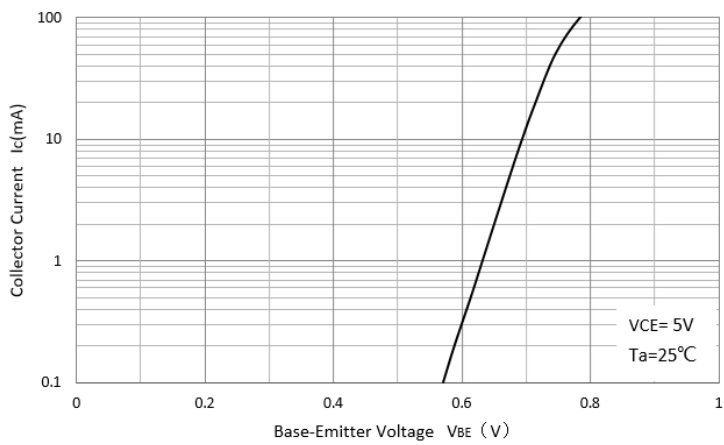
Collector-Emitter Saturation Voltage



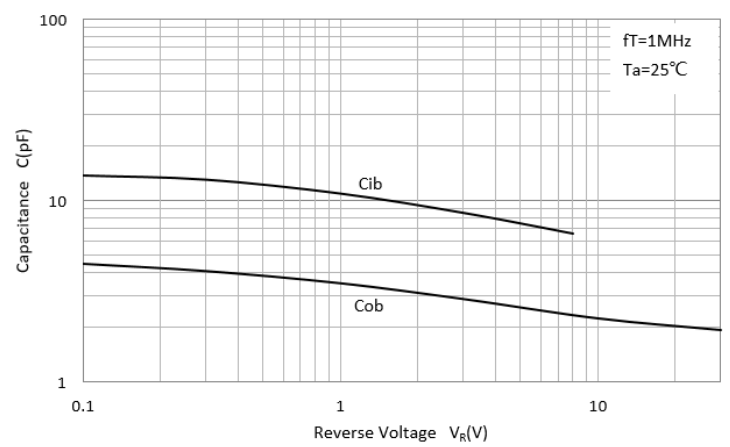
Base-Emitter Saturation Voltage



Base-Emitter On Voltage



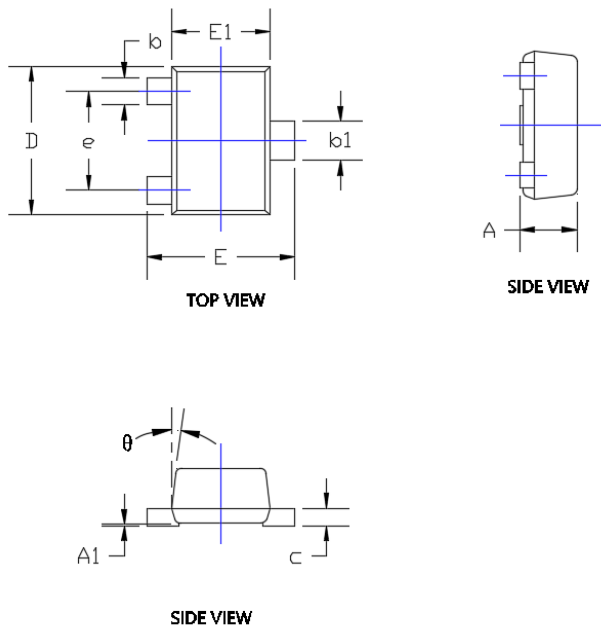
$C_{ob}/C_{ib}-V_{CB}/V_{EB}$





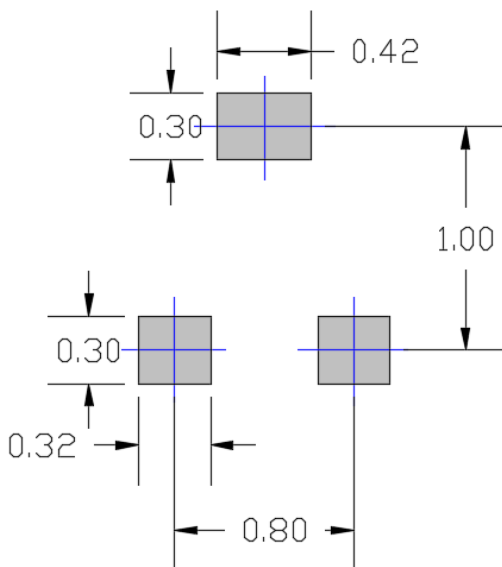
BC846AM3 THRU BC848CM3

■SOT-723 Package Outline Dimensions



SYMBOL	DIMENSIONS			
	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.017	0.022	0.430	0.550
A1	0.000	0.002	0.000	0.050
b	0.007	0.011	0.170	0.270
b1	0.011	0.015	0.270	0.370
c	0.003	0.008	0.080	0.200
D	0.045	0.049	1.150	1.250
E	0.045	0.049	1.150	1.250
E1	0.030	0.033	0.750	0.850
e	0.031TYP.		0.800TYP.	
θ	7°REF.		7°REF.	

■SOT-723Suggested Pad Layout



Note:

1. Package body sizes exclude mold flash and gate burrs.
2. Tolerance 0.1mm unless otherwise specified.
3. The pad layout is for reference purposes only.



BC846AM3 THRU BC848CM3

Disclaimer

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