银河微电 Galaxy Microelectronics

PNP Small Signal Surface Mount Transistor

BC856M-BC858M

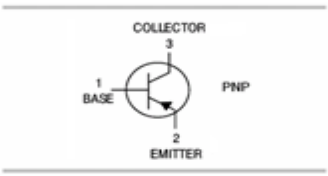
Features

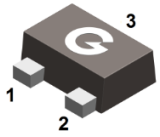
HF

- Low current
- Low voltage

Mechanical Data

- Case: SOT-723
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208





SOT-723

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
BC856A/BM	SOT-723	10000 pcs / Tape & Reel	3A/3B
BC857A/B/CM	SOT-723	10000 pcs / Tape & Reel	3E/3F/3G
BC858A/B/CM	SOT-723	10000 pcs / Tape & Reel	3J/3K/3L

Maximum Ratings (@ T_A = 25℃ unless otherwise specified)

Parameter	Symbol	BC856	BC857	BC858	Unit
Collector-Base Voltage	V_{CBO}	-80	-50	-30	V
Collector-Emitter Voltage	V_{CEO}	-65	-45	-30	V
Emitter-Base Voltage	V_{EBO}	-5	-5	-5	V
Collector Current (Continuous)	I_C	-100			mA
Collector Current (Peak)	I_{CM}	-200			mA

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation (T_A = 25°C) *1	P_D	265	mW
Thermal Resistance Junction-to-Air *1	$R_{\theta JA}$	472	°C/W
Thermal Resistance Junction-to-Air *2	$R_{\theta JA}$	160	°C/W
Thermal Resistance Junction-to-Case *2	$R_{\theta JC}$	80	°C/W
Thermal Resistance Junction-to-Lead *2	$R_{\theta JL}$	100	°C/W
Operating Junction Temperature	T_J	-55 ~ +150	°C
Storage Temperature Range	T_{STG}	-55 ~ +150	°C

Electrical Characteristics (@ T_A = 25℃ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage BC856	$V_{(BR)CBO}$	I_C = -10μA, I_E = 0	-80	-	-	V
Collector-Base Breakdown Voltage BC857			-50	-	-	
Collector-Base Breakdown Voltage BC858			-30	-	-	
Collector-Emitter Breakdown Voltage BC856	$V_{(BR)CEO}$	I_C = -10mA, I_B = 0	-65	-	-	V
Collector-Emitter Breakdown Voltage BC857			-45	-	-	V
Collector-Emitter Breakdown Voltage BC858			-30	-	-	V
Emitter-Base Breakdown Voltage BC856	$V_{(BR)EBO}$	I_E = -1μA, I_C = 0	-5	-	-	V
Emitter-Base Breakdown Voltage BC857			-5	-	-	V
Emitter-Base Breakdown Voltage BC858			-5	-	-	V
Collector Cut-off Current	I_{CBO}	V_{CB} = -30V, I_E = 0	-	-1	-15	nA
Emitter-base Cut-off Current	I_{EBO}	V_{EB} = -5V, I_C = 0	-	-	-100	nA
Collector-emitter Cut-off Current	I_{CEO}	V_{CE}= -30V, I_B = 0	-	-	-1	mA
DC Current Gain BC856/857/858A	h_{FE}	V_{CE} = -5V, I_C = -2mA	125	-	250	-
DC Current Gain BC856/857/858B			220	-	475	-
DC Current Gain BC857/858C			420	-	800	-
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = -10mA, I_B = -0.5mA	-	-	-0.3	V
		I_C = -100mA, I_B = -5mA	-	-	-0.65	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C = -10mA, I_B = -0.5mA	-	-0.70	-	V
		I_C = -100mA, I_B = -5mA	-	-0.85	-	V
Base-Emitter Voltage	$V_{BE(ON)}$	V_{CE} = -5V, I_C= -2mA	-0.6	-0.65	-0.75	V
		V_{CE} = -5V, I_C= -10mA	-	-	-0.82	V
Transition Frequency	f_T	V_{CE} = -5V, I_C= -10mA f = 100MHz	100	-	-	MHz

Notes:

1. Device mounted on FR−5 = 1.0 X 0.75 X 0.062 inch.
2. The data tested by surface mounted on a 1 inch^2 FR-4 board with 2OZ copper

Ratings and Characteristic Curves-BC856/857/858AM (@ T_A = 25℃ unless otherwise specified)

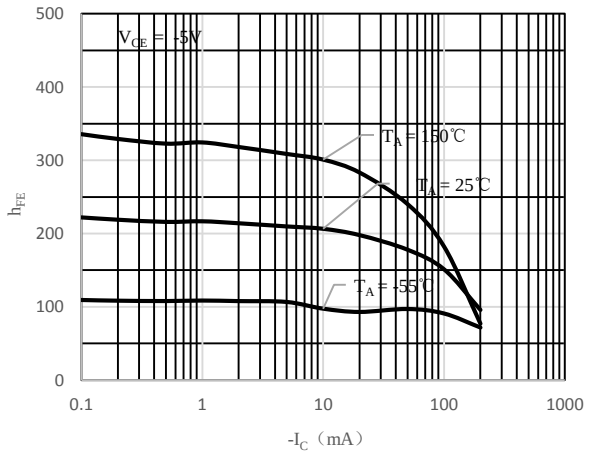


Fig 1 h_{FE} vs. I_C

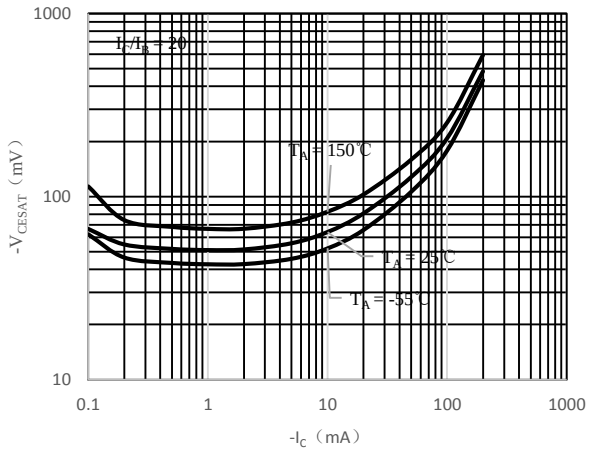


Fig 2 $V_{CE(sat)}$ vs. I_C

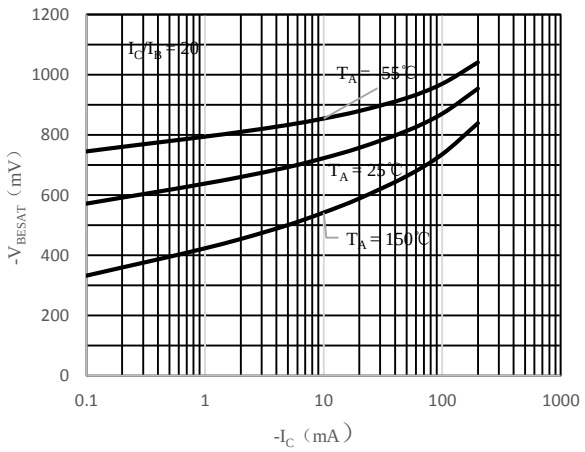


Fig 3 $V_{BE(sat)}$ vs. I_C

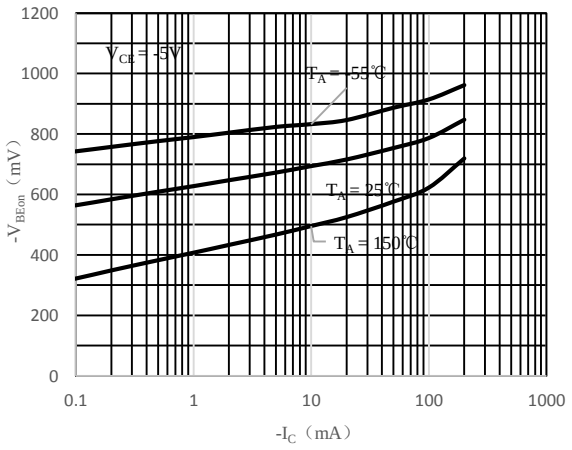


Fig 4 $V_{BE(ON)}$ vs. I_C

Ratings and Characteristic Curves-BC856/857/858BM (@ T_A = 25℃ unless otherwise specified)

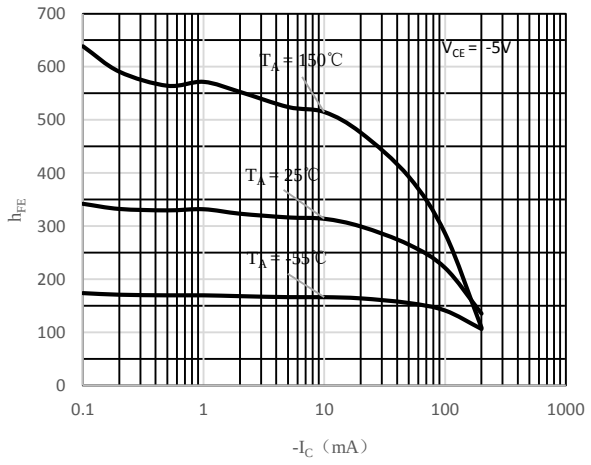


Fig 1 h_{FE} vs. I_C

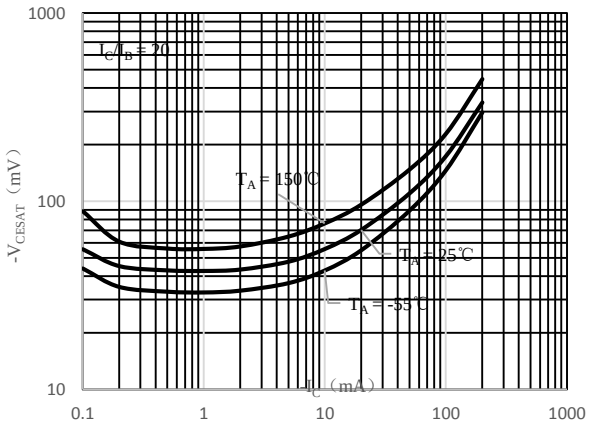


Fig 2 $V_{CE(sat)}$ vs. I_C

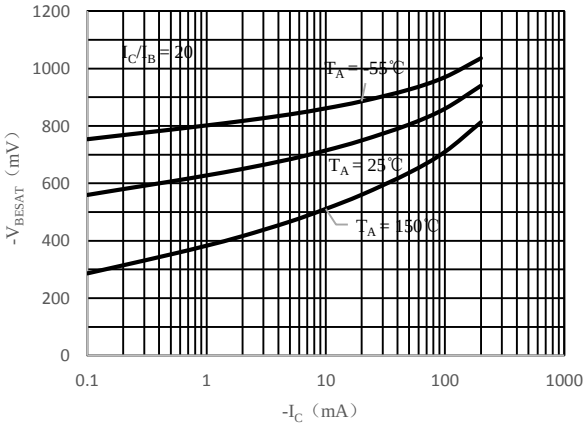


Fig 3 $V_{BE(sat)}$ vs. I_C

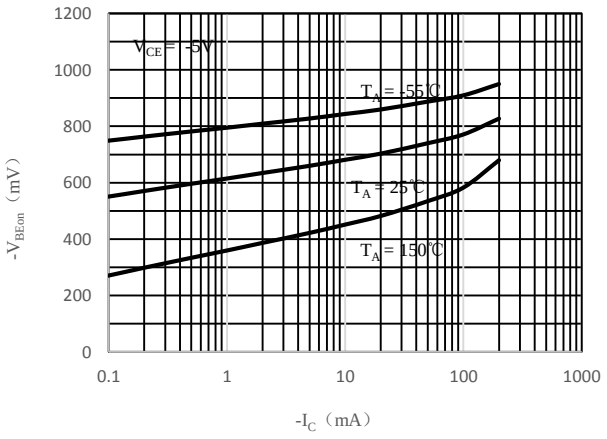


Fig 4 $V_{BE(ON)}$ vs. I_C

Ratings and Characteristic Curves-BC857/858CM (@ T_A = 25℃ unless otherwise specified)

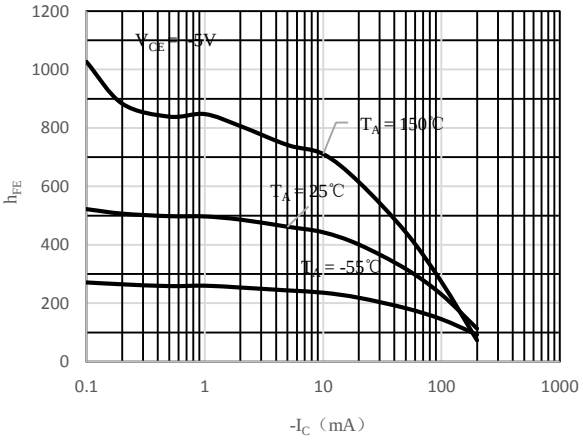


Fig 1 h_{FE} vs. I_C

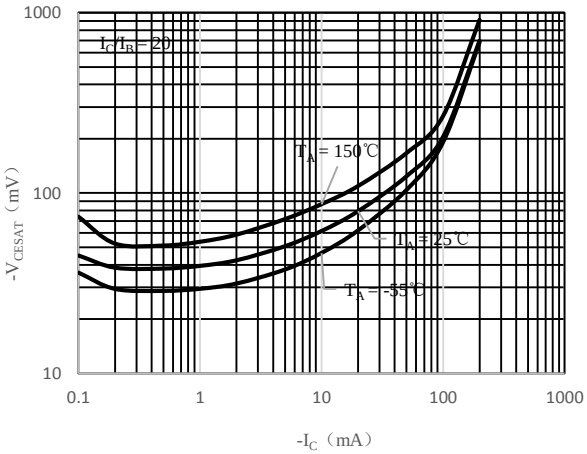


Fig 2 $V_{CE(sat)}$ vs. I_C

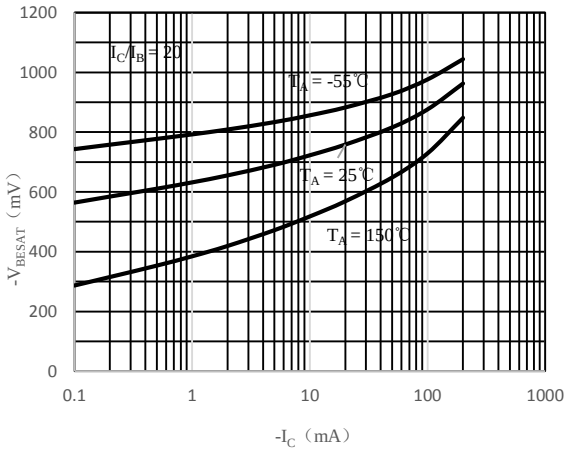


Fig 3 $V_{BE(sat)}$ vs. I_C

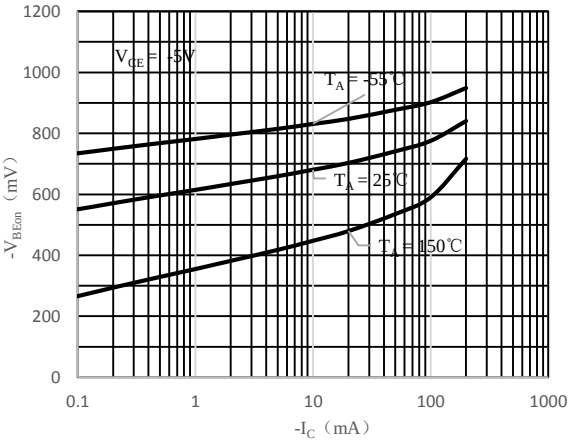
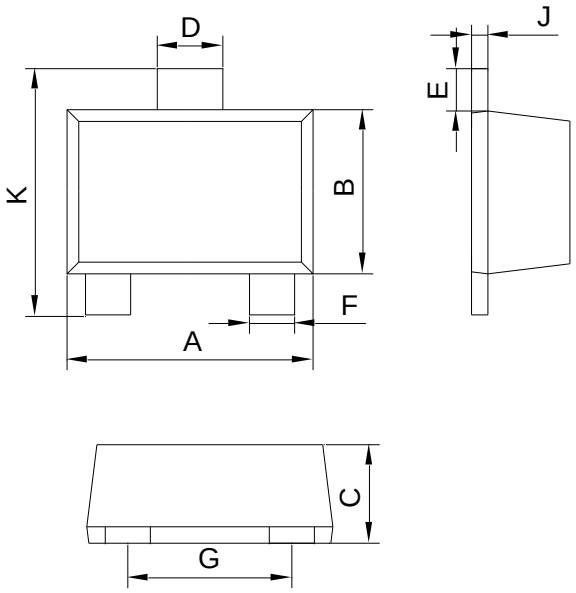


Fig 4 $V_{BE(ON)}$ vs. I_C

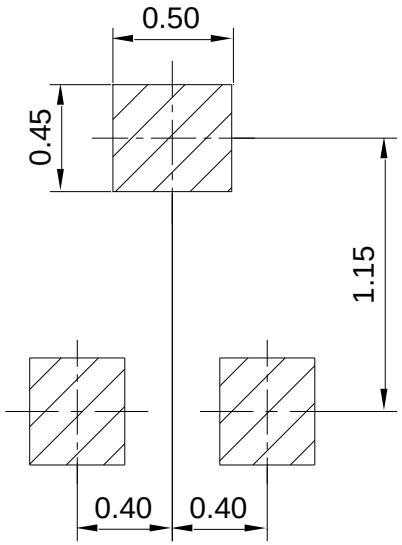
Package Outline Dimensions (Unit: mm)



SOT-723		
Dimension	**Min.**	**Max.**
A	1.10	1.30
B	0.70	0.90
C	0.40	0.54
D	0.22	0.42
E	0.10	0.30
F	0.12	0.32
G	0.70	0.90
J	0.08	0.15
K	1.10	1.30

Package Outline Dimensions (Unit: mm)

SOT-723



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