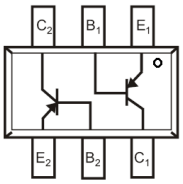
Dual PNP Small Signal Surface Mount Transistor

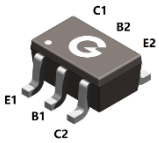
BC858AS BC858BS BC858CS

Features

HF

- Epitaxial die construction
- Ultra-small surface mount package





SOT-363

Mechanical Data

- Case: SOT-363
- Molding compound: UL flammability classification rating 94V-0
- Terminal s: Tin-plated; solderability per MIL-STD-202, Method 208

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
BC858AS	SOT-363	3000 pcs / Tape & Reel	3J
BC858BS	SOT-363	3000 pcs / Tape & Reel	3K
BC858CS	SOT-363	3000 pcs / Tape & Reel	3L

Maximum Ratings (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-30	V
Collector-Emitter Voltage	V_{CEO}	-30	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current (Continuous)	I_C	-100	mA
Collector Current (Pulse)	I_{CM}	-200	mA

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation (T_A = 25°C)	P_D	300	mW
Thermal Resistance Junction-to-Air *1	$R_{\theta JA}$	320	°C/W
Thermal Resistance Junction-to-Case *1	$R_{\theta JC}$	210	°C/W
Thermal Resistance Junction-to-Lead *1	$R_{\theta JL}$	240	°C/W
Operating Junction Temperature	T_J	-55 ~ +150	°C
Storage Temperature Range	T_{STG}	-55 ~ +150	°C

Note 1: The data tested by surface mounted on a 1 inch^2 FR-4 board with 2OZ copper

Electrical Characteristics (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C = -10μA, I_B = 0	-30	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = -10mA, I_B = 0	-30	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = -1μA, I_C = 0	-5	-	-	V
Collector Cut-off Current	I_{CBO}	V_{CB} = -30V, I_E = 0	-	-	-15	nA
Emitter-base Cut-off Current	I_{EBO}	V_{EB} = -5V, I_C = 0	-	-	-100	nA
DC Current Gain	h_{FE}	V_{CE} = -5V, I_C = -2mA BC858AS BC858BS BC858CS	 125 220 420	 - - -	 250 475 800	 - - -
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	-	-0.7	-	V
		I_C = -100mA, I_B = -5mA	-	-0.85	-	V
Base-Emitter Voltage	$V_{BE(ON)}$	V_{CE} = -5V, I_C= -2mA	-0.6	-	-0.75	V
		V_{CE} = -5V, I_C= -10mA	-	-	-0.82	V
Transition Frequency	f_T	V_{CE} = -5V, I_C= -10mA f = 100MHz	100	-	-	-
Output Capacitance	C_{obo}	V_{CB} = -10V, I_E = I_e = 0 f = 1MHz	-	-	4.5	pF

Ratings and Characteristic Curves-BC858AS (@ T_A = 25℃ unless otherwise specified)

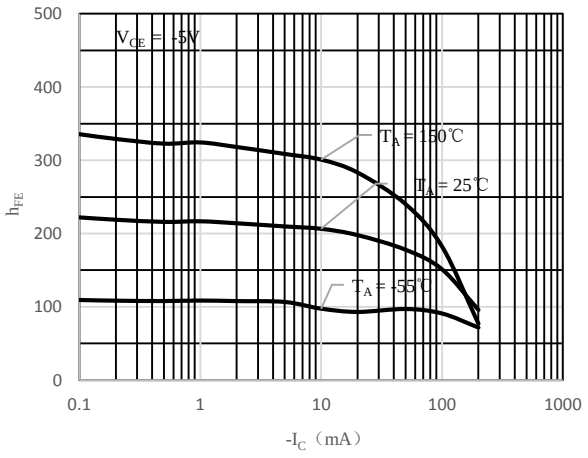


Fig 1 h_{FE} vs. I_C

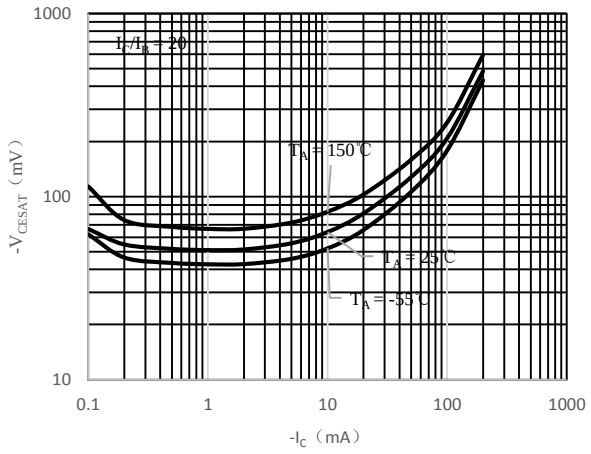


Fig 2 $V_{CE(sat)}$ vs. I_C

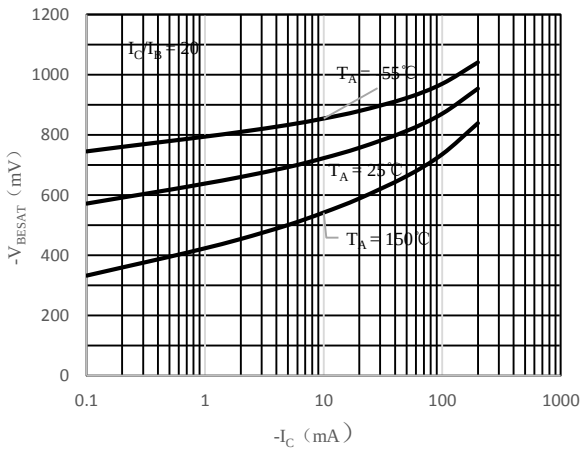


Fig 3 $V_{BE(sat)}$ vs. I_C

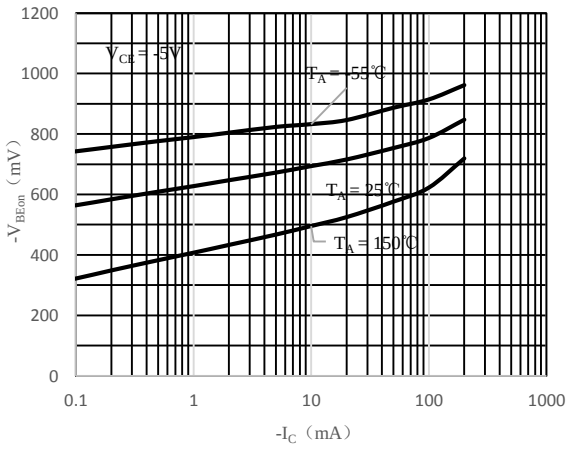


Fig 4 $V_{BE(ON)}$ vs. I_C

Ratings and Characteristic Curves-BC858BS (@ T_A = 25℃ unless otherwise specified)

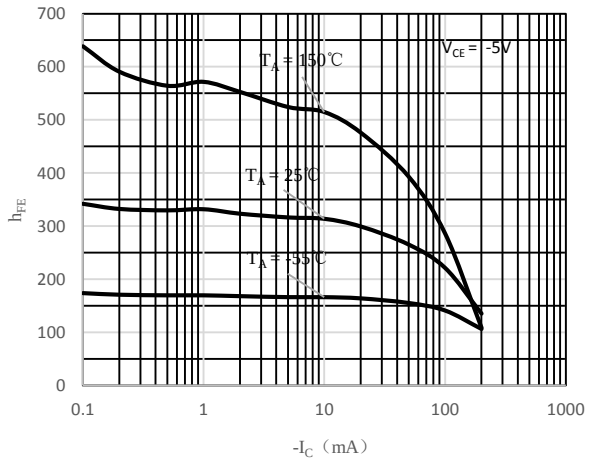


Fig 1 h_{FE} vs. I_C

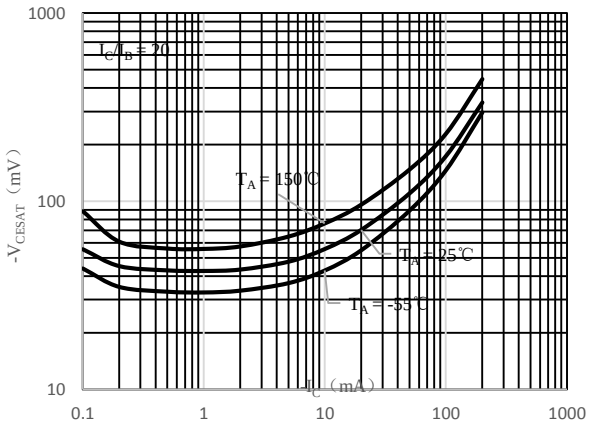


Fig 2 $V_{CE(sat)}$ vs. I_C

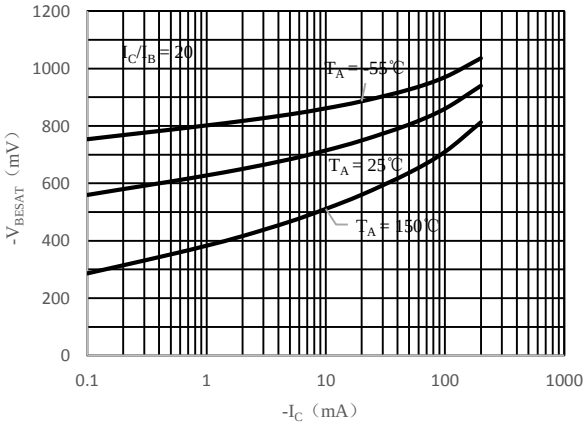


Fig 3 $V_{BE(sat)}$ vs. I_C

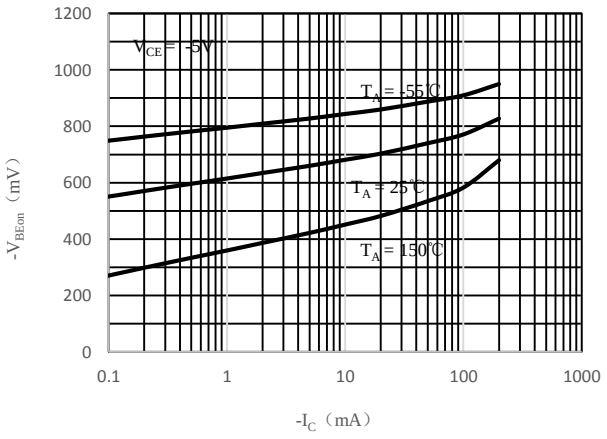


Fig 4 $V_{BE(ON)}$ vs. I_C

Ratings and Characteristic Curves-BC858CS (@ T_A = 25℃ unless otherwise specified)

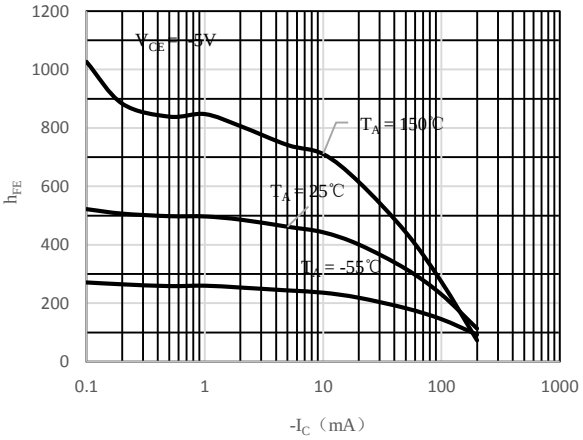


Fig 1 h_{FE} vs. I_C

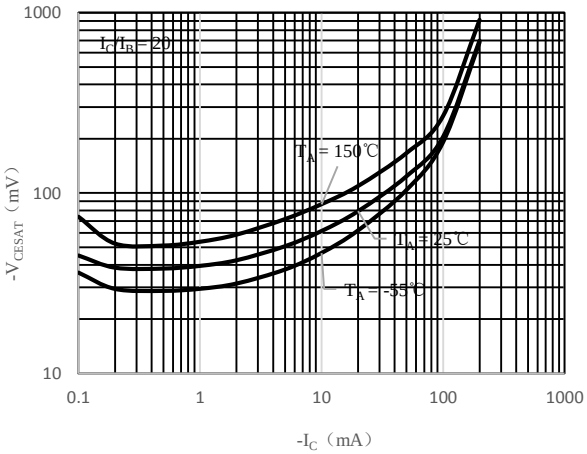


Fig 2 $V_{CE(sat)}$ vs. I_C

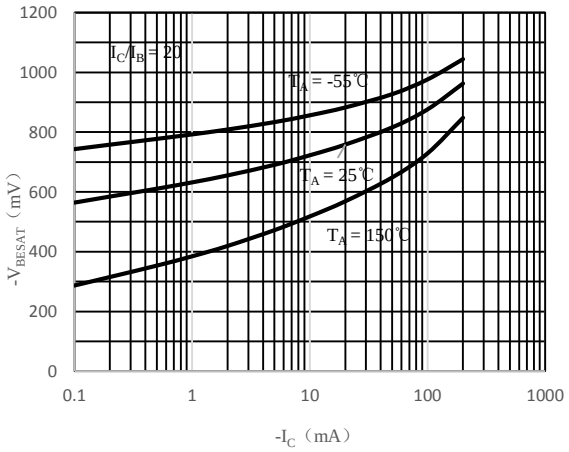


Fig 3 $V_{BE(sat)}$ vs. I_C

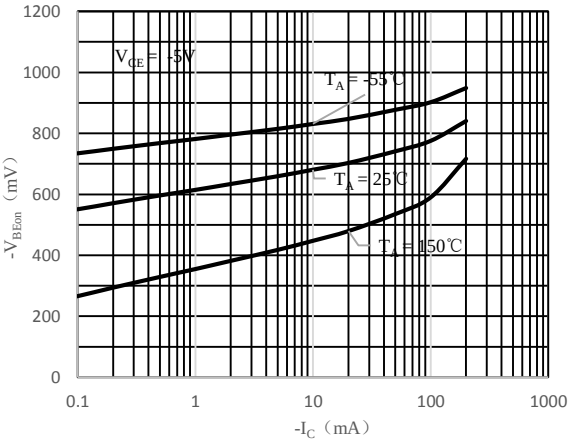
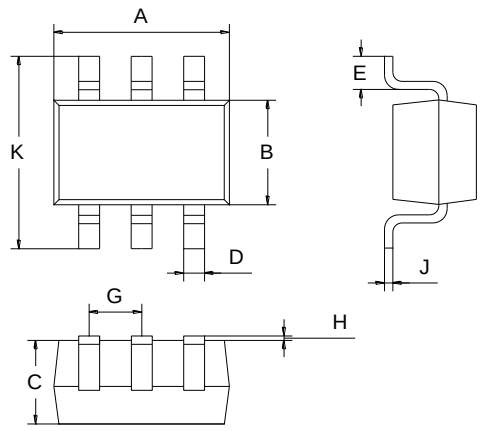


Fig 4 $V_{BE(ON)}$ vs. I_C

Package Outline Dimensions (Unit: mm)



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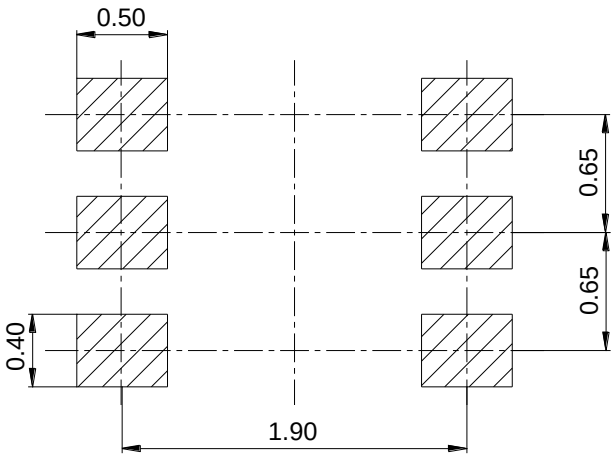
Dimension	**Min.**	**Max.**
A	2.00	2.20
B	1.15	1.35
C	0.85	1.05
D	0.15	0.35
E	0.25	0.40
G	0.60	0.70
H	0.02	0.10
J	0.05	0.15
K	2.20	2.40

Package Outline Dimensions (Unit: mm)

SOT-363



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