

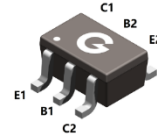
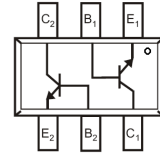
Features

- Epitaxial die construction
- Ultra-small surface mount package

HF

Mechanical Data

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



SOT-363

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
BC847BS	SOT-363	3000 pcs / Tape & Reel	1C

Maximum Ratings (@ $T_A = 25^\circ\text{C}$ 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}	6	V
Collector Current (Continuous)	I_C	100	mA
Collector Current (Peak)	I_{CM}	200	mA

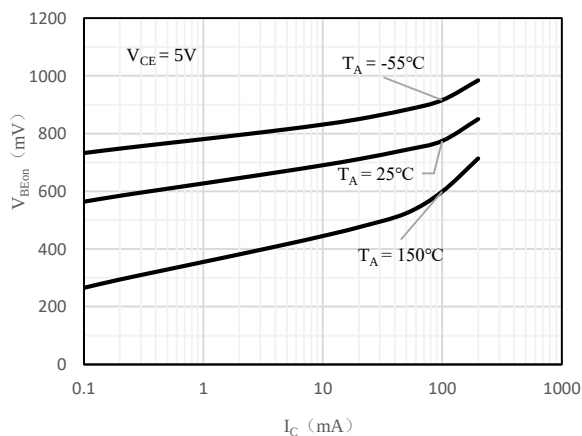
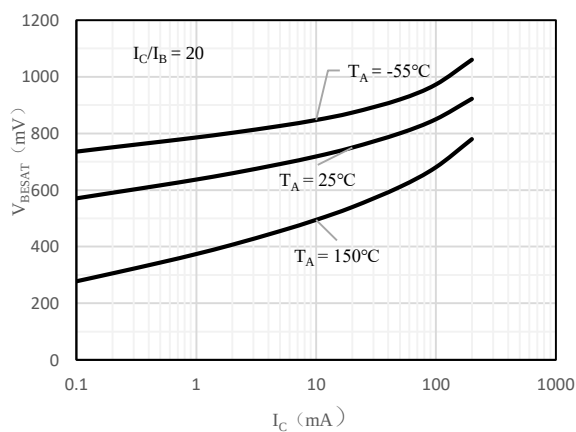
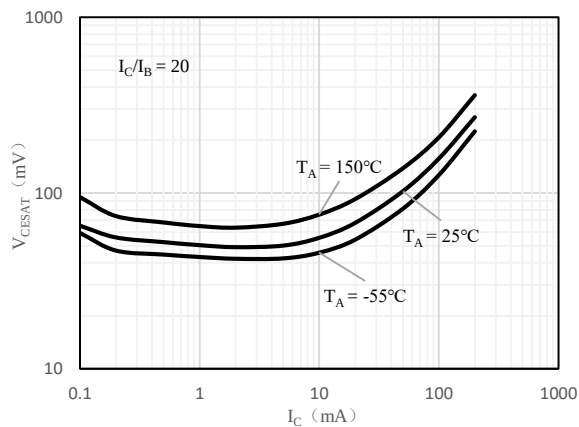
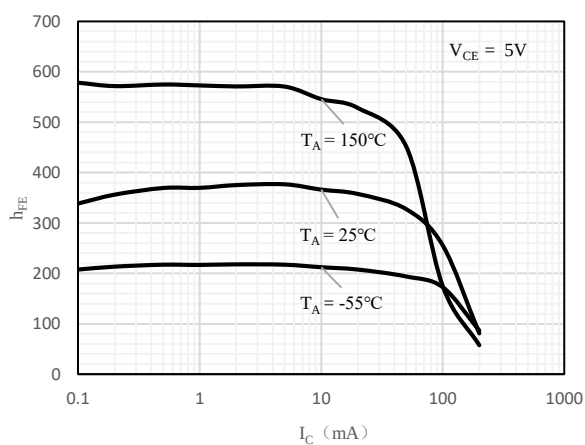
Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation ($T_A = 25^\circ\text{C}$)	P_D	300	mW
Thermal Resistance (Junction-to-Ambient)	$R_{\theta JA}$	417	$^\circ\text{C/W}$
Operating Junction Temperature	T_J	$-55 \sim +150$	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	$-55 \sim +150$	$^\circ\text{C}$

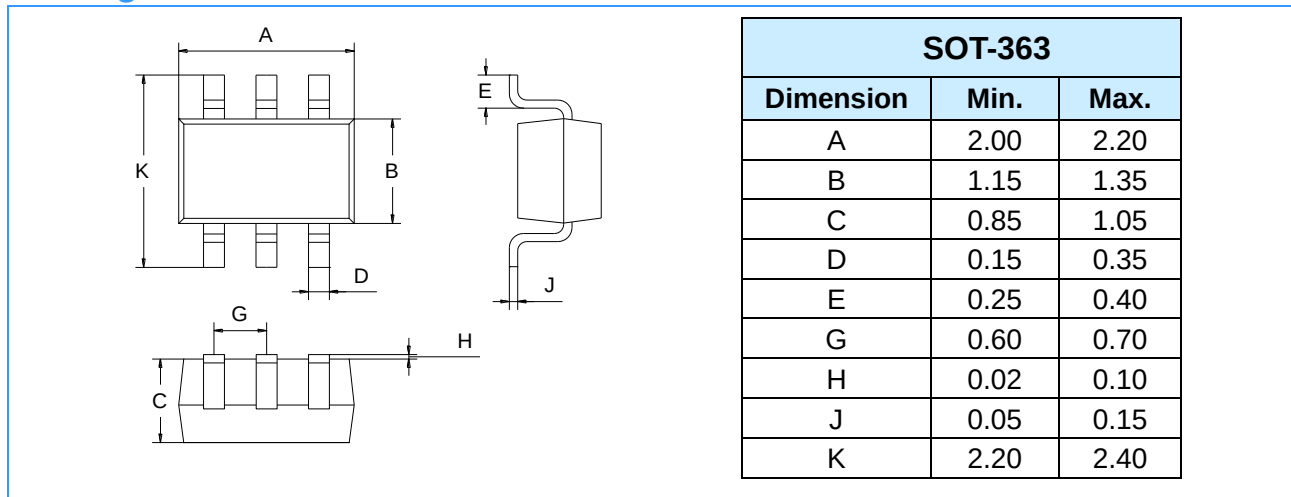
Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 10\mu\text{A}, I_E = 0$	50	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 10\text{mA}, I_B = 0$	45	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 10\mu\text{A}, I_C = 0$	6	-	-	V
Collector Cut-off Current	I_{CBO}	$V_{CB} = 30\text{V}, I_E = 0$	-	-	15	nA
		$V_{CB} = 30\text{V}, I_E = 0$	-	-	5	μA
		$T_J = 150^\circ\text{C}$	-	-	-	-
Emitter-base Cut-off Current	I_{EBO}	$V_{EB} = 5\text{V}, I_C = 0$	-	-	100	nA
Collector-emitter Cut-off Current	I_{CEO}	$V_{CE} = 30\text{V}, I_B = 0$	-	-	1	mA
DC Current Gain	h_{FE}	$V_{CE} = 5\text{V}, I_C = 2\text{mA}$	200	-	450	-
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 10\text{mA}, I_B = 0.5\text{mA}$	-	-	0.25	V
		$I_C = 100\text{mA}, I_B = 5\text{mA}$	-	-	0.65	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 10\text{mA}, I_B = 0.5\text{mA}$	-	0.70	0.90	V
		$I_C = 100\text{mA}, I_B = 5\text{mA}$	-	0.90	1.10	V
Base-Emitter Voltage	$V_{BE(ON)}$	$V_{CE} = 5\text{V}, I_C = 2\text{mA}$	0.58	-	0.70	V
		$V_{CE} = 5\text{V}, I_C = 10\text{mA}$	-	-	0.77	V
Transition Frequency	f_T	$V_{CE} = 5\text{V}, I_C = 20\text{mA}$ $f = 100\text{MHz}$	200	-	-	MHz
Collector Capacitance	C_C	$V_{CB} = 10\text{V}, I_E = I_C = 0$ $f = 1\text{MHz}$	-	-	2	pF

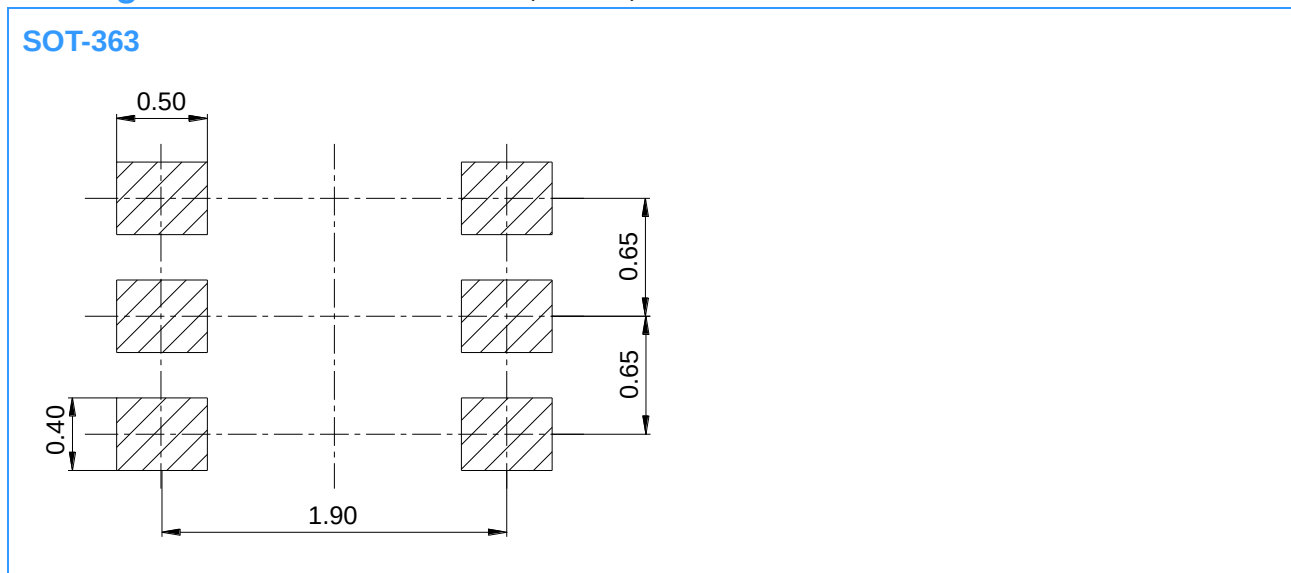
Ratings and Characteristic Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)



Package Outline Dimensions (Unit: mm)



Package Outline Dimensions (Unit: mm)



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