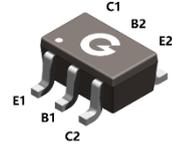
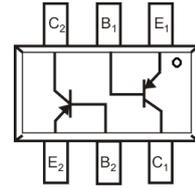


### Features

- Low current
- Low voltage
- RoHS compliant with Halogen-free

HF



SOT-363

### Mechanical Data

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

### Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
BC856BS	SOT-363	3000 pcs / Tape & Reel	3D

### Maximum Ratings (@ T<sub>A</sub> = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V <sub>CB0</sub>	-80	V
Collector-Emitter Voltage	V <sub>CEO</sub>	-65	V
Emitter-Base Voltage	V <sub>EBO</sub>	-5	V
Collector Current (Continuous)	I <sub>C</sub>	-100	mA
Collector Current (Peak)	I <sub>CM</sub>	-200	mA

### Thermal Characteristics

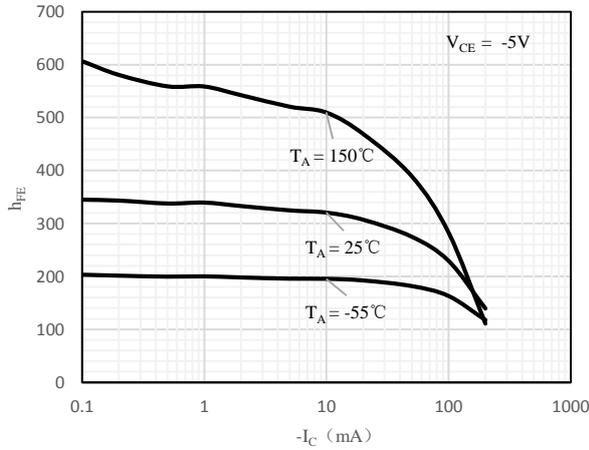
Parameter	Symbol	Value	Unit
Power Dissipation ( T <sub>A</sub> = 25°C )	P <sub>D</sub>	250	mW
Thermal Resistance Junction-to-Air *1	R <sub>θJA</sub>	320	°C/W
Thermal Resistance Junction-to-Case *1	R <sub>θJC</sub>	210	°C/W
Thermal Resistance Junction-to-Lead *1	R <sub>θJL</sub>	240	°C/W
Operating Junction Temperature	T <sub>J</sub>	-65 ~ +150	°C
Storage Temperature Range	T <sub>STG</sub>	-65 ~ +150	°C

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

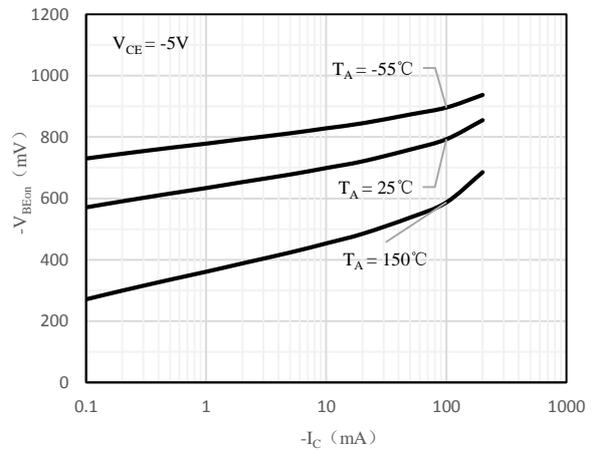
### Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -10\mu\text{A}, I_E = 0$	-80	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -10\text{mA}, I_B = 0$	-65	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -10\mu\text{A}, I_C = 0$	-5	-	-	V
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = -30\text{V}, I_E = 0$	-	-	-15	nA
Emitter-base Cut-off Current	$I_{EBO}$	$V_{EB} = -5\text{V}, I_C = 0$	-	-	-100	nA
DC Current Gain	$h_{FE}$	$V_{CE} = -5\text{V}, I_C = -2\text{mA}$	200	-	475	-
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -10\text{mA}, I_B = -0.5\text{mA}$	-	-	-0.3	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	-	V
		$I_C = -100\text{mA}, I_B = -5\text{mA}$	-	-0.85	-	V
Base-Emitter Voltage	$V_{BE(ON)}$	$V_{CE} = -5\text{V}, I_C = -2\text{mA}$	-0.6	-0.65	-0.75	V
		$V_{CE} = -5\text{V}, I_C = -10\text{mA}$	-	-	-0.82	V
Transition Frequency	$f_T$	$V_{CE} = -5\text{V}, I_C = -20\text{mA}$ $f = 100\text{MHz}$	-	250	-	MHz
Collector Capacitance	$C_C$	$V_{CB} = -10\text{V}, I_E = I_C = 0$ $f = 1\text{MHz}$	-	3	-	pF

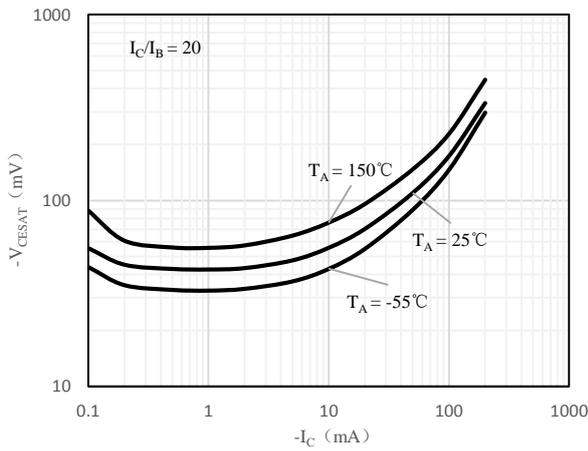
**Ratings and Characteristic Curves** (@  $T_A = 25^\circ\text{C}$  unless otherwise specified)



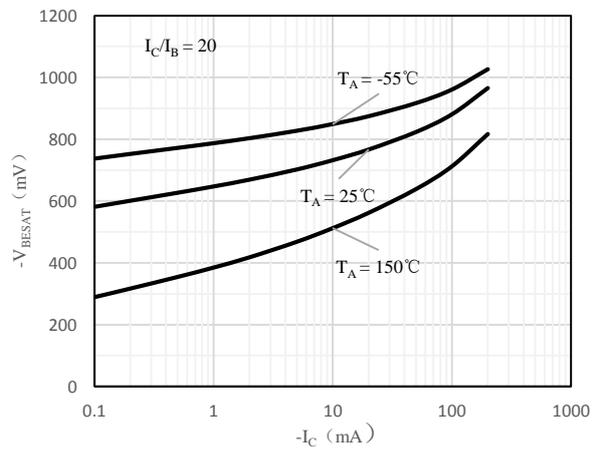
**Fig 1  $h_{FE}$  vs.  $I_C$**



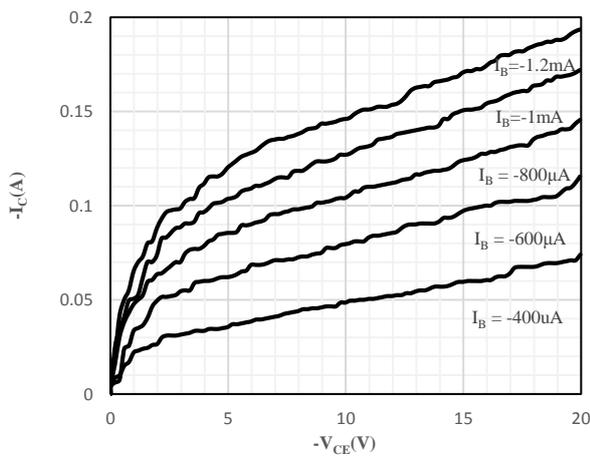
**Fig 2  $V_{BE(ON)}$  vs.  $I_C$**



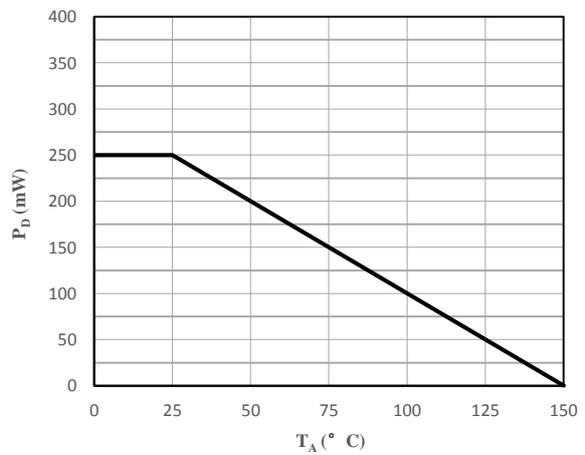
**Fig 3  $V_{CE(sat)}$  vs.  $I_C$**



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



**Fig 5  $I_C$  vs.  $V_{CE}$**



**Fig 6  $P_D$  vs.  $T_A$**

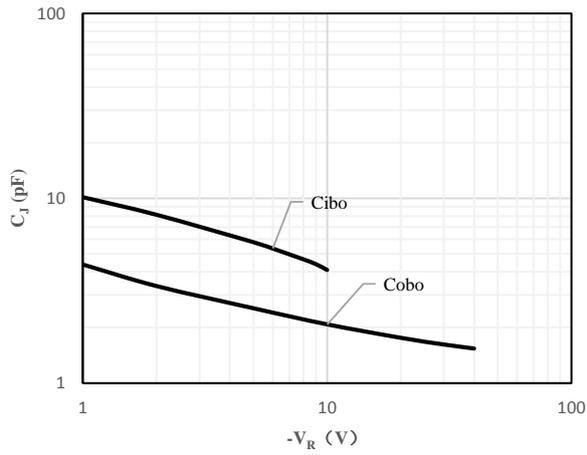
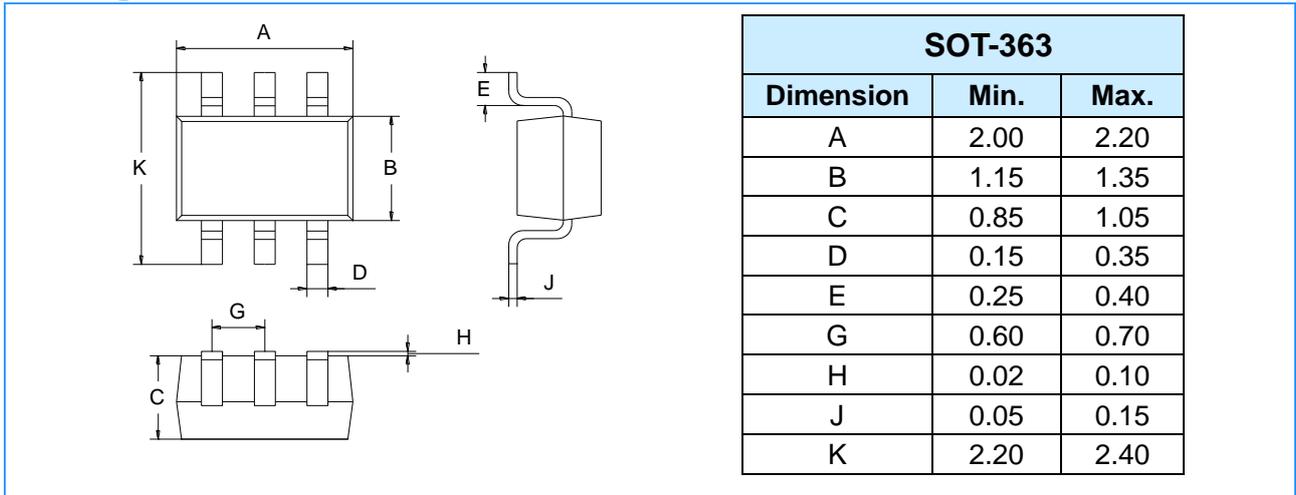


Fig 7  $C_J$  vs.  $V_R$

**Package Outline Dimensions** (Unit: mm)



**Package Outline Dimensions** (Unit: mm)

