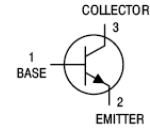


### Features

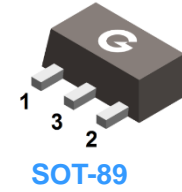
- High DC current gain
- Complimentary to SS8550

HF



### Mechanical Data

- Case: SOT-89
- 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
SS8050	SOT-89	1000 pcs / Tape & Reel	Y1

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

Parameter	Symbol	Value	Unit
Collector-Base Breakdown Voltage	V <sub>CB0</sub>	40	V
Collector-Emitter Breakdown Voltage	V <sub>CEO</sub>	25	V
Emitter-Base Breakdown Voltage	V <sub>EBO</sub>	6	V
Collector Current (Continuous)	I <sub>C</sub>	1.5	A
Collector Current (Peak)	I <sub>CM</sub>	2	A

### Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation (T <sub>A</sub> = 25°C) *1	P <sub>D</sub>	0.5	W
Power Dissipation (T <sub>A</sub> = 25°C, based on R <sub>θJA</sub> (Typ.) = 175°C/W)	P <sub>D</sub>	0.7	W
Thermal Resistance Junction-to-Air *1	R <sub>θJA</sub>	250	°C/W
Operating Junction Temperature Range	T <sub>J</sub>	-55 ~ +150	°C
Storage Temperature Range	T <sub>STG</sub>	-55 ~ +150	°C

Note 1: The data tested by surface mounted on a minimum recommended FR-4 board

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

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 100\mu\text{A}, I_E = 0$	40	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 2\text{mA}, I_B = 0$	25	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 100\mu\text{A}, I_C = 0$	6	-	-	V
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = 35\text{V}, I_E = 0$	-	-	0.1	$\mu\text{A}$
Collector Cut-off Current	$I_{CEO}$	$V_{CE} = 20\text{V}, I_B = 0$	-	-	0.1	$\mu\text{A}$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = 6\text{V}, I_C = 0$	-	-	0.1	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$V_{CE} = 1\text{V}, I_C = 0.1\text{A}$	120	-	400	-
		$V_{CE} = 1\text{V}, I_C = 0.8\text{A}$	40	-	-	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 0.8\text{A}, I_B = 0.08\text{A}$	-	0.28	0.5	V
Base-emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 0.8\text{A}, I_B = 0.08\text{A}$	-	0.98	1.2	V
Base-emitter on Voltage	$V_{BE(on)}$	$V_{CE} = 1\text{V}, I_C = 10\text{mA}$	-	0.66	1	V
Transition Frequency	$f_T$	$I_C = 50\text{mA}, V_{CE} = 10\text{V}$	100	-	-	MHz
Collector Output Capacitance	$C_{OB}$	$V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$	-	15	-	pF

**Classification of  $h_{FE}$** 

Rank	L	H	J
Range	120-200	200-350	300-400

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

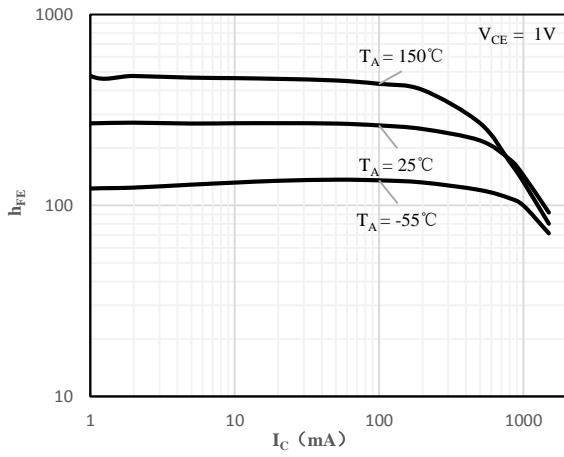


Fig 1  $h_{FE}$  vs.  $I_C$  (H)

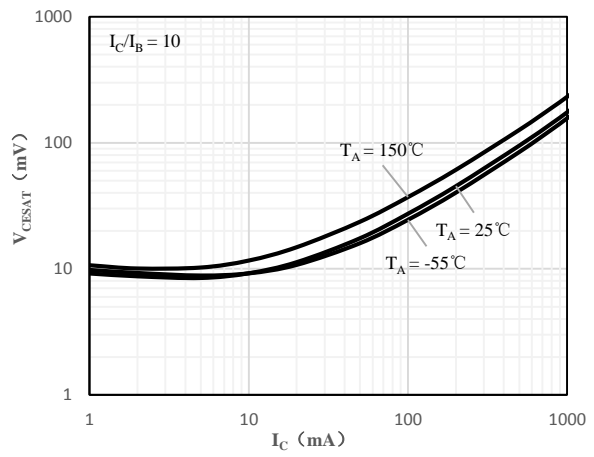


Fig 2  $V_{CE(sat)}$  vs.  $I_C$

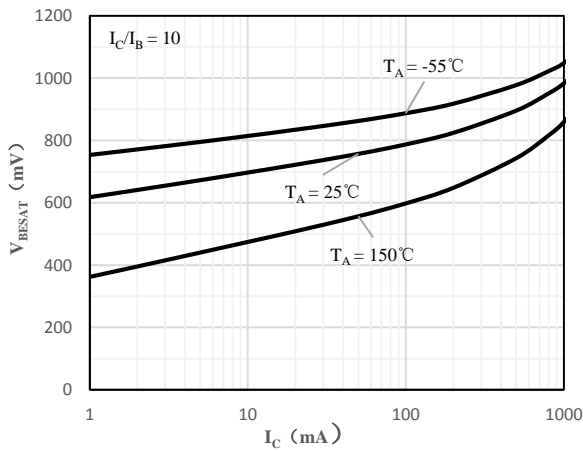


Fig 3  $V_{BE(sat)}$  vs.  $I_C$

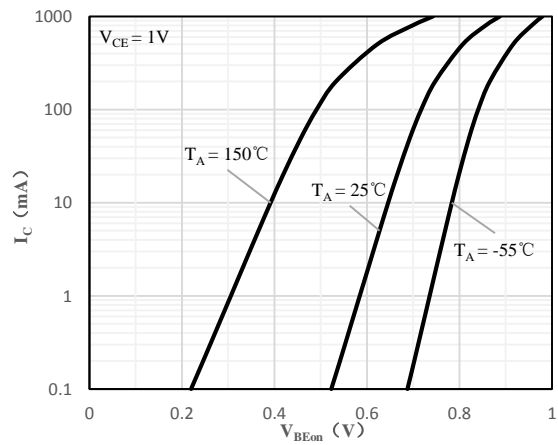


Fig 4  $V_{BE(ON)}$  vs.  $I_C$

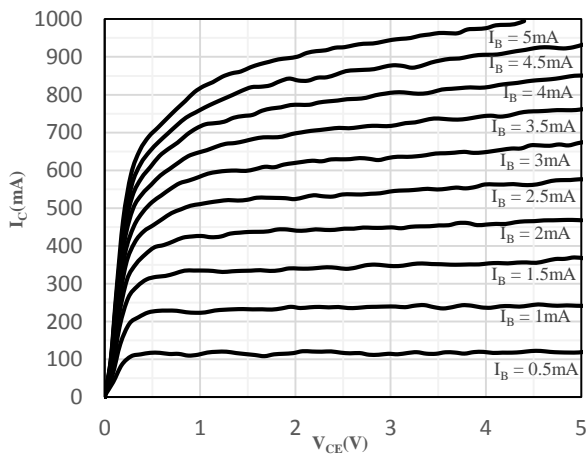
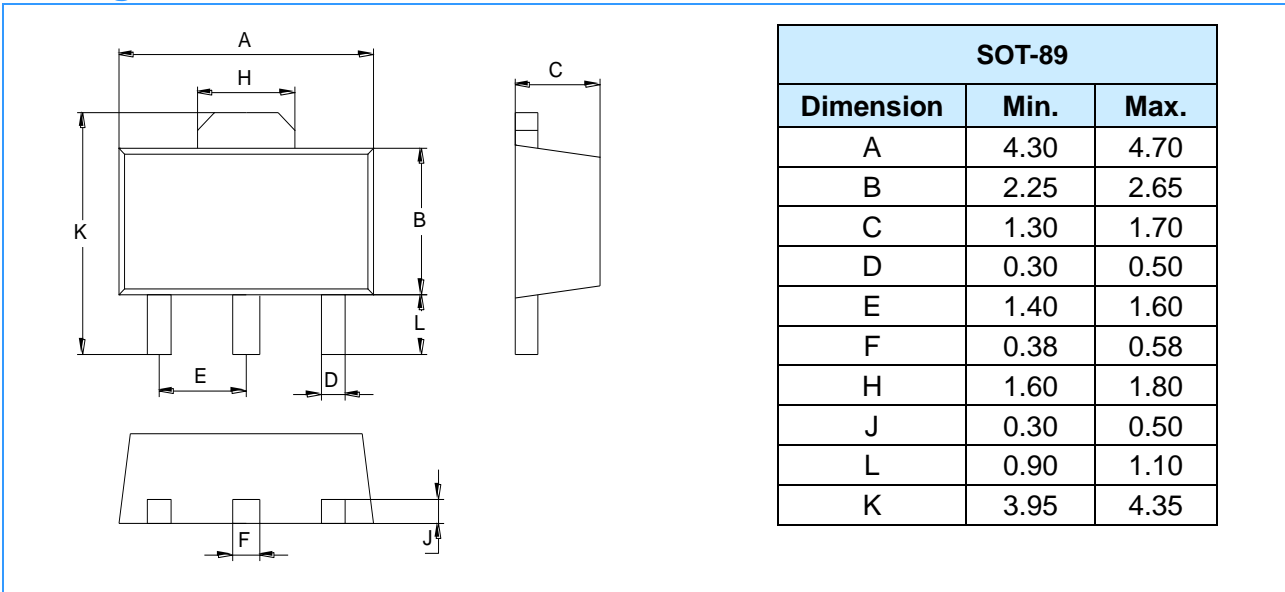
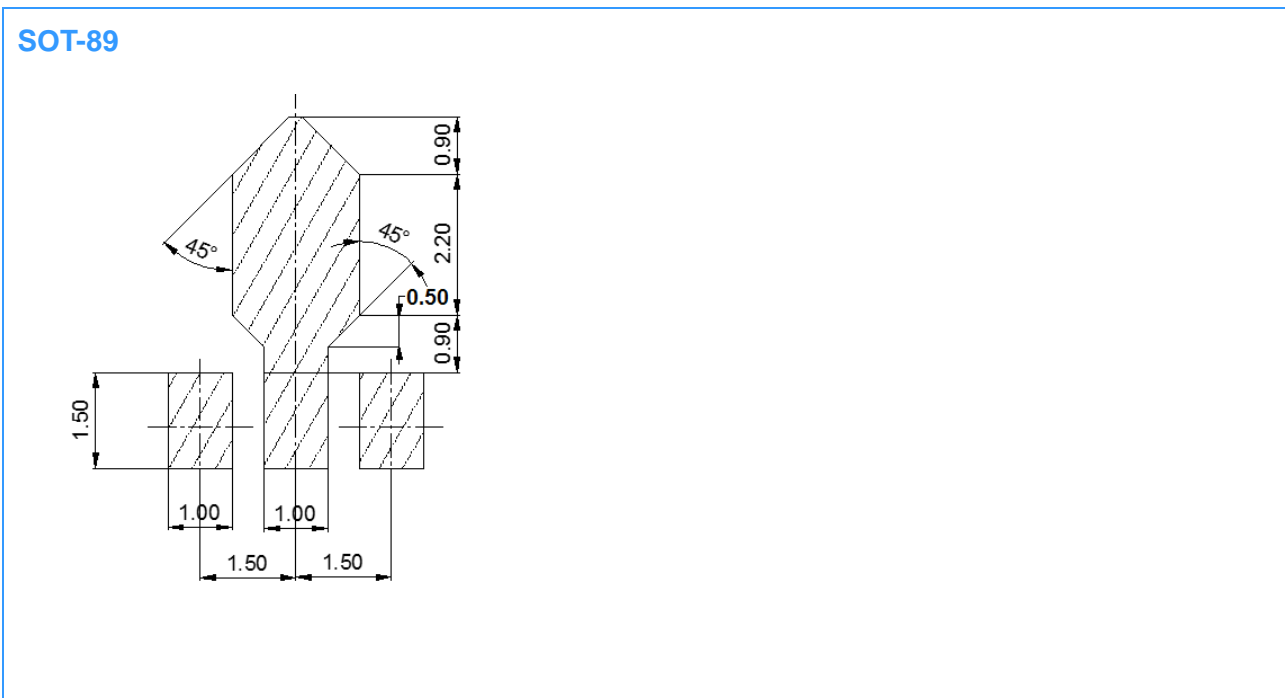


Fig 5  $I_C$  vs.  $V_{CE}$

Package Outline Dimensions (Unit: mm)



Mounting Pad Layout (Unit: mm)



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