

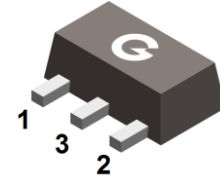
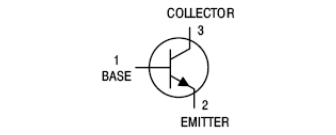
### Features

- Good  $h_{FE}$  Linearity
- Low  $V_{CE(sat)}$
- Complementary PNP type available(T2SB1260)

HF

### Mechanical Data

- Case: SOT-89
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208



SOT-89

### Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
2SD1898	SOT-89	1000 pcs / Tape & Reel	DF

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

Parameter	Symbol	Value	Unit
Collector-Base Voltage	$V_{CBO}$	120	V
Collector-Emitter Breakdown Voltage	$V_{CEO}$	80	V
Emitter-Base Breakdown Voltage	$V_{EBO}$	5	V
Collector Current (Continuous)	$I_C$	1	A
Collector Current (Peak)	$I_{CM}$	2	A

### Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation	$P_D$	0.5	W
Thermal Resistance Junction-to-Air <sup>*1</sup>	$R_{\theta JA}$	165	$^\circ\text{C}/\text{W}$
Thermal Resistance Junction-to-Case <sup>*1</sup>	$R_{\theta JC}$	68	$^\circ\text{C}/\text{W}$
Thermal Resistance Junction-to-Lead <sup>*1</sup>	$R_{\theta JL}$	21	$^\circ\text{C}/\text{W}$
Junction Temperature Range	$T_J$	-55 ~ +150	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 ~ +150	$^\circ\text{C}$

Note 1: The data tested by surface mounted on a 15mm \* 15mm \* 1mm FR4-epoxy P.C.B

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

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 50\mu\text{A}, I_E = 0$	120	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, I_B = 0$	80	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 50\mu\text{A}, I_C = 0$	5	-	-	V
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = 100\text{V}, I_E = 0$	-	-	1000	nA
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = 4\text{V}, I_C = 0$	-	-	1000	nA
DC Current Gain	$h_{FE}$	$V_{CE} = 3\text{V}, I_C = 0.5\text{A}$	82	-	390	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 500\text{mA}, I_B = 20\text{mA}$	-	-	0.40	V
Base-emitter Voltage	$V_{BE(ON)}$	$I_C = 500\text{mA}, V_{CE} = 3\text{V}$	0.5	0.79	1.0	V
Current-Gain— Bandwidth Product	$f_T$	$I_C = -50\text{mA}, V_{CE} = 10\text{V}$ $f = 100\text{MHz}$	-	100	-	MHz
Collector Output Capacitance	$C_{OBO}$	$V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$	-	20	-	pF

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

Rank	P	Q	R
Range	82-180	120-270	180-390

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

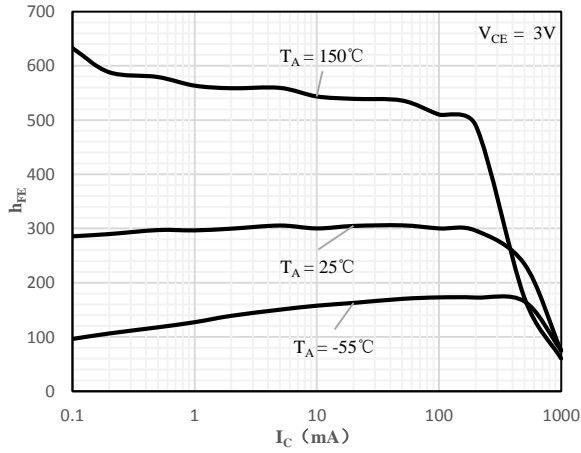


Fig 1  $h_{FE}$  vs.  $I_C$

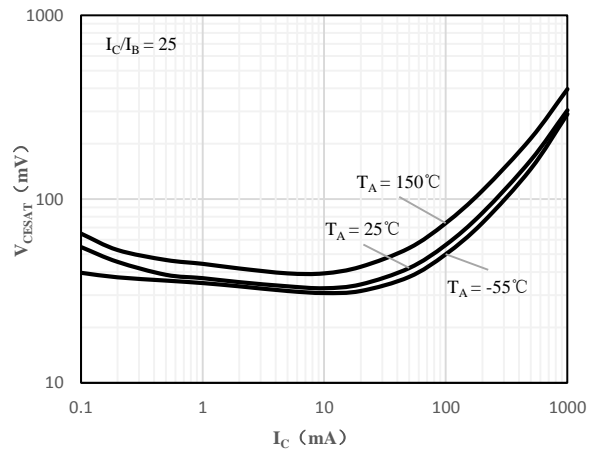


Fig 2  $V_{CE(sat)}$  vs.  $I_C$

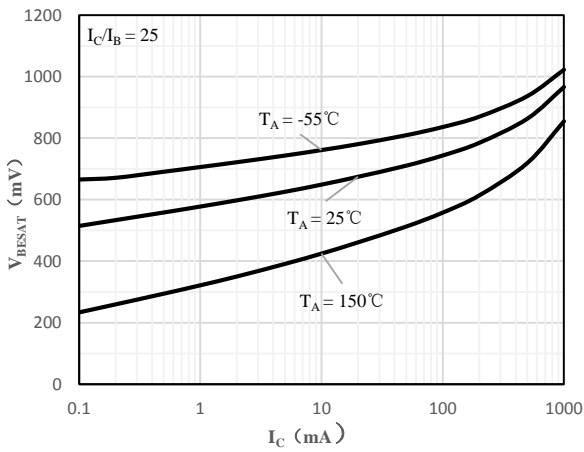


Fig 3  $V_{BE(sat)}$  vs.  $I_C$

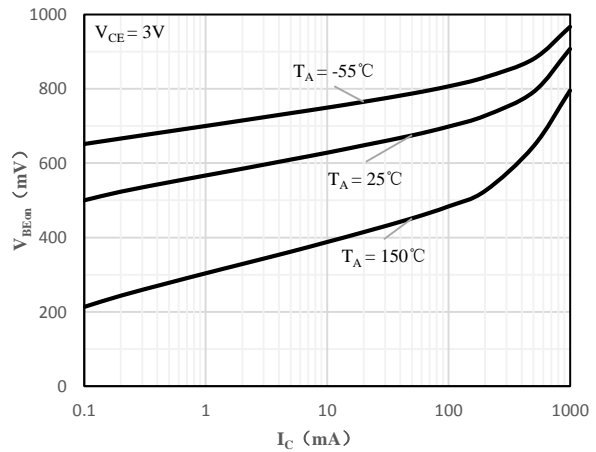
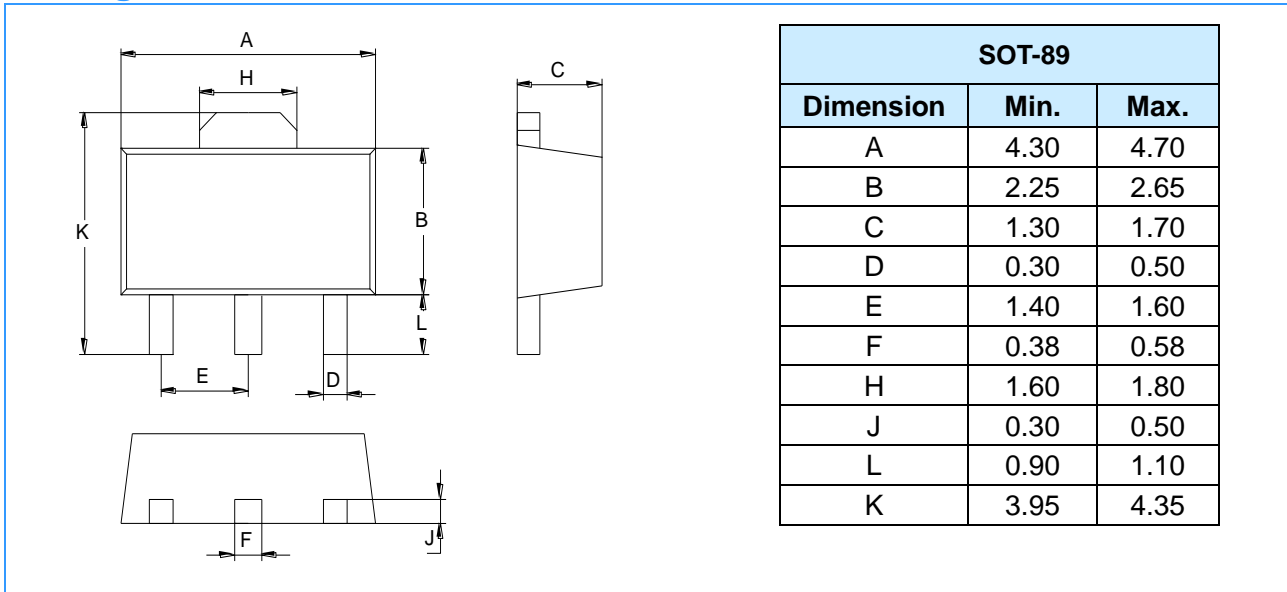
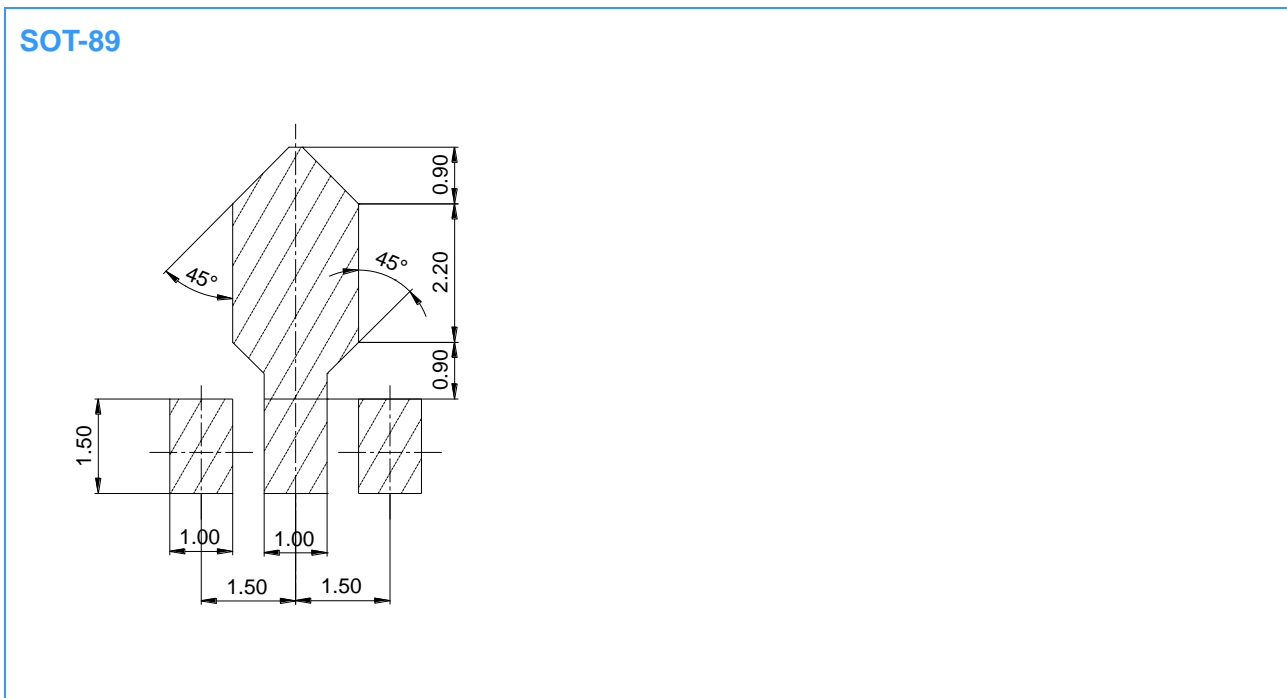


Fig 4  $V_{BE(on)}$  vs.  $I_C$

Package Outline Dimensions (Unit: mm)



Mounting Pad Layout (Unit: mm)



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