

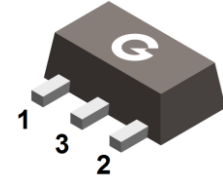
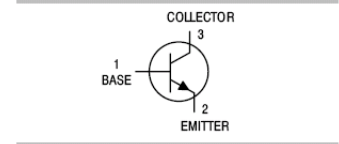
Features

- Good h_{FE} Linearity
- Low $V_{CE(sat)}$
- Complementary PNP type available(T2SB1260)
- RoHS compliant with Halogen-free

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-P	SOT-89	1000 pcs / Tape & Reel	DF
2SD1898-Q	SOT-89	1000 pcs / Tape & Reel	DF
2SD1898-R	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 ^{*1}	$R_{\theta JA}$	165	$^\circ\text{C/W}$
Thermal Resistance Junction-to-Case ^{*1}	$R_{\theta JC}$	68	$^\circ\text{C/W}$
Thermal Resistance Junction-to-Lead ^{*1}	$R_{\theta JL}$	21	$^\circ\text{C/W}$
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)

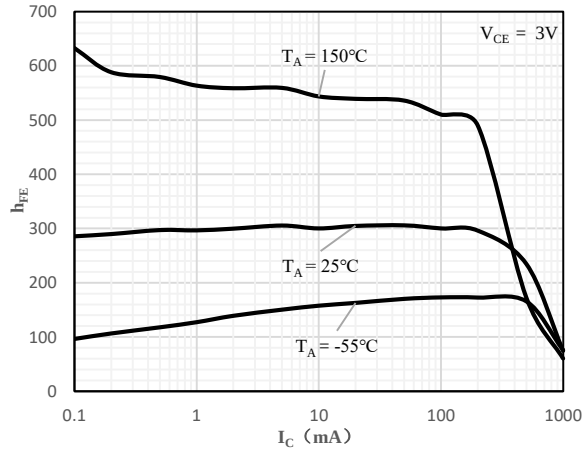


Fig 1 h_{FE} vs. I_C

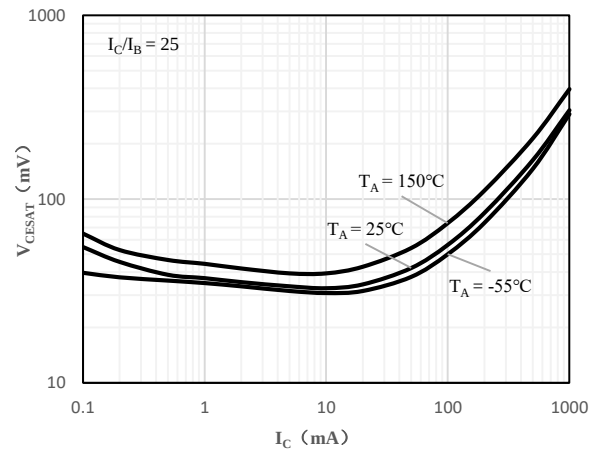


Fig 2 $V_{CE(sat)}$ vs. I_C

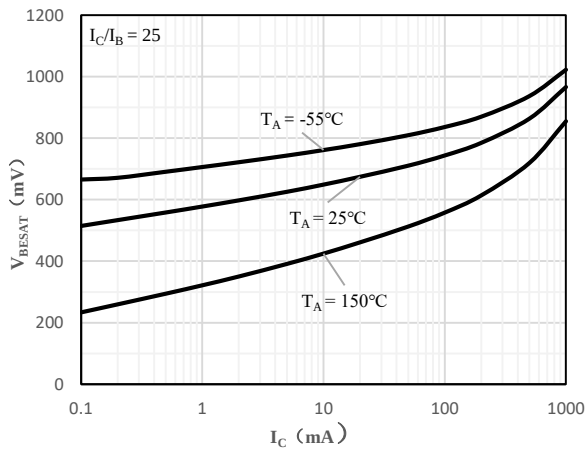


Fig 3 $V_{BE(sat)}$ vs. I_C

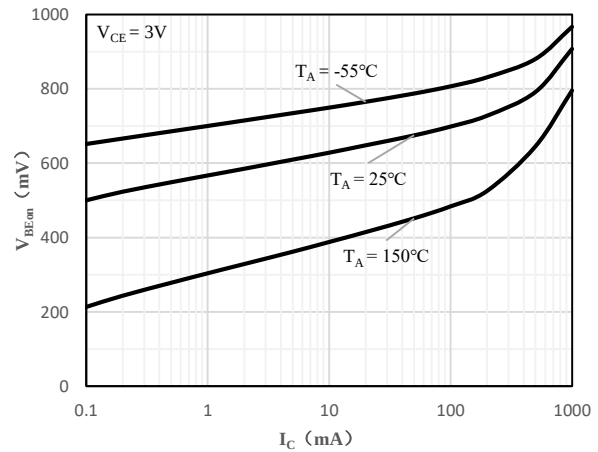
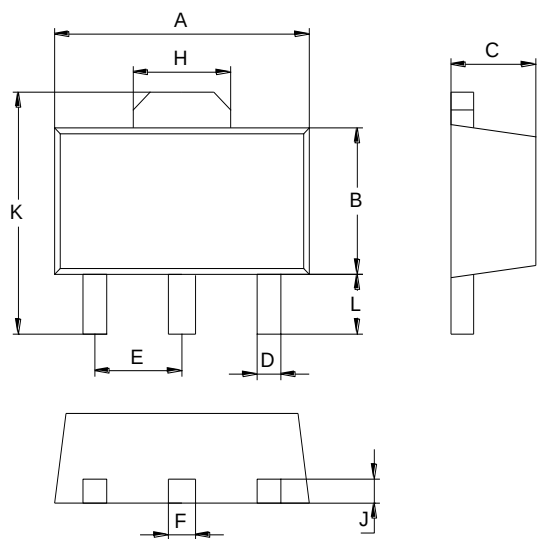


Fig 4 $V_{BE(on)}$ vs. I_C

Package Outline Dimensions (Unit: mm)



SOT-89		
Dimension	Min.	Max.
A	4.30	4.70
B	2.25	2.65
C	1.30	1.70
D	0.30	0.50
E	1.40	1.60
F	0.38	0.58
H	1.60	1.80
J	0.30	0.50
L	0.90	1.10
K	3.95	4.35

Mounting Pad Layout (Unit: mm)

SOT-89

