

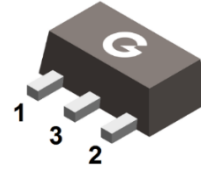
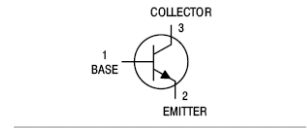
Features

- Epitaxial planar die construction
- Low current
- High voltage

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
BL1545E	SOT-89	1000 pcs / Tape & Reel	1545

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

Parameter	Symbol	Value	Unit
Collector-Base Breakdown Voltage	V_{CBO}	500	V
Collector-Emitter Breakdown Voltage	V_{CEO}	420	V
Emitter-Base Breakdown Voltage	V_{EBO}	8	V
Collector Current (Continuous)	I_C	0.5	A
Collector Current (Peak, $t_P < 5$ ms)	I_{CM}	1	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation ($T_A = 25^\circ\text{C}$) *1	P_D	1	W
Thermal Resistance (Junction-to-Ambient) *1	$R_{\theta JA}$	125	$^\circ\text{C/W}$
Junction Temperature	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 1 inch² 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	$V_{(BR)CBO}$	$I_C = 100\mu\text{A}, I_E = 0$	500	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, I_B = 0$	420	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 100\mu\text{A}, I_C = 0$	8	-	-	V
Collector Cut-off Current	I_{CBO}	$V_{CB} = 500\text{V}, I_E = 0$	-	-	10	μA
DC Current Gain	h_{FE}	$V_{CE} = 10\text{V}, I_C = 1\text{mA}$	100	-	-	-
		$V_{CE} = 10\text{V}, I_C = 50\text{mA}$	100	-	300	-
		$V_{CE} = 10\text{V}, I_C = 100\text{mA}$	10	-	-	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 20\text{mA}, I_B = 2\text{mA}$	-	-	0.2	V
		$I_C = 50\text{mA}, I_B = 5\text{mA}$	-	-	0.3	V
Base-emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 50\text{mA}, I_B = 5\text{mA}$	-	-	0.9	V
Base-Emitter Turn-on Voltage	$V_{BE(on)}$	$I_C = 50\text{mA}, V_{CE} = 1\text{V}$	-	-	1.0	V

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

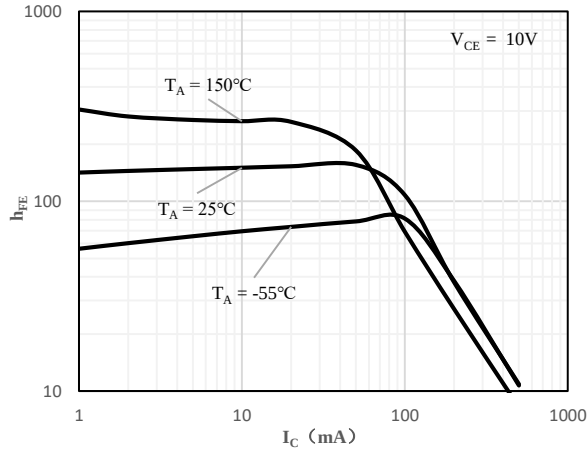


Fig 1 h_{FE} vs. I_C

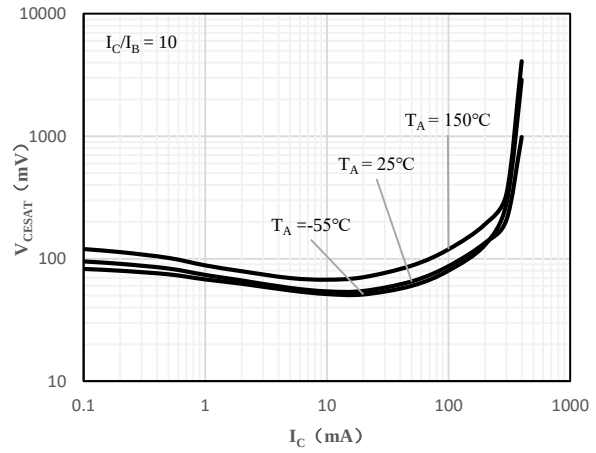


Fig 2 $V_{CE(sat)}$ vs. I_C

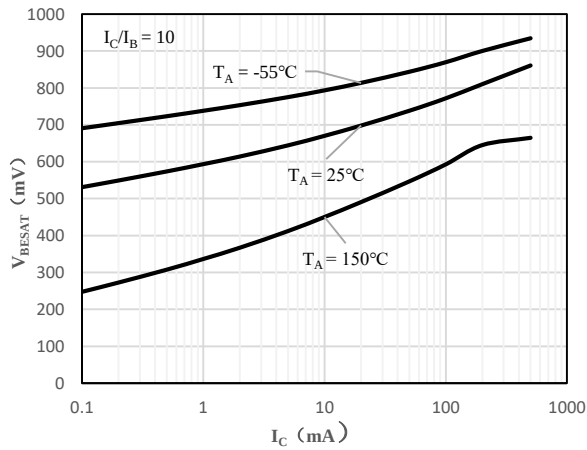


Fig 3 $V_{BE(sat)}$ vs. I_C

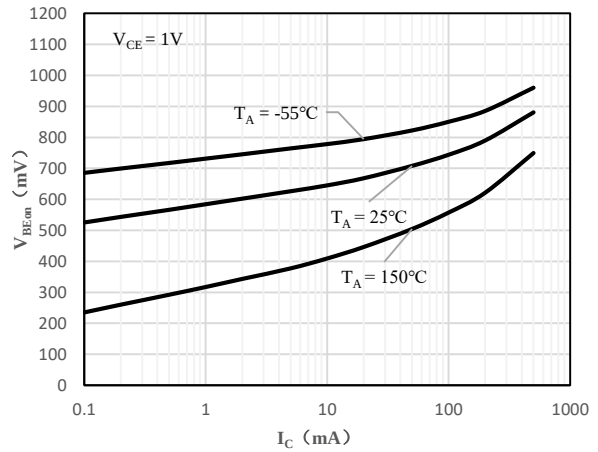


Fig 4 $V_{BE(on)}$ vs. I_C

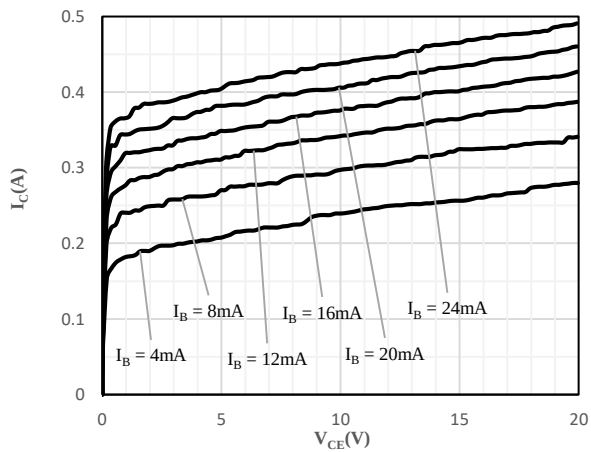


Fig 5 I_C vs. V_{CE}

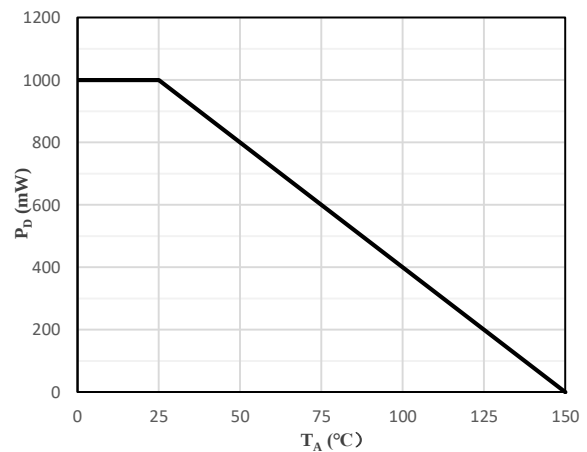


Fig 6 P_D vs. T_A

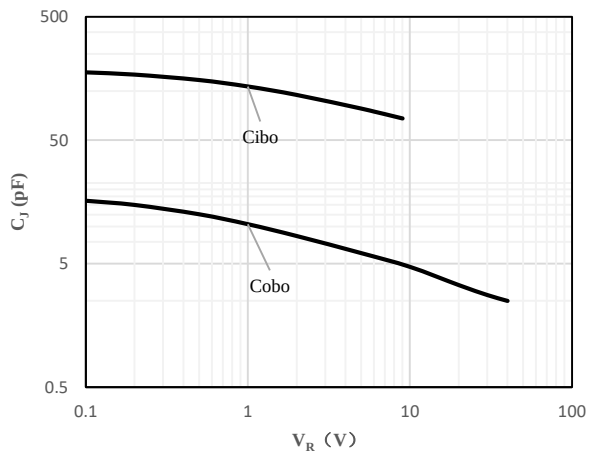
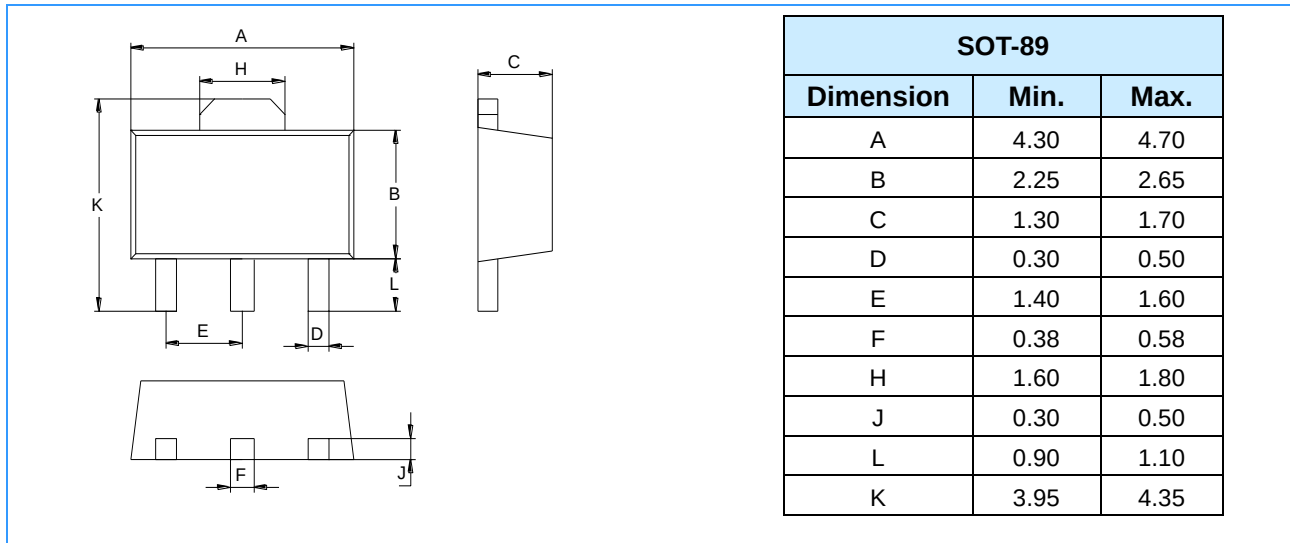
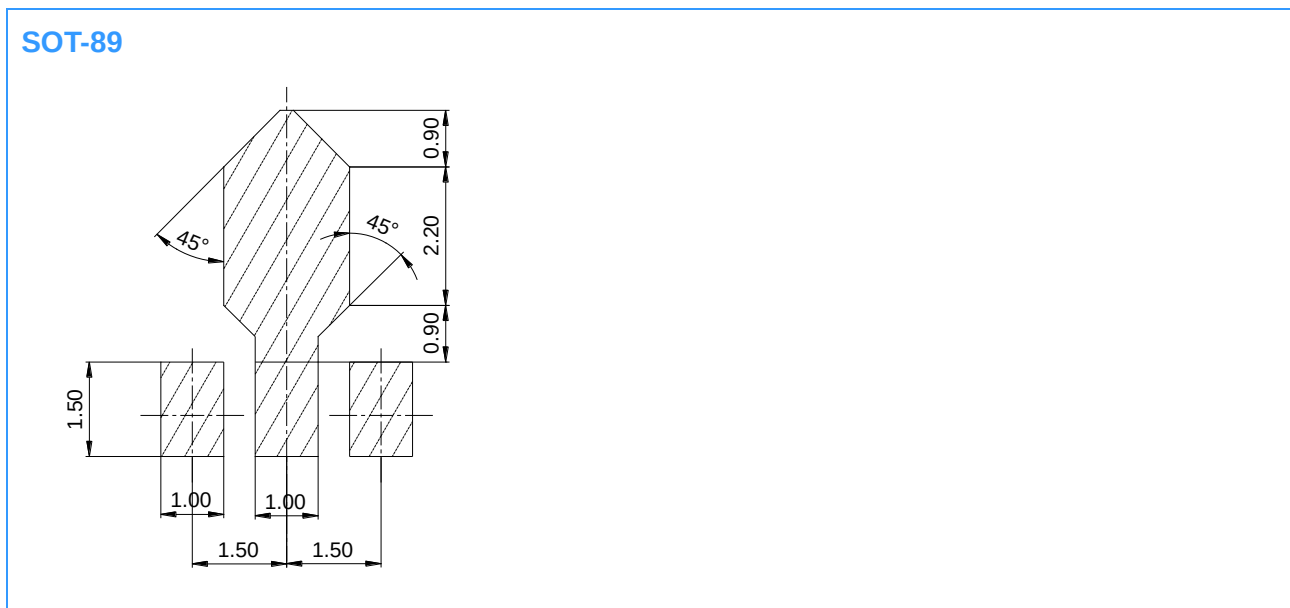


Fig 7 C_j vs. V_R

Package Outline Dimensions (Unit: mm)



Mounting Pad Layout (Unit: mm)



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