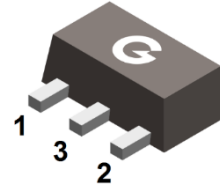
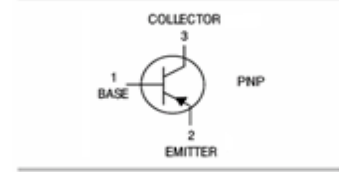


Features

- Epitaxial planar die construction
- High voltage
- Low collector-emitter saturation voltage
- High collector current capability
- High collector current gain

HF



SOT-89

Mechanical Data

- Case: SOT-89
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
BL9040E	SOT-89	1000 pcs / Tape & Reel	9040

Maximum Ratings (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector-Base Breakdown Voltage	V _{CBO}	-450	V
Collector-Emitter Breakdown Voltage	V _{CEO}	-400	V
Emitter-Base Breakdown Voltage	V _{EBO}	-6	V
Collector Current(Continuous)	I _C	-0.25	A
Peak Collector Current(tp ≤ 1ms)	I _{CM}	-0.5	A
Peak Base Current(tp ≤ 1ms)	I _{BM}	-0.2	A

Thermal Characteristics

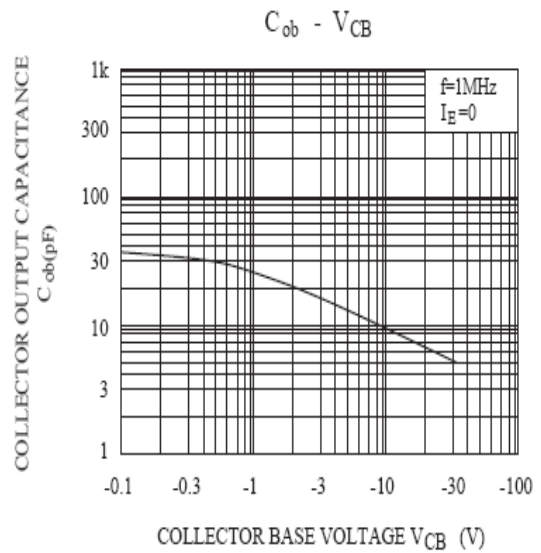
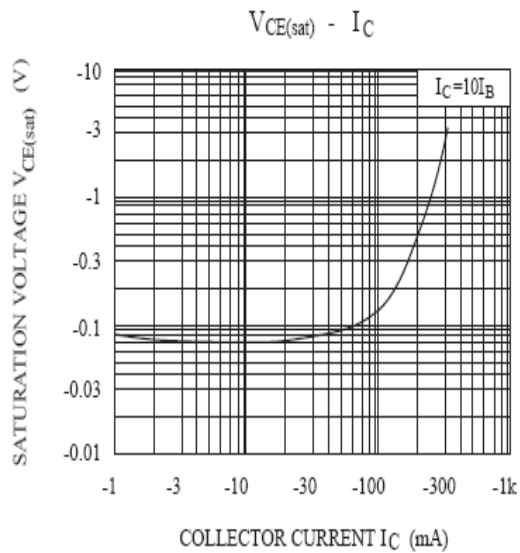
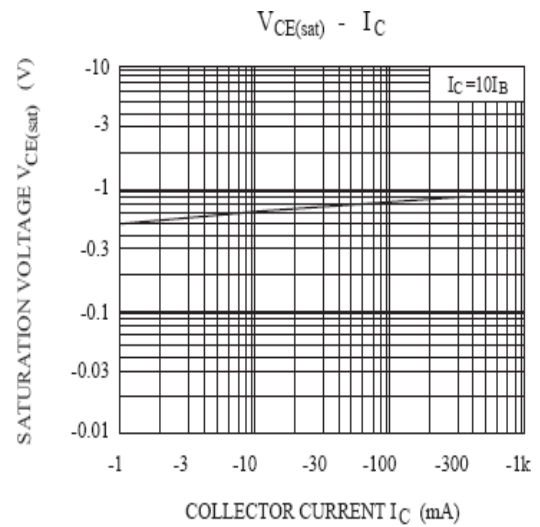
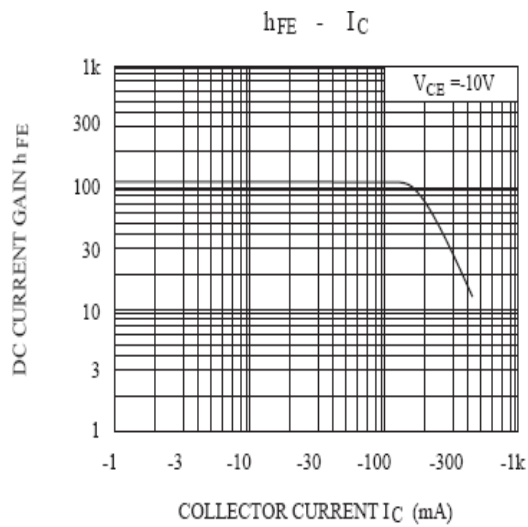
Parameter	Symbol	Value	Unit
Power Dissipation (T _A = 25°C) *1	P _D	0.5	W
Thermal Resistance (Junction-to-Ambient)	R _{θJA}	250	°C/W
Junction Temperature	T _J	-55 ~ +150	°C
Storage Temperature Range	T _{STG}	-65 ~ +150	°C

Note1: Device mounted on an FR4 PCB, single-sided copper, tin-plated and standard footprint

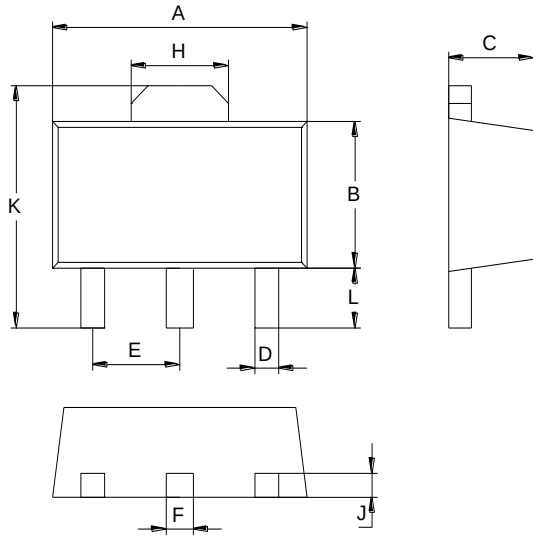
Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -100\mu\text{A}, I_E = 0$	-450	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -1\text{mA}, I_B = 0$	-400	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -10\mu\text{A}, I_C = 0$	-6	-	-	V
Collector Cut-off Current	I_{CBO}	$V_{CB} = -320\text{V}, I_E = 0$	-	-	-0.1	μA
Collector-emitter Cut-off Current	I_{CES}	$V_{CE} = -320\text{V}, V_{BE} = 0$	-	-	-0.1	μA
Emitter-base Cut-off Current	I_{EBO}	$V_{EB} = -4\text{V}, I_C = 0$	-	-	-0.1	μA
DC Current Gain	h_{FE}	$V_{CE} = -10\text{V}, I_C = -10\text{mA}$	100	-	200	-
		$V_{CE} = -10\text{V}, I_C = -50\text{mA}$	100	-	-	-
		$V_{CE} = -10\text{V}, I_C = -100\text{mA}$	80	-	-	-
		$V_{CE} = -10\text{V}, I_C = -250\text{mA}$	10	-	-	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -100\text{mA}, I_B = -20\text{mA}$	-	-	-0.2	V
Base-emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -100\text{mA}, I_B = -20\text{mA}$	-	-	-1.1	V
Output Capacitance	C_{OBO}	$V_{CB} = -20\text{V}, I_E = 0, f = 1\text{MHz}$	-	7	-	pF
Transition Frequency	f_T	$I_E = -10\text{mA}, V_{CE} = -10\text{V}$ $f = 100\text{MHz}$	-	55	-	MHZ

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



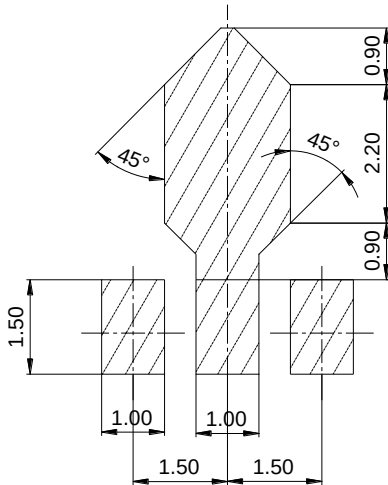
Package Outline Dimensions (Unit: mm)



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



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