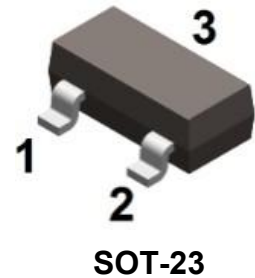


## Features

- High saturation voltage
- Excellent hFE linearity

## Mechanical Data

- Case: SOT-23
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208



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

Parameter	Symbol	Value	Unit
Collector-Base Breakdown Voltage	$V_{CB0}$	-500	V
Collector-Emitter Breakdown Voltage	$V_{CE0}$	-500	V
Emitter-Base Breakdown Voltage	$V_{EB0}$	-7	V
Collector Current (Continuous)	$I_C$	-0.15	A
Collector Current (Peak)	$I_{CM}$	-0.5	A

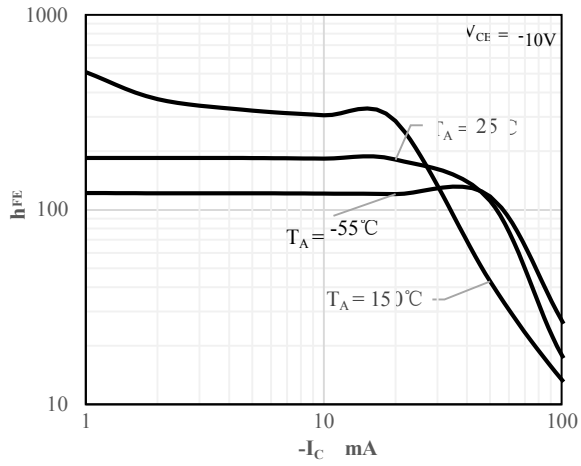
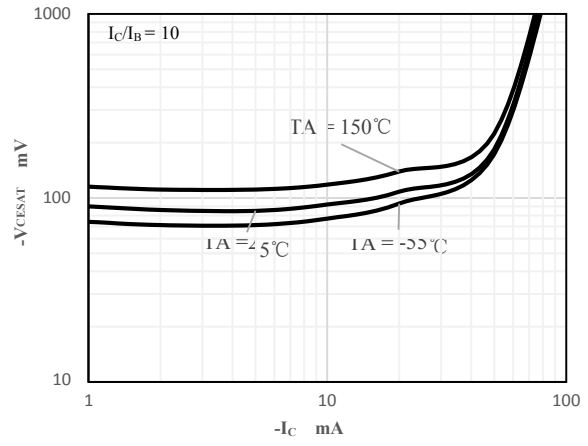
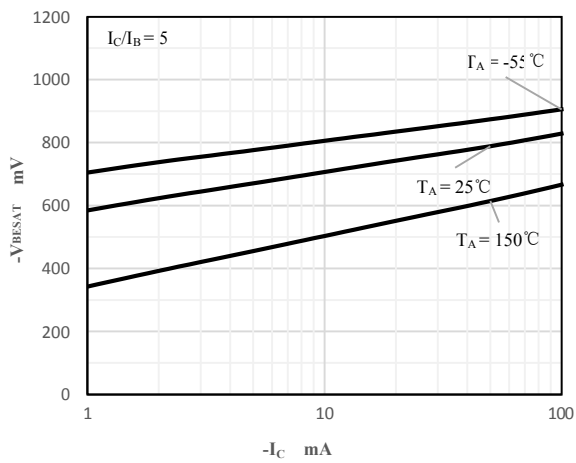
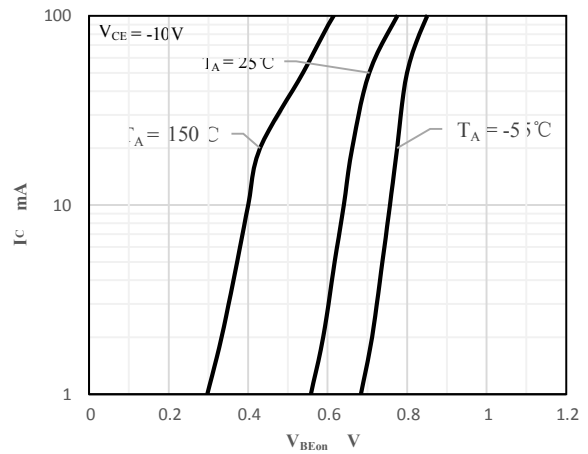
## Thermal Characteristics

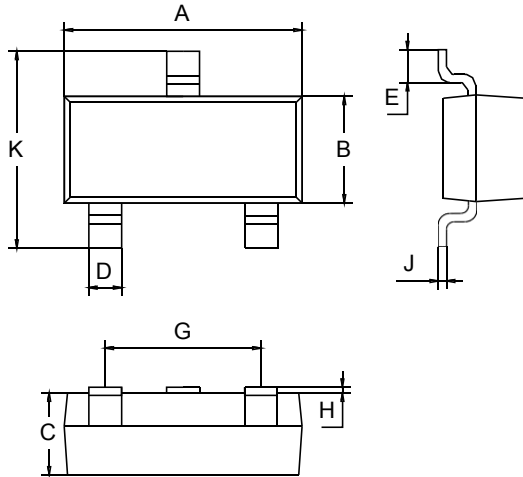
Parameter	Symbol	Value	Unit
Power Dissipation( $T_A = 25^\circ\text{C}$ )	$P_D$	500	mW
Thermal Resistance Junction-to-Air <sup>*1</sup>	$R_{\theta JA}$	212	$^\circ\text{C/W}$
Thermal Resistance Junction-to-Case <sup>*1</sup>	$R_{\theta JC}$	110	$^\circ\text{C/W}$
Junction Temperature Range	$T_J$	-55 ~ +150	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 ~ +150	$^\circ\text{C}$

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

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

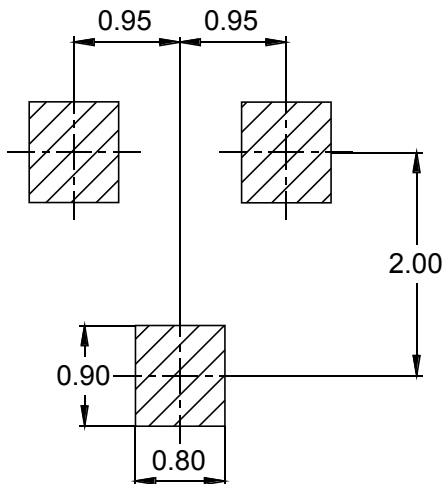
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -100\mu\text{A}, I_E = 0$	-500	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -1\text{mA}, I_B = 0$	-500	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -100\mu\text{A}, I_C = 0$	-7	-	-	V
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = -500\text{V}, I_E = 0$	-	-	-0.1	$\mu\text{A}$
Collector Cut-off Current	$I_{CEX}$	$V_{CE} = -500\text{V}, R_{BE} = 1\text{k}$	-	-	-0.1	$\mu\text{A}$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = -5\text{V}, I_C = 0$	-	-	-0.1	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$V_{CE} = -10\text{V}, I_C = -1\text{mA}$	100	-	300	-
		$V_{CE} = -10\text{V}, I_C = -50\text{mA}$	80	-	300	-
		$V_{CE} = -10\text{V}, I_C = -100\text{mA}$	-	15	-	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -20\text{mA}, I_B = -2\text{mA}$	-	-	-0.2	V
		$I_C = -50\text{mA}, I_B = -10\text{mA}$	-	-	-0.5	V
Base-emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -50\text{mA}, I_B = -10\text{mA}$	-	-	-0.9	V
Base-emitter Voltage	$V_{BE(on)}$	$V_{CE} = -10\text{V}, I_C = -50\text{mA}$	-	-	-0.9	V
Transition Frequency	$f_T$	$I_C = -10\text{mA}, V_{CE} = -20\text{V}$ $f = 50\text{MHz}$	60	-	-	MHz
Output Capacitance	$C_{ob}$	$V_{CB} = -20\text{V}, I_E = 0\text{A}, f = 1\text{MHz}$	-	-	8	pF

**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-23		
	Min.	Max.
A	2.70	3.10
B	1.10	1.50
C	0.90	1.10
D	0.30	0.50
E	0.35	0.48
G	1.80	2.00
H	0.02	0.10
J	0.05	0.15
K	2.20	2.60

**Package Outline Dimensions** (Unit: mm)

**SOT-23**


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