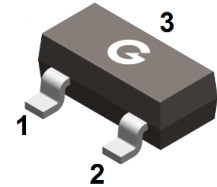
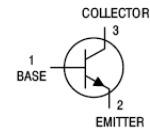


Features

- Low Collector-Emitter saturation voltage $V_{CE(sat)}$ and corresponding low $R_{CE(sat)}$
- High collector current capability
- High collector current gain
- Improved efficiency due to reduced heat generation

HF



SOT-23-3L

Mechanical Data

- Case: SOT-23-3L
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
GT43100-3L	SOT-23-3L	3000 pcs / Tape & Reel	T43100

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

Parameter	Symbol	Value	Unit
Collector-Base Breakdown Voltage	V_{CBO}	140	V
Collector-Emitter Breakdown Voltage	V_{CEO}	100	V
Emitter-Base Breakdown Voltage	V_{EBO}	7	V
Collector Current (Continuous)	I_C	3	A
Collector Current (Pulse)	I_{CM}	5	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation ^{*1}	P_D	490	mW
Thermal Resistance Junction-to-Air ^{*2}	$R_{\theta JA}$	124	$^\circ\text{C/W}$
Thermal Resistance Junction-to-Case ^{*2}	$R_{\theta JC}$	64	$^\circ\text{C/W}$
Thermal Resistance Junction-to-Lead ^{*2}	$R_{\theta JL}$	52	$^\circ\text{C/W}$
Junction Temperature Range	T_J	-55 ~ +150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 ~ +150	$^\circ\text{C}$

Notes:

- FR-4 @ 100 mm², 1 oz. copper traces
- The data tested by surface mounted on 1 inch² FR-4 board with 20Z copper

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

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 0.1\text{mA}, I_E = 0$	140	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 10\text{mA}, I_B = 0$	100	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 0.1\text{mA}, I_C = 0$	7	-	-	V
Collector Cut-off Current	I_{CBO}	$V_{CB} = 140\text{V}, I_E = 0$	-	-	100	nA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 7\text{V}, I_C = 0$	-	-	50	nA
DC Current Gain	h_{FE}	$V_{CE} = 2\text{V}, I_C = 10\text{mA}$	150	-	-	-
		$V_{CE} = 2\text{V}, I_C = 500\text{mA}$	120	-	360	-
		$V_{CE} = 2\text{V}, I_C = 1\text{A}$	80	-	-	-
		$V_{CE} = 2\text{V}, I_C = 2\text{A}$	40	-	-	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 100\text{mA}, I_B = 10\text{mA}$	-	-	30	mV
		$I_C = 500\text{mA}, I_B = 50\text{mA}$	-	-	60	
		$I_C = 1\text{A}, I_B = 0.1\text{A}$	-	-	90	
		$I_C = 2\text{A}, I_B = 0.2\text{A}$	-	-	150	
Base-emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 1\text{A}, I_B = 0.1\text{A}$	-	-	0.95	V
Base-emitter Voltage	$V_{BE(on)}$	$I_C = 1\text{A}, V_{CE} = 2\text{V}$	-	-	0.85	V
Transition Frequency	f_T	$V_{CE} = 5\text{V}, I_C = 100\text{mA}$ $f = 100\text{MHz}$	-	110	-	MHz
Output Capacitance	C_{ob}	$V_{CB} = 10\text{V}, I_E = I_C = 0$ $f = 1\text{MHz}$	-	14	-	pF

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

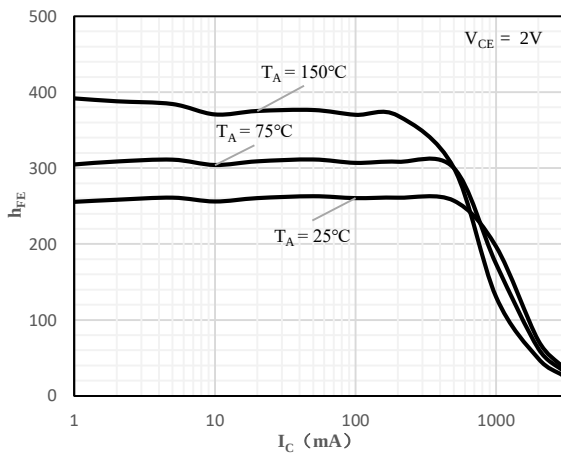


Fig 1 h_{FE} vs. I_C

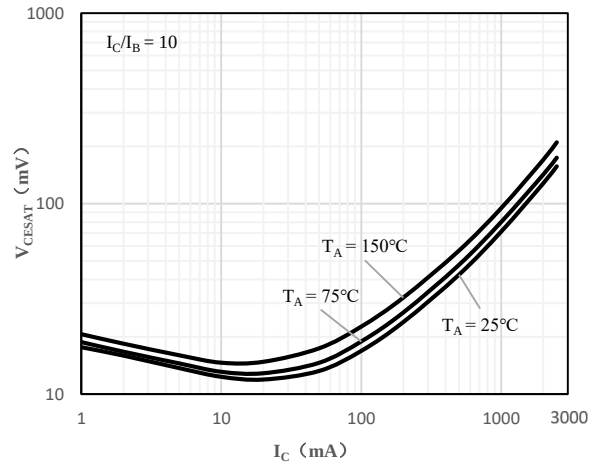


Fig 2 $V_{CE(sat)}$ vs. I_C

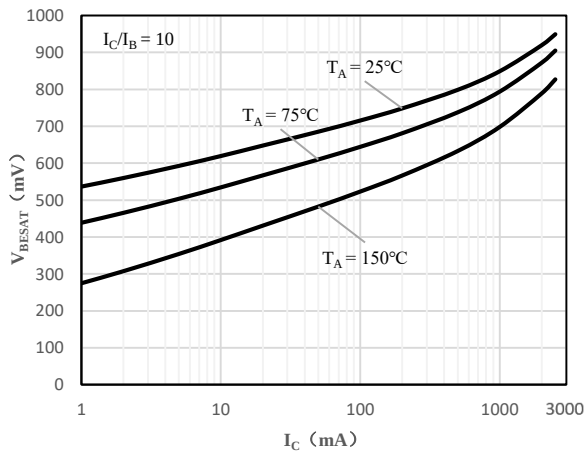


Fig 3 $V_{BE(sat)}$ vs. I_C

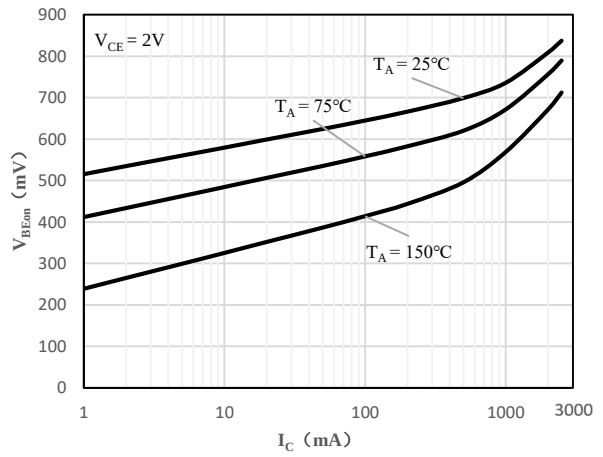
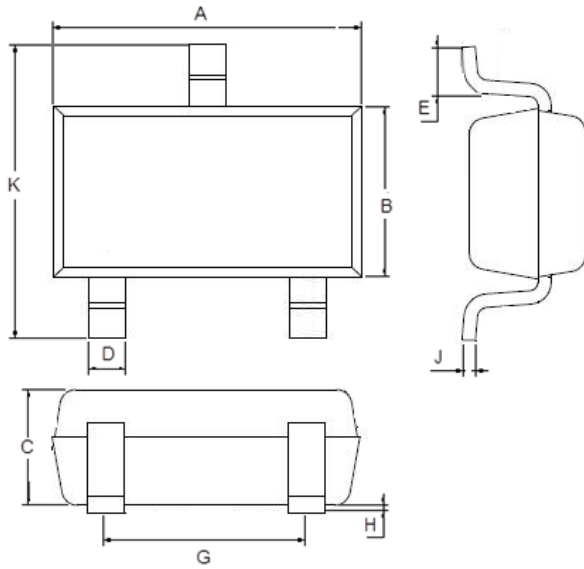


Fig 4 $V_{BE(ON)}$ vs. I_C

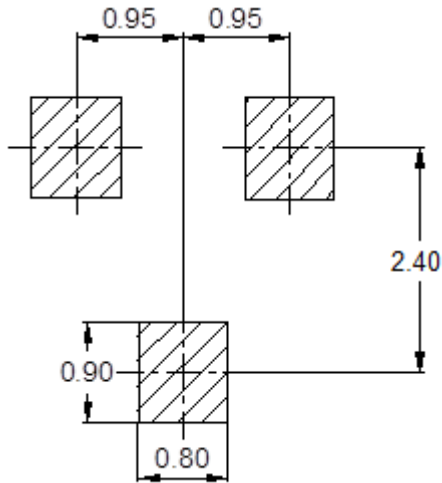
Package Outline Dimensions (Unit: mm)



SOT-23-3L		
Dimension	Min.	Max.
A	2.80	3.00
B	1.50	1.70
C	1.00	1.20
D	0.35	0.45
E	0.35	0.55
G	1.80	2.00
H	0.02	0.10
J	0.10	0.20
K	2.60	3.00

Mounting Pad Layout (Unit: mm)

SOT-23-3L



IMPORTANT NOTICE

Changzhou Galaxy Century Microelectronics (GME) reserves the right to make changes without further notice to any product information (copyrighted) herein to make corrections, modifications, improvements, or other changes. GME does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights, nor the rights of others.