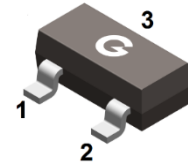
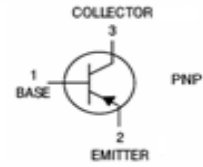


Features

- 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
- RoHS compliant with Halogen-free
- Qualified to AEC-Q101 Standards

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
TGT5360-3L	SOT-23-3L	3000 pcs / Tape & Reel	T5360

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

Parameter	Symbol	Value	Unit
Collector-Base Breakdown Voltage	V_{CBO}	-80	V
Collector-Emitter Breakdown Voltage	V_{CEO}	-60	V
Emitter-Base Breakdown Voltage	V_{EBO}	-7	V
Collector Current (Continuous)	I_C	-2	A
Collector Current (Peak)	I_{CM}	-4	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation ($T_A = 25^\circ\text{C}$) *1	P_D	0.46	W
Thermal Resistance Junction-to-Air *1	$R_{\theta JA}$	270	$^\circ\text{C/W}$
Thermal Resistance Junction-to-Air *2	$R_{\theta JA}$	100	$^\circ\text{C/W}$
Thermal Resistance Junction-to-Case *2	$R_{\theta JC}$	45	$^\circ\text{C/W}$
Thermal Resistance Junction-to-Lead *2	$R_{\theta JL}$	40	$^\circ\text{C/W}$
Junction Temperature Range	T_J	-55 ~ +150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 ~ +150	$^\circ\text{C}$

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

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -100\mu\text{A}, I_E = 0$	-80	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -10\text{mA}, I_B = 0$	-60	-	-	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}	$V_{CB} = -60\text{V}, I_E = 0$	-	-	-0.1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = -6\text{V}, I_C = 0$	-	-	-0.1	μA
DC Current Gain	h_{FE}	$V_{CE} = -2\text{V}, I_C = -10\text{mA}$	150	-	-	-
		$V_{CE} = -2\text{V}, I_C = -500\text{mA}$	150	-	-	-
		$V_{CE} = -2\text{V}, I_C = -1\text{A}$	100	-	-	-
		$V_{CE} = -2\text{V}, I_C = -2\text{A}$	100	-	-	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -100\text{mA}, I_B = -10\text{mA}$	-	-	-0.03	V
		$I_C = -1\text{A}, I_B = -100\text{mA}$	-	-	-0.12	V
		$I_C = -2\text{A}, I_B = -200\text{mA}$	-	-	-0.22	V
Base-emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -1\text{A}, I_B = -10\text{mA}$	-	-	-0.90	V
Base-emitter Voltage	$V_{BE(on)}$	$I_C = -1\text{A}, V_{CE} = -2\text{V}$	-	-	-0.85	V
Collector Output Capacitance	C_{OBO}	$V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$	-	23	-	pF
Transition Frequency	f_T	$V_{CE} = -5\text{V}, I_C = -100\text{mA}$ $f = 100\text{MHz}$	100	-	-	MHz

Notes:

- FR-4 @ 100 mm², 1 oz. copper traces
- The data tested by surface mounted on a 1 inch² FR-4 board with 2OZ copper

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

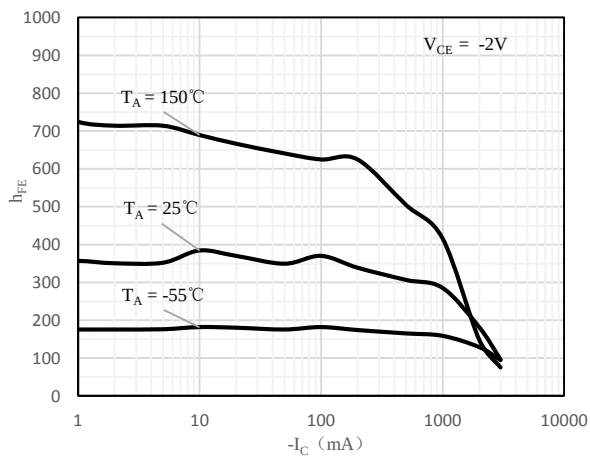


Fig 1 h_{FE} vs. I_C

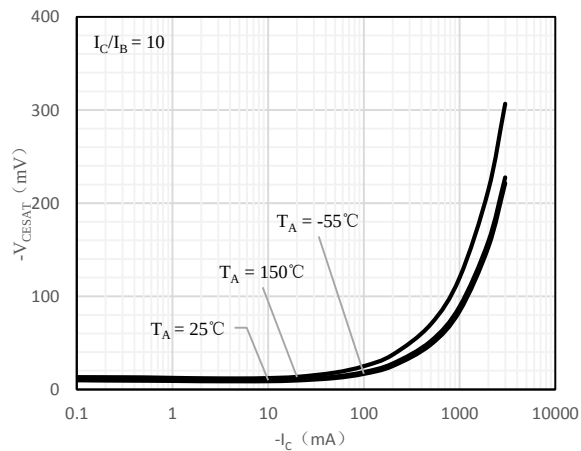


Fig 2 $V_{CE(sat)}$ vs. I_C

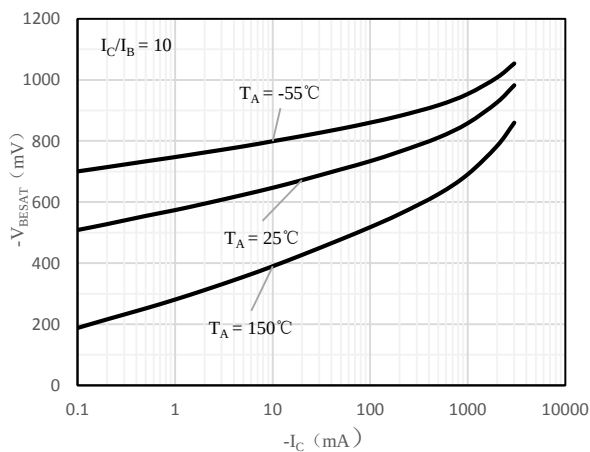


Fig 3 $V_{BE(sat)}$ vs. I_C

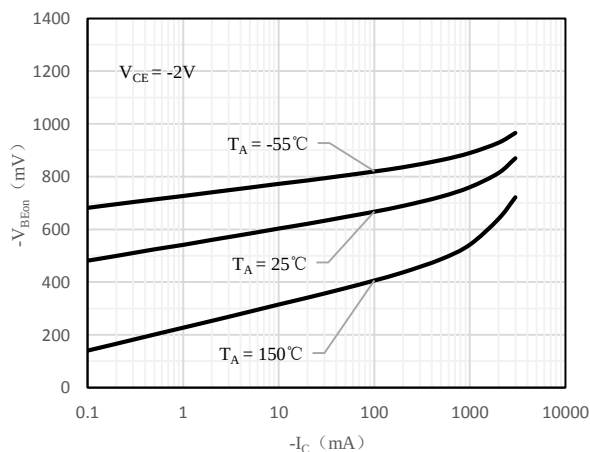


Fig 4 $V_{BE(on)}$ vs. I_C

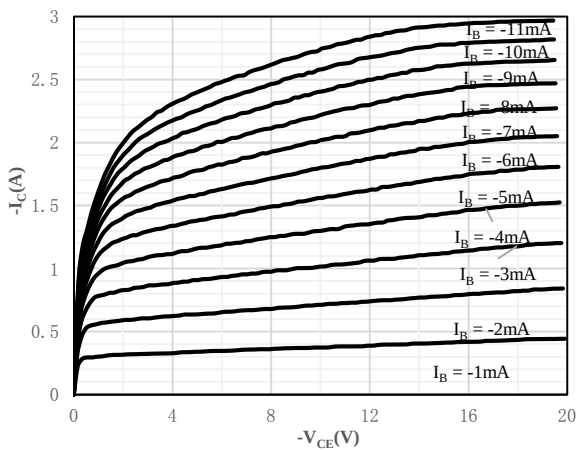


Fig 5 I_C vs. V_{CE}

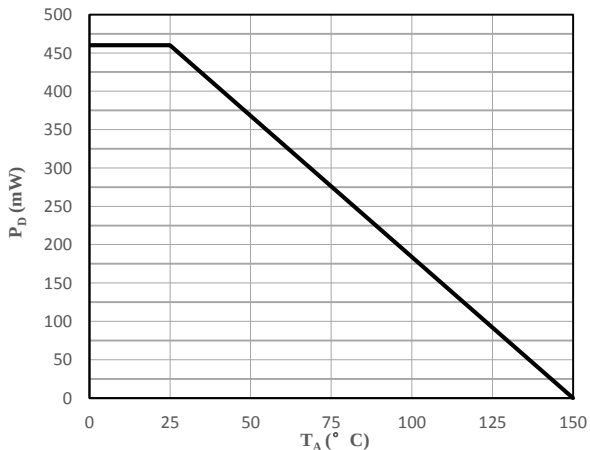


Fig 6 P_D vs. T_A

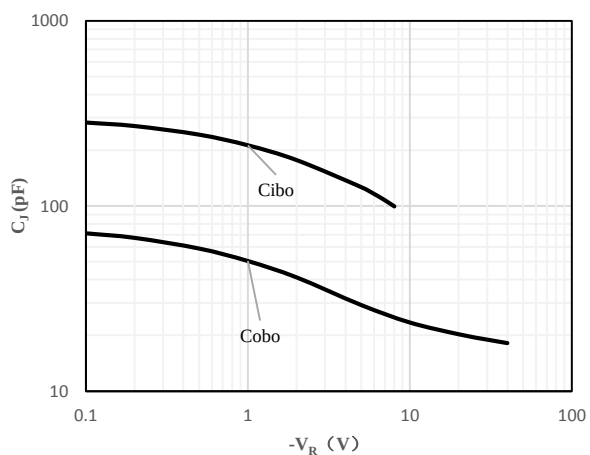
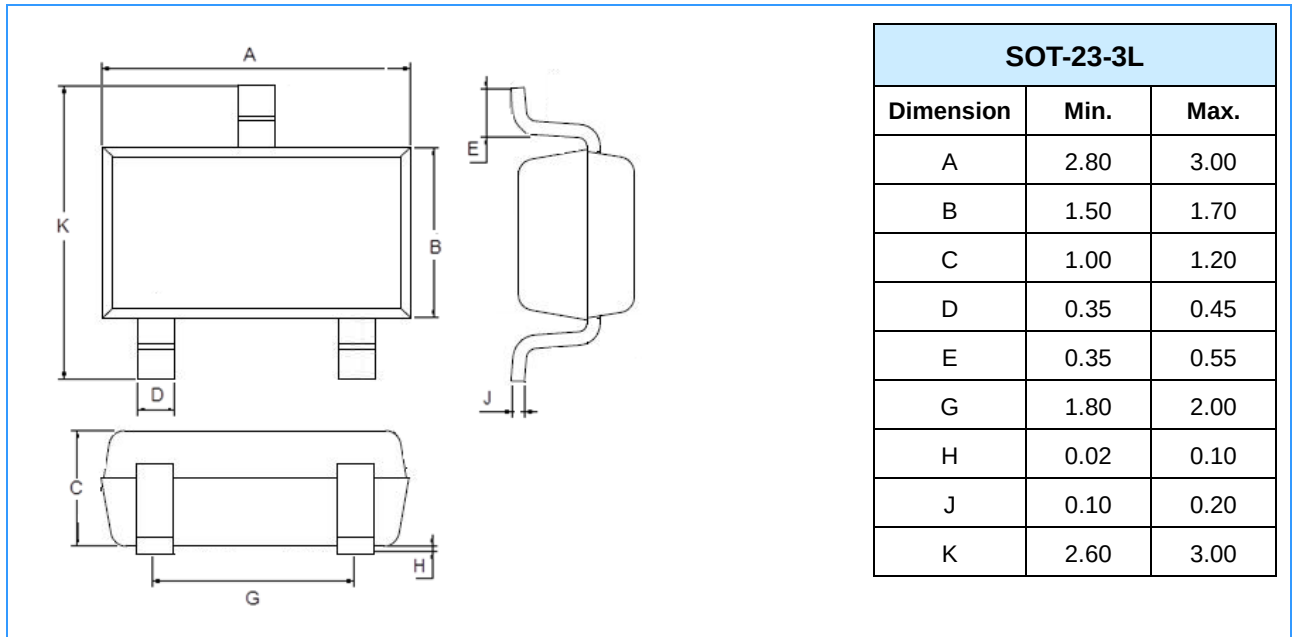


Fig 7 C_j vs. V_R

Package Outline Dimensions (Unit: mm)



Mounting Pad Layout (Unit: mm)

