

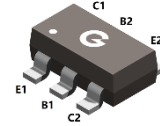
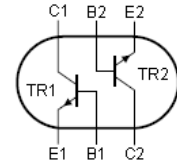
Features

- Epitaxial planar die construction
- RoHS compliant with Halogen-free

HF

Mechanical Data

- Case: SOT-23-6L
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208



SOT-23-6L

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
2SC2412-6L-Q	SOT-23-6L	3000 pcs / Tape & Reel	BQ
2SC2412-6L-R	SOT-23-6L	3000 pcs / Tape & Reel	BR
2SC2412-6L-S	SOT-23-6L	3000 pcs / Tape & Reel	BS

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

Parameter	Symbol	Value	Unit
Collector-Base Breakdown Voltage	V _{CBO}	60	V
Collector-Emitter Breakdown Voltage	V _{CEO}	50	V
Emitter-Base Breakdown Voltage	V _{EBO}	7	V
Continuous Collector Current	I _C	150	mA
Peak Collector Current	I _{CM}	200	mA

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation(T _A = 25°C)	P _D	300	mW
Thermal Resistance Junction-to-Air ^{*1}	R _{θJA}	140	°C/W
Thermal Resistance Junction-to-Case ^{*1}	R _{θJC}	90	°C/W
Thermal Resistance Junction-to-Lead ^{*1}	R _{θJL}	80	°C/W
Junction Temperature Range	T _J	-55 ~ +150	°C
Storage Temperature Range	T _{STG}	-55 ~ +150	°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	$V_{(BR)CBO}$	$I_C = 50\mu\text{A}, I_E = 0$	60	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, I_B = 0$	50	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 50\mu\text{A}, I_C = 0$	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}	$V_{EB} = 7\text{V}, I_C = 0$	-	-	0.1	μA
DC Current Gain	h_{FE}	$V_{CE} = 6\text{V}, I_C = 1\text{mA}$	120	-	560	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 50\text{mA}, I_B = 5\text{mA}$	-	-	0.4	V
Base-emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 50\text{mA}, I_B = 5\text{mA}$	-	-	1.2	V
Transition Frequency	f_T	$I_C = 2\text{mA}, V_{CE} = 12\text{V}$ $f = 100\text{MHz}$	-	180	-	MHz
Output Capacitance	C_{ob}	$V_{CB} = 12\text{V}, I_E = 0\text{A}, f = 1\text{MHz}$	-	2	3.5	pF

Classification of h_{FE}

Rank	Q	R	S
Range	120-270	180-390	270-560
Marking	BQ	BR	BS

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

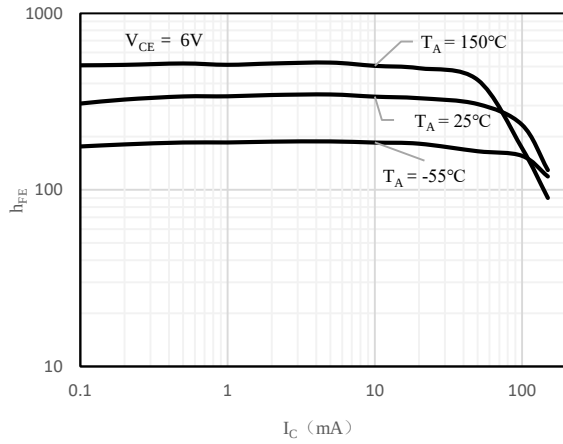


Fig 1 h_{FE} vs. I_C (R)

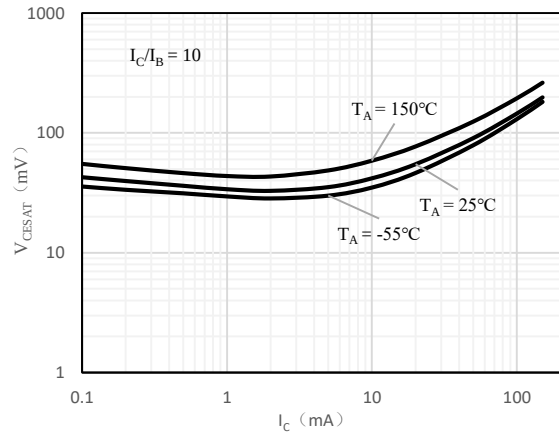


Fig 2 $V_{CE(sat)}$ vs. I_C

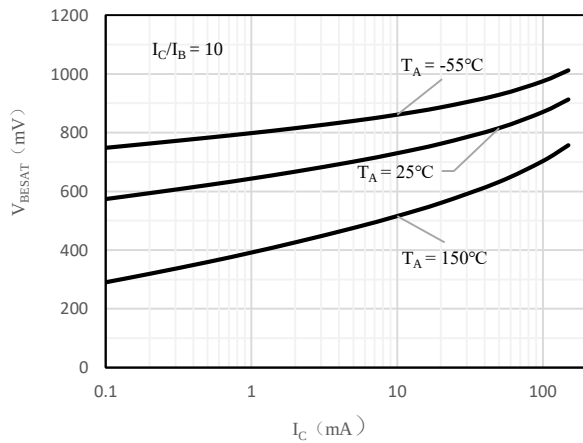


Fig 3 $V_{BE(sat)}$ vs. I_C

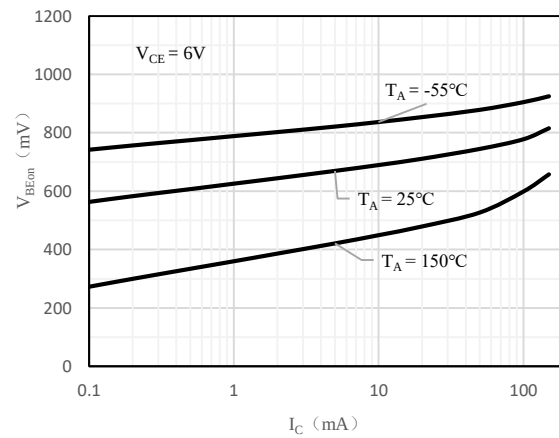


Fig 4 $V_{BE(on)}$ vs. I_C

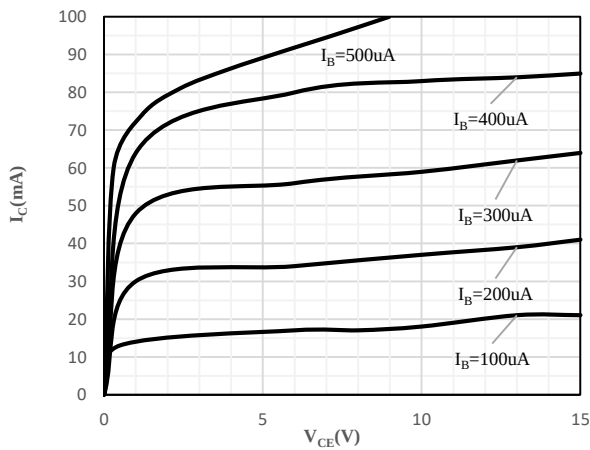


Fig 5 I_C vs. V_{CE}

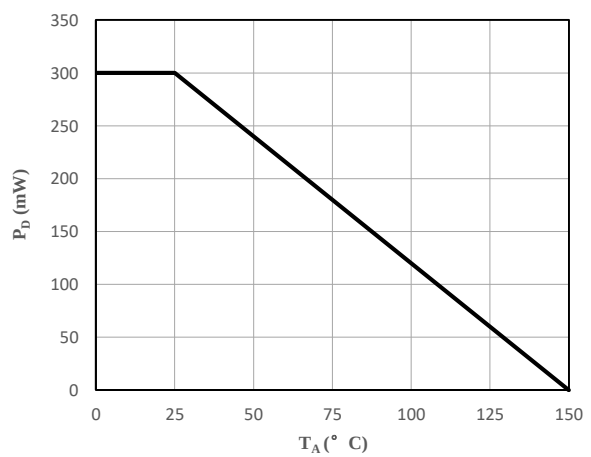


Fig 6 P_D vs. T_A

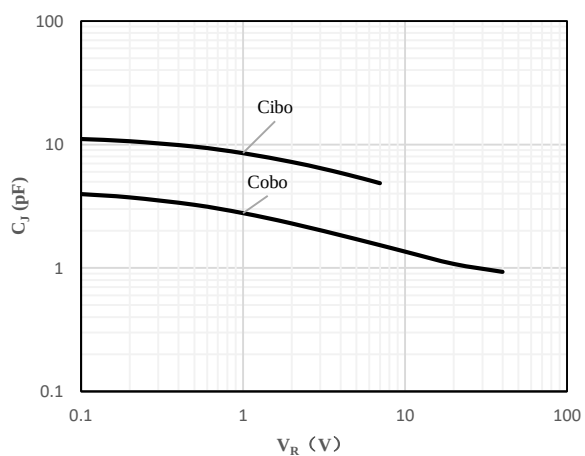
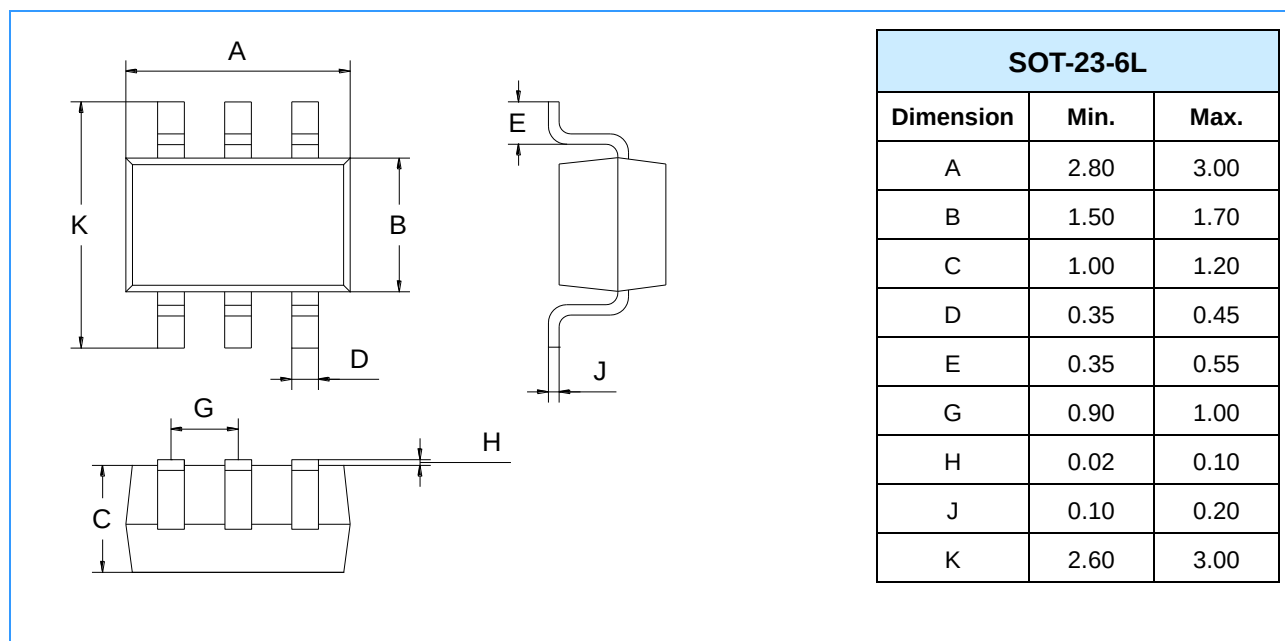


Fig 7 C_j vs. V_R

Package Outline Dimensions (Unit: mm)



Mounting Pad Layout (Unit: mm)

