

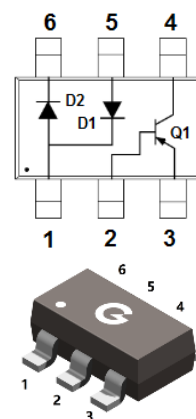
Features

- One PNP Transistor (Q1)
- Two Switching Diode (D1, D2)
- Low Saturation Voltage
- RoHS compliant with Halogen-free

HF

Mechanical Data

- Case: SOT-23-6L
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208



SOT-23-6L

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
KTX711T-6L	SOT-23-6L	3000 pcs / Tape & Reel	T7

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

Parameter	Symbol	Value	Unit
Collector-Base Breakdown Voltage	V _{CBO}	-80	V
Collector-Emitter Breakdown Voltage	V _{CEO}	-80	V
Emitter-Base Breakdown Voltage	V _{EBO}	-5	V
Continuous Collector Current	I _C	-0.5	A
Base Current	I _B	-0.1	A

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

Parameter	Symbol	Value	Unit
Non-Repetitive Peak Reverse Voltage	V _{RM}	80	V
DC Blocking Voltage	V _R	80	V
RMS Reverse Voltage	V _{R(RMS)}	56	V
Average Forward Current	I _F	0.2	A
Maximum Peak Forward Current	I _{FM}	0.3	A
Peak Forward Surge Current, t _p = 100μs	I _{FSM}	4	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation *1	P_D	1	W
Thermal Resistance Junction-to-Air *1	$R_{\theta JA}$	125	°C/W
Thermal Resistance Junction-to-Case *1	$R_{\theta JC}$	100	°C/W
Thermal Resistance Junction-to-Lead *1	$R_{\theta JL}$	70	°C/W
Operating junction Temperature	T_J	-55 ~ +150	°C
Storage Temperature Range	T_{STG}	-55 ~ +150	°C

Electrical Characteristics - Transistor (@ $T_A = 25^\circ\text{C}$ 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	$V_{(BR)CEO}$	$I_C = -1\text{mA}, I_B = 0$	-80	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -100\mu\text{A}, I_C = 0$	-5	-	-	V
Collector Cut-off Current	I_{CBO}	$V_{CB} = -80\text{V}, I_E = 0$	-	-	-100	nA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = -5\text{V}, I_C = 0$	-	-	-100	nA
DC Current Gain	h_{FE}	$V_{CE} = -1\text{V}, I_C = -10\text{mA}$	100	-	-	-
		$V_{CE} = -1\text{V}, I_C = -100\text{mA}$	100	-	250	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -100\text{mA}, I_B = -10\text{mA}$	-	-	-0.25	V
Base-emitter Voltage	$V_{BE(on)}$	$V_{CE} = -1\text{V}, I_C = -100\text{mA}$	-	-	-1.2	V
Transition Frequency	f_T	$I_C = -10\text{mA}, V_{CE} = -2\text{V}$	100	-	-	MHz
Collector Output Capacitance	C_{OBO}	$V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$	-	9	-	pF

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

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage	$V_{(BR)R}$	$I_R = 10\mu\text{A}$	75	-	-	V
Forward Voltage	V_F	$I_F = 1\text{mA}$	-	-	0.715	V
		$I_F = 10\text{mA}$	-	-	0.885	V
		$I_F = 100\text{mA}$	-	-	1.2	V
Maximum Peak Reverse Current	I_R	$V_R = 80\text{V}$	-	-	100	nA
Total Capacitance	C_J	$V_R = 0\text{V}, f = 1.0\text{MHz}$	-	-	3	pF
Reverse Recovery Time	t_{rr}	$I_F = I_R = 10\text{mA}$ $I_{rr} = 0.1 \times I_R, R_L = 100\Omega$	-	-	4	ns

Note 1: The data tested by surface mounted on a 1 inch² FR-4 board with 20Z copper

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

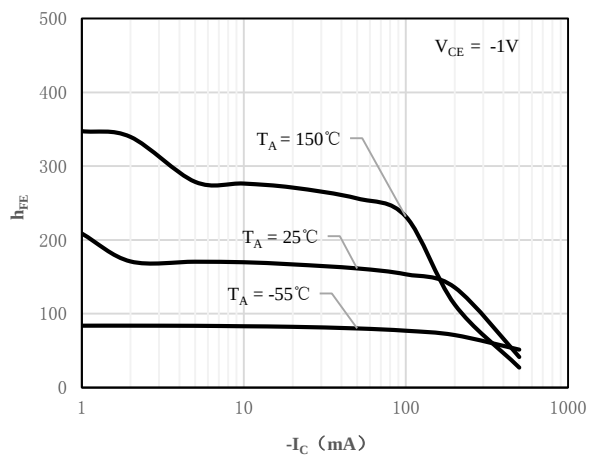


Fig 1 h_{FE} vs. I_C

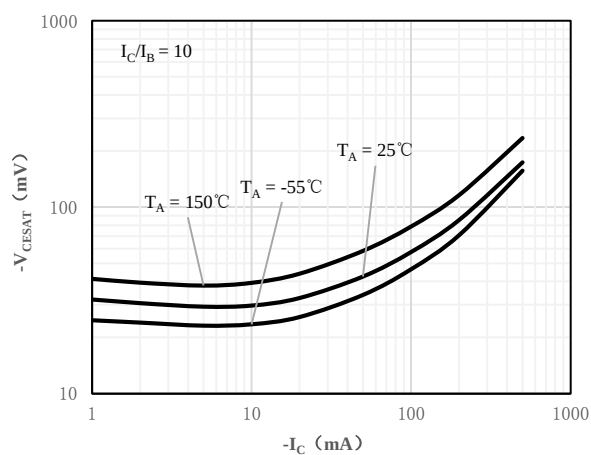


Fig 2 $V_{CE(sat)}$ vs. I_C

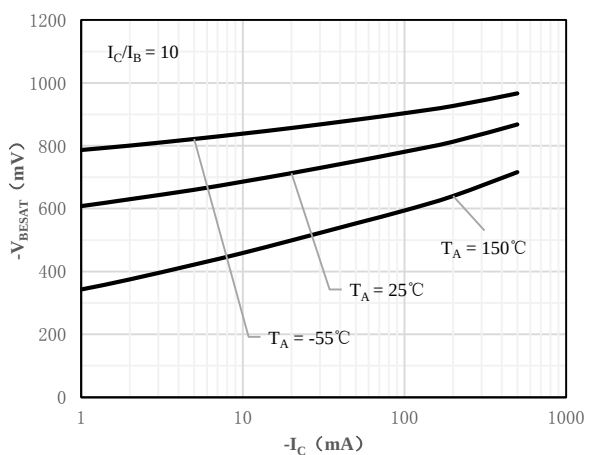


Fig 3 $V_{BE(sat)}$ vs. I_C

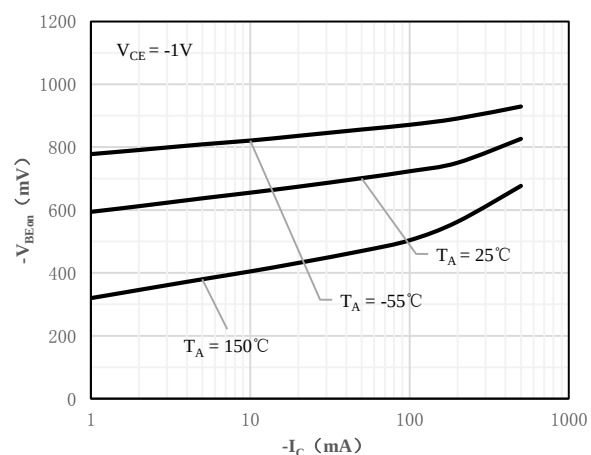


Fig 4 $V_{BE(on)}$ vs. I_C

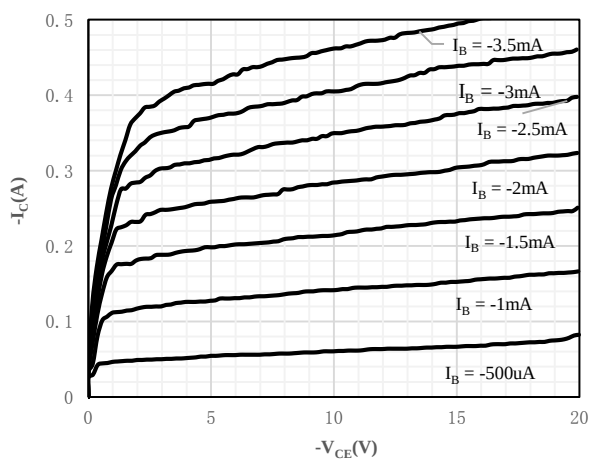


Fig 5 I_C vs. V_{CE}

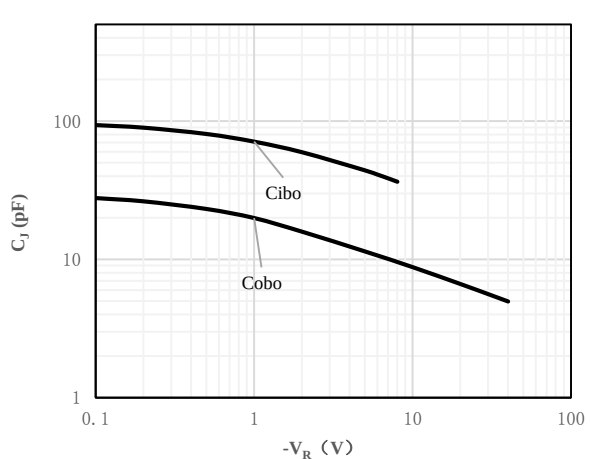


Fig 6 C_J vs. V_R

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

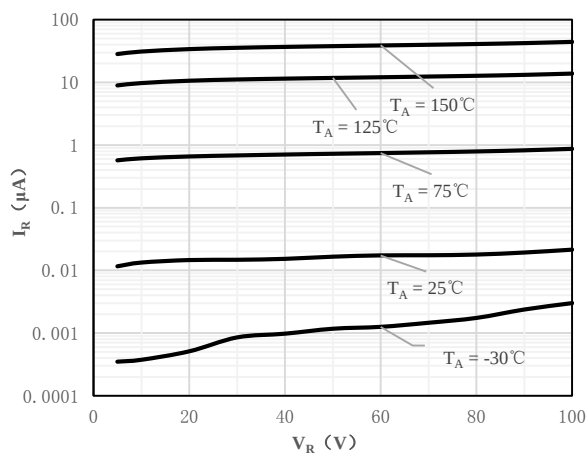


Fig 1 Typical Reverse Characteristic

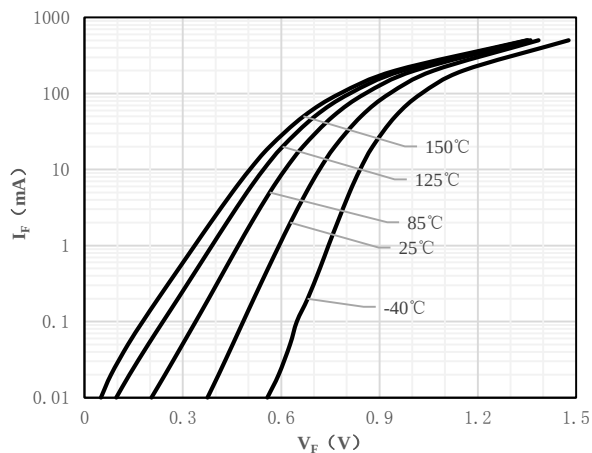


Fig 2 Typical Forward Characteristics

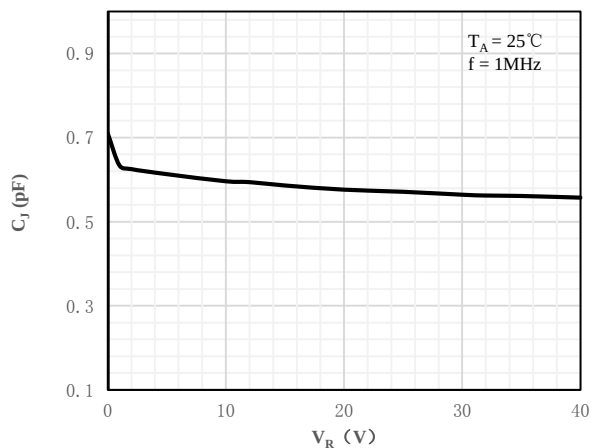
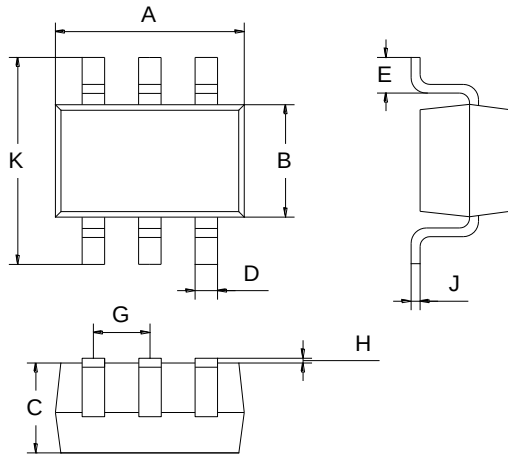


Fig 3 Capacitance vs. Reverse Voltage

Package Outline Dimensions (Unit: mm)



SOT-23-6L		
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	0.90	1.00
H	0.02	0.10
J	0.10	0.20
K	2.60	3.00

Mounting Pad Layout (Unit: mm)

SOT-23-6L

