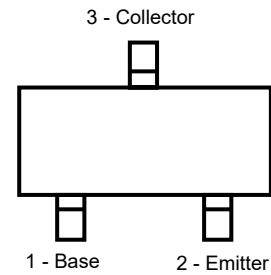


Feature

- NPN epitaxial planar silicon transistor
- Power Dissipation of 300mW
- High Stability and high reliability



Top View

Mechanical Characteristics

- Mounting position: Any
- Qualified max reflow temperature: 260°C
- Device meets MSL 1 requirements
- SOT-23 Small Outline Plastic Package

Absolute maximum rating@25°C

Parameter	Symbol	Value	Units
Collector-Base Voltage	V_{CBO}	180	V
Collector-Emitter Voltage	V_{CEO}	160	V
Emitter -Base Voltage	V_{EBO}	6	V
Collector Current - Continuous	I_C	600	mA
Collector Power Dissipation	P_C	300	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	416	°C/W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-55 to +150	°C

Electrical characteristics per line@25°C (unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	180	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	160	-	-	V
Emitter -Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=-10\mu A, I_C=0$	6	-	-	V
Collector Cutoff Current	I_{CBO}	$V_{CB}=120V, I_E=0V$	-	-	50	nA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=4V, I_C=0$	-	-	50	nA
DC Current Gain	H_{FE}	$I_C=1.0mA, V_{CE}=5.0V$	80	-	-	-
		$I_C=10mA, V_{CE}=5.0V$	100	-	300	
		$I_C=50mA, V_{CE}=5.0V$	30	-	-	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=10mA, I_B=1.0mA$	-	-	0.15	V
		$I_C=50mA, I_B=5.0mA$	-	-	0.20	
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=10mA, I_B=1.0mA$	-	-	1.0	V
		$I_C=50mA, I_B=5.0mA$	-	-	1.0	
Transition frequency	f_T	$I_C=10mA, V_{CE}=10V,$ $f=100MHz$	100	-	300	MHz
Collector Output Capaciatnce	C_{ob}	$V_{CB}=120V, I_E=0V,$ $f=100MHz$			6	pF

Typical Characteristics

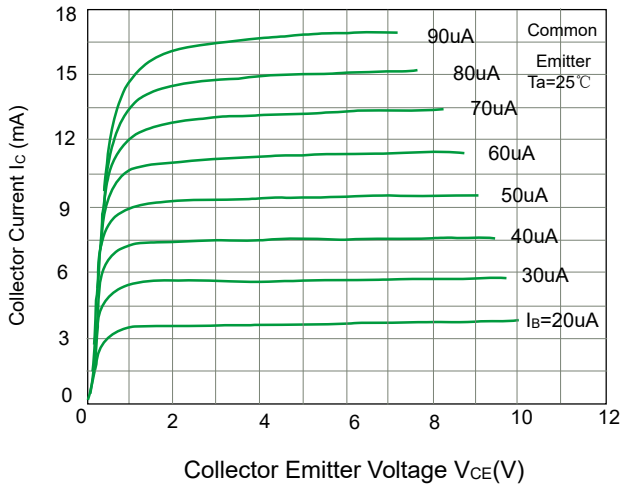


Fig 1. Static Characteristic

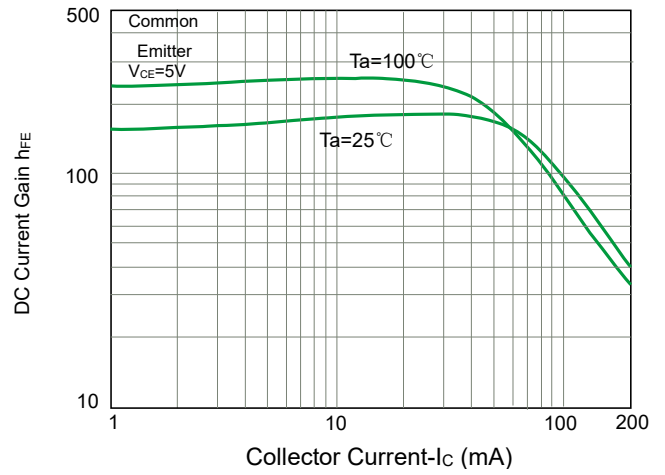


Fig2. h_{FE} ---- I_c

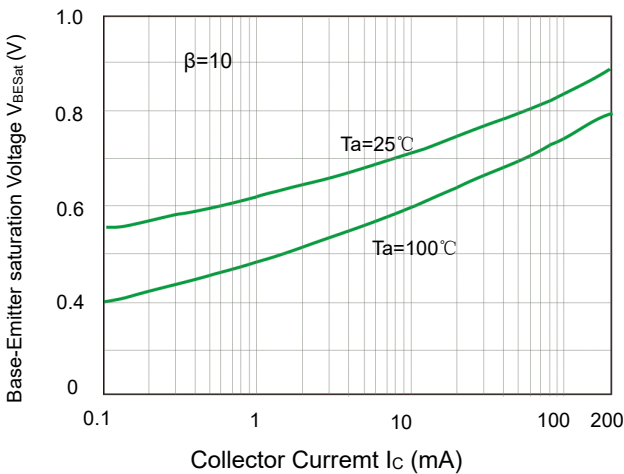


Fig 3. V_{BEsat} ---- I_c

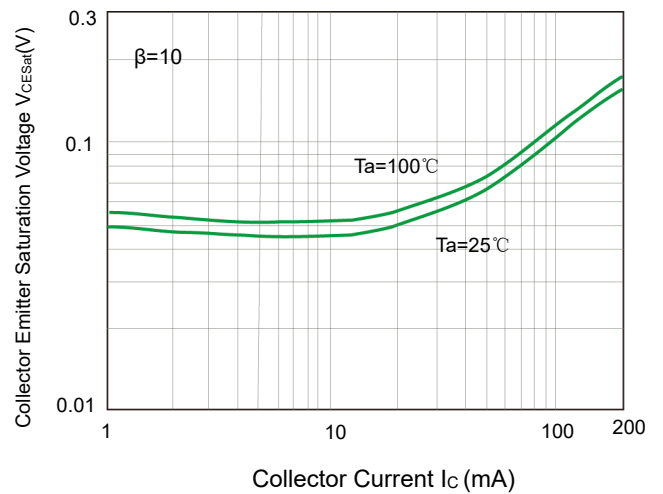


Fig4. V_{CEsat} ---- I_c

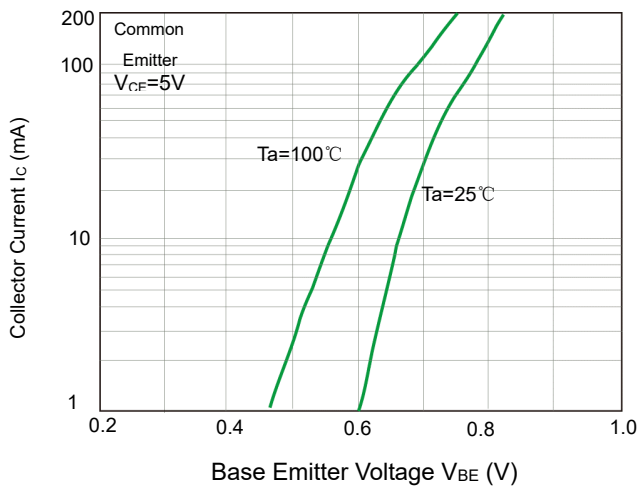


Fig 5. V_{BE} ---- I_c

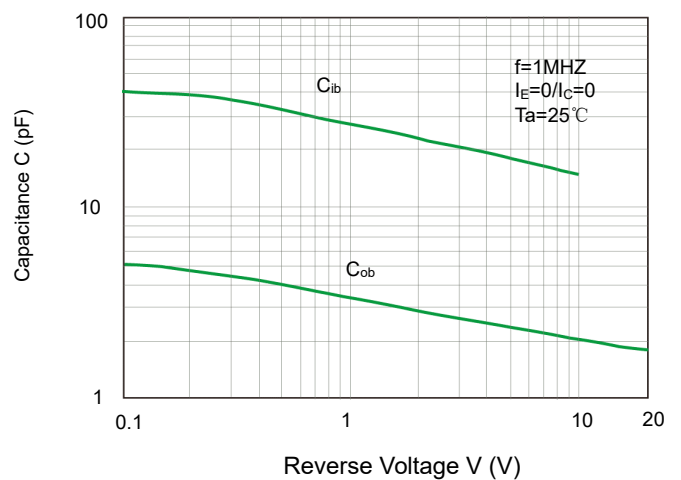


Fig 6. C_{ob}/C_{ib} ---- V_{CB}/V_{EB}

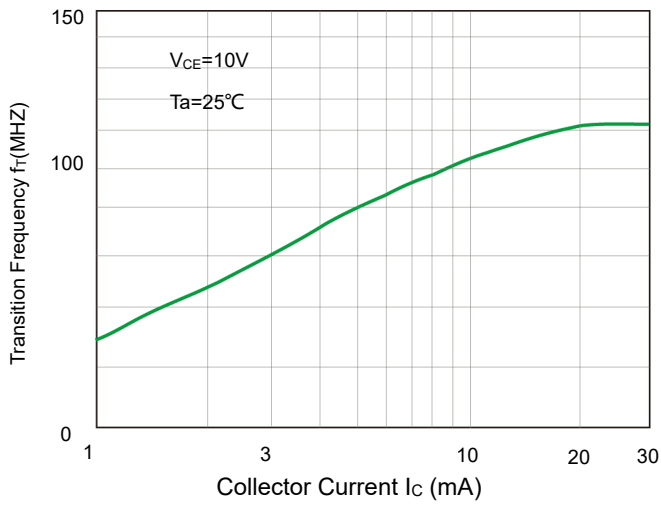


Fig 7. f_T ---- I_C

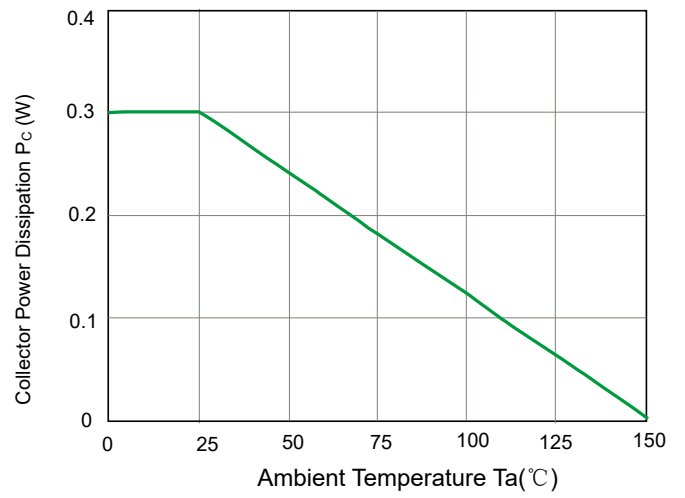
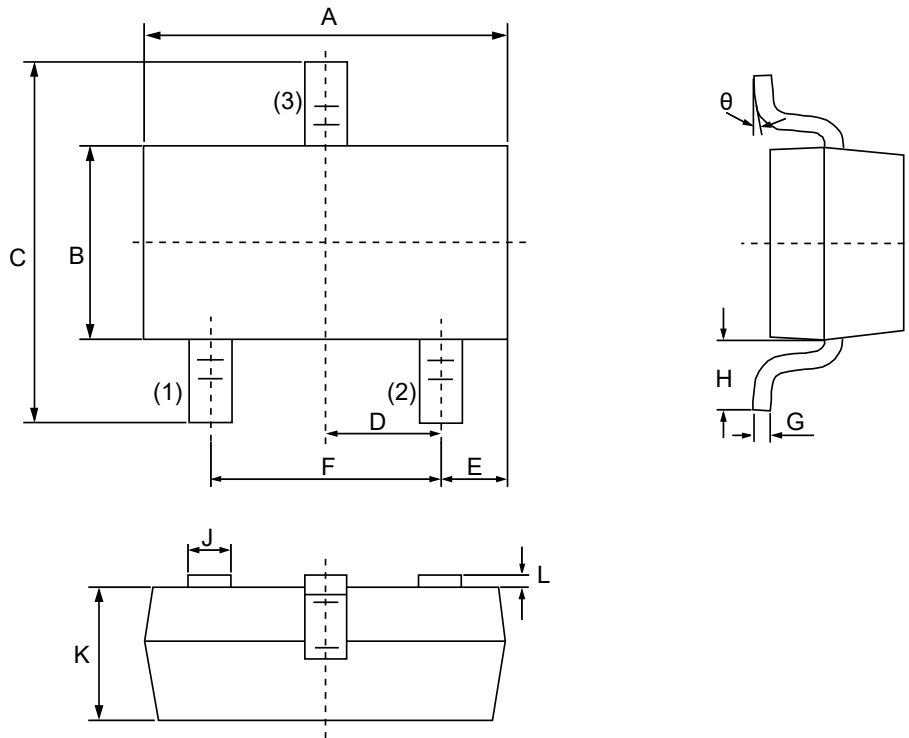
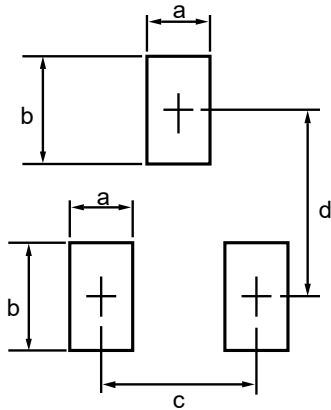


Fig8. P_C ---- T_a

Product dimension(SOT-23)

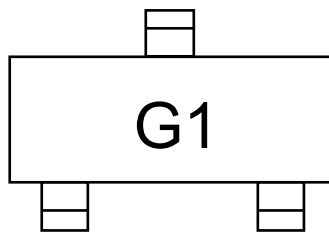


Dim	Millimeters		Inches	
	MIN	MAX	MIN	MAX
A	2.80	3.00	0.1102	0.1197
B	1.20	1.40	0.0472	0.0551
C	2.10	2.50	0.0830	0.0984
D	0.89	1.02	0.0350	0.0401
E	0.45	0.60	0.0177	0.0236
F	1.78	2.04	0.0701	0.0807
G	0.085	0.177	0.0034	0.0070
H	0.45	0.60	0.0180	0.0236
J	0.37	0.50	0.0150	0.0200
K	0.89	1.11	0.0350	0.0440
L	0.013	0.100	0.0005	0.0040
θ	0°	10°	0°	10°



Dim	Millimeters	
	MIN	MAX
a	--	0.7
b	--	1.2
c	--	2.04
d	--	2.2

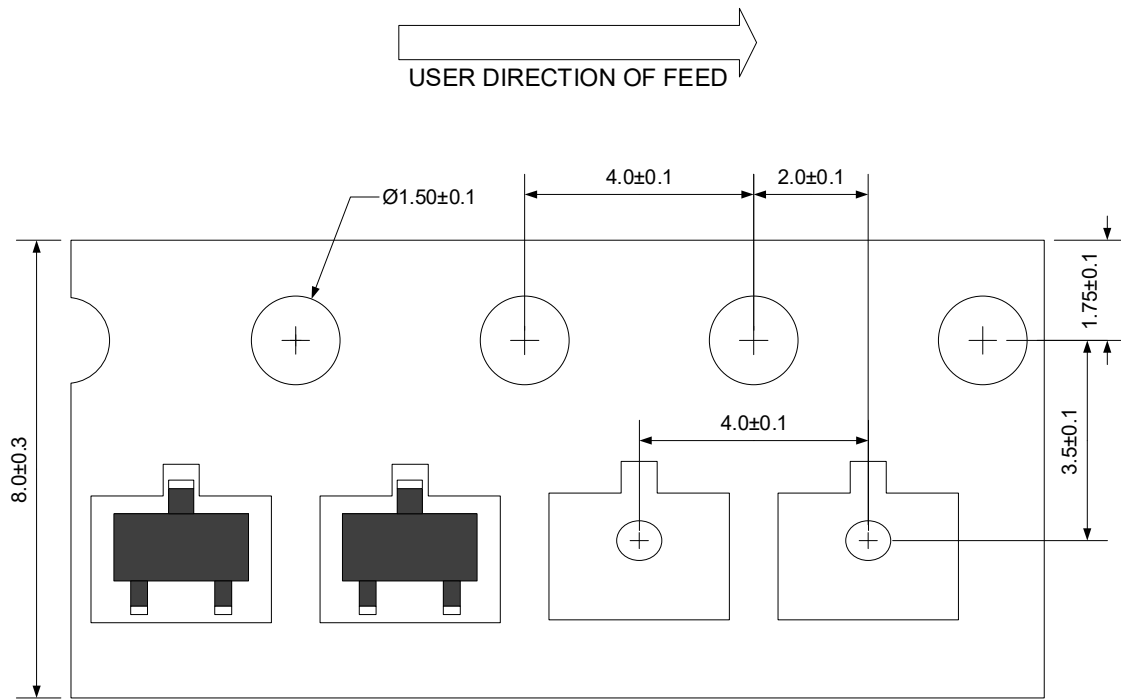
Marking information



Ordering information


Device	Package	Reel	MPQ
PT23T5551	SOT-23 (Pb-Free)	7"	3000 / Tape & Reel

Load with information



Unit:mm

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