

■ NPN Transistors

■ Features

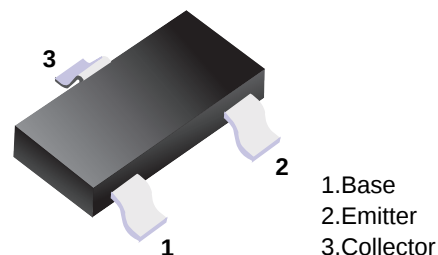
- High DC Current Gain:

$h_{FE} = 200$ TYP.

$V_{CE} = 6.0$ V, $I_C = 1.0$ mA

- High Voltage:

$V_{CE\ O} = 50$ V



■ Simplified outline(SOT-23)

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector to base voltage	V_{CBO}	60	V
Collector to emitter voltage	V_{CEO}	50	V
Emitter to base voltage	V_{EBO}	5	V
Collector current (DC)	I_C	100	mA
Collector power dissipation	P_C	200	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature range	T_{stg}	-55 to +150	$^\circ\text{C}$

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

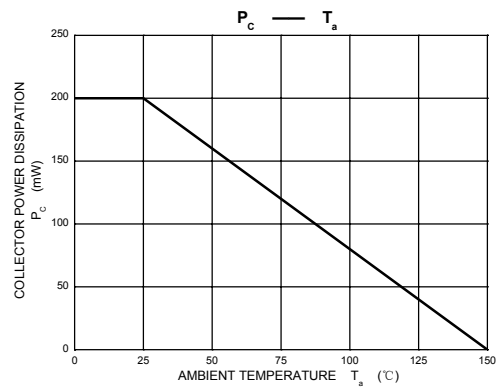
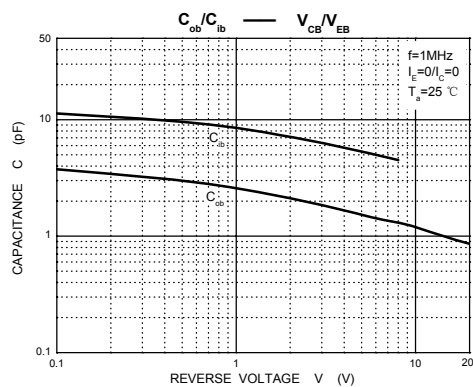
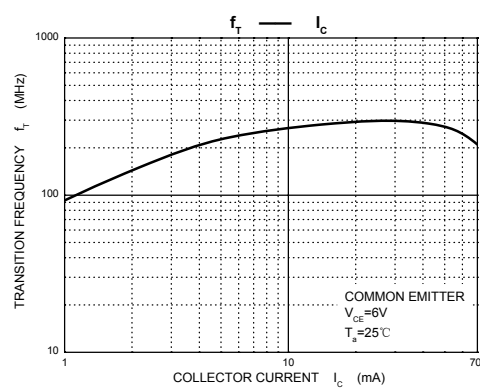
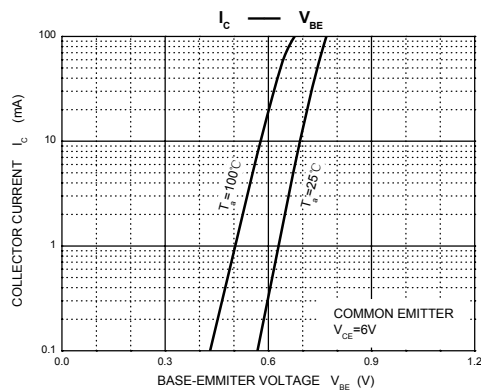
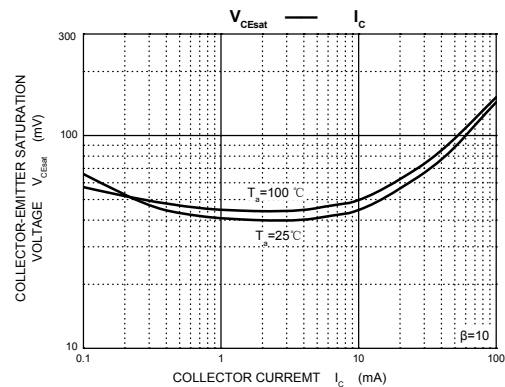
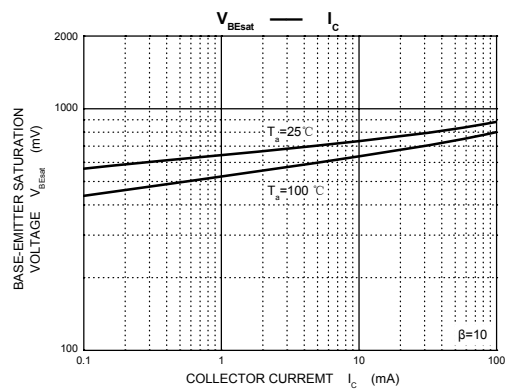
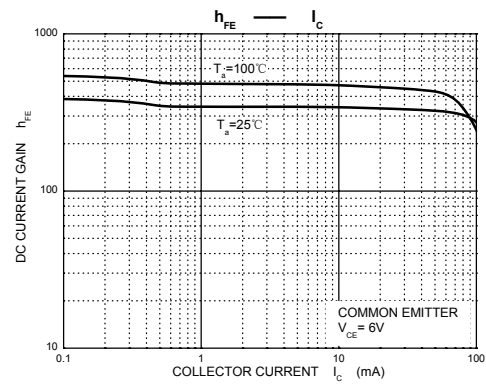
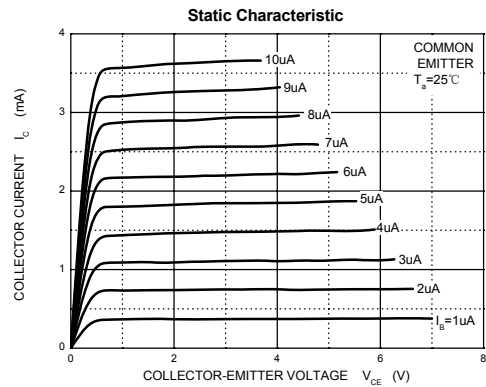
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	$I_C = 100\ \mu\text{A}$, $I_E = 0$	60			V
Collector- emitter breakdown voltage	V_{CEO}	$I_C = 1\ \text{mA}$, $I_B = 0$	50			
Emitter - base breakdown voltage	V_{EBO}	$I_E = 100\ \mu\text{A}$, $I_C = 0$	5			
Collector-base cut-off current	I_{CBO}	$V_{CB} = 60\ \text{V}$, $I_E = 0$			100	nA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5\ \text{V}$, $I_C = 0$			100	
Collector-emitter saturation voltage *	$V_{CE(sat)}$	$I_C = 100\ \text{mA}$, $I_B = 10\ \text{mA}$		0.15	0.3	V
Base - emitter saturation voltage *	$V_{BE(sat)}$	$I_C = 100\ \text{mA}$, $I_B = 10\ \text{mA}$		0.86	1	
Base - emitter voltage *	V_{BE}	$V_{CE} = 6\ \text{V}$, $I_C = 1\ \text{mA}$	0.55		0.7	
DC current gain *	h_{FE}	$V_{CE} = 6\ \text{V}$, $I_C = 1\ \text{mA}$	90	200	600	
Collector output capacitance	C_{ob}	$V_{CB} = 6\ \text{V}$, $I_E = 0$, $f = 1\ \text{MHz}$		3		pF
Transition frequency	f_T	$V_{CE} = 6\ \text{V}$, $I_E = -10\ \text{mA}$		250		MHz

*. $PW \leq 350\ \mu\text{s}$, duty cycle $\leq 2\%$

■ h_{FE} Classification

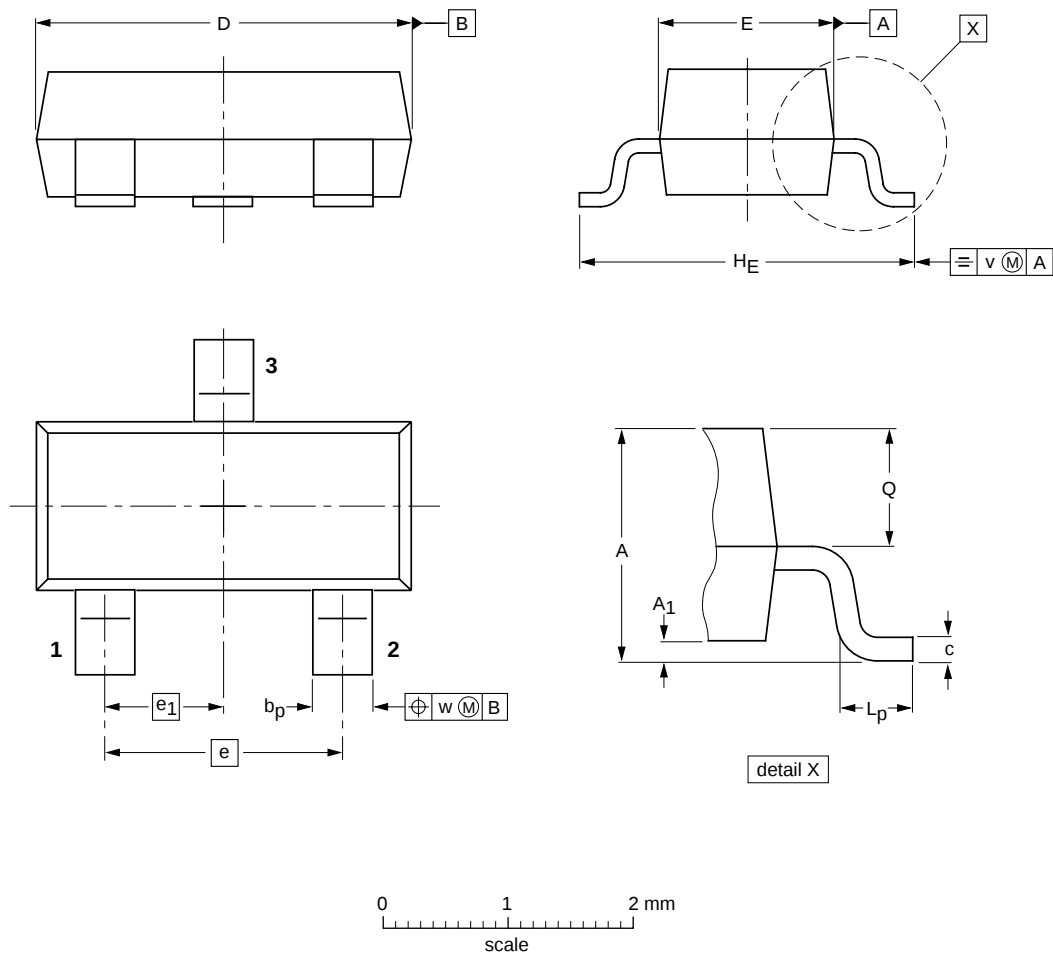
Type	2SC1623-L4	2SC1623-L5	2SC1623-L6	2SC1623-L7
Range	90-180	135-270	200-400	300-600
Marking	L4	L5	L6	L7

■ Typical Characteristics



Package Outline

SOT-23



DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁ max.	b _p	c	D	E	e	e ₁	H _E	L _p	Q	v	w
mm	1.1 0.9	0.1	0.48 0.38	0.15 0.09	3.0 2.8	1.4 1.2	1.9	0.95	2.5 2.1	0.45 0.15	0.55 0.45	0.2	0.1

Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
SOT-23	Tape/Reel, 7" reel	3000	EIA-481-1