

General Purpose Transistors

FEATURE

- High Voltage: $V_{CEO} = 50\text{ V}$.
- Epitaxial planar type.
- PNP complement: L2SA812
- Pb-Free Package is available.

DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
L2SC1623QLT1	L5	3000/Tape&Reel
L2SC1623QLT1G	L5 (Pb-Free)	3000/Tape&Reel
L2SC1623RLT1	L6	3000/Tape&Reel
L2SC1623RLT1G	L6 (Pb-Free)	3000/Tape&Reel
L2SC1623SLT1	L7	3000/Tape&Reel
L2SC1623SLT1G	L7 (Pb-Free)	3000/Tape&Reel

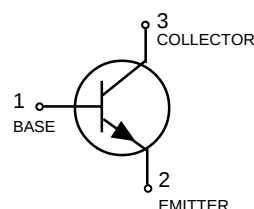
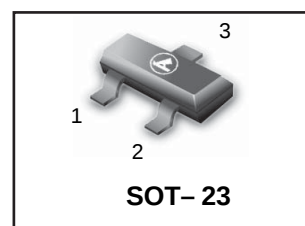
MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	50	V
Collector-Base Voltage	V_{CBO}	60	V
Emitter-Base Voltage	V_{EBO}	7	V
Collector current-continuoun	I_C	150	mAdc

THERMAL CHARATEERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board, (1) $T_A=25^\circ\text{C}$ Derate above 25°C	P_D	225 1.8	mW mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	$^\circ\text{C/W}$
Total Device Dissipation Alumina Substrate, (2) $T_A=25^\circ\text{C}$ Derate above 25°C	P_D	300 2.4	mW mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	417	$^\circ\text{C/W}$
Junction and Storage Temperature	T_j, T_{stg}	-55 to +150	$^\circ\text{C}$

L2SC1623*LT1



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ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
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OFF CHARACTERISTICS

Collector Cutoff Current (VCB=60V)	I_{CBO}	-	-	0.1	μA
Emitter Cutoff Current (VBE=5V)	I_{EBO}			0.1	μA

ON CHARACTERISTICS

DC Current Gain (IC=1.0mA, VCE=6V)	h_{FE}	120	-	560	
Collector-Emitter Saturation Voltage (IC=100mA, IB=10mA)	$V_{CE(sat)}$	-	0.15	0.3	V
Base-Emitter Saturation Voltage (IC=100mA, IB=10mA)	$V_{BE(sat)}$	-	0.86	1.0	V
Base -Emitter On Voltage (IC=1mA, VCE=6.0V)	V_{BE}	0.55	0.62	0.65	V

SMALL-SIGNAL CHARACTERISTICS

Current-Gain-Bandwidth Product (VCE=6.0V, IE =1.0MHz)	F_t	-	250	-	MHz
Output Capacitance(VCE = 6V, IE=0, f=1.0MHz)	C_{ob}	-	3	-	pF

h_{FE} Values are classified as follows

NOTE:	*	Q	R	S
	h_{FE}	120~270	180~390	270~560

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Fig.1 Grounded emitter propagation characteristics

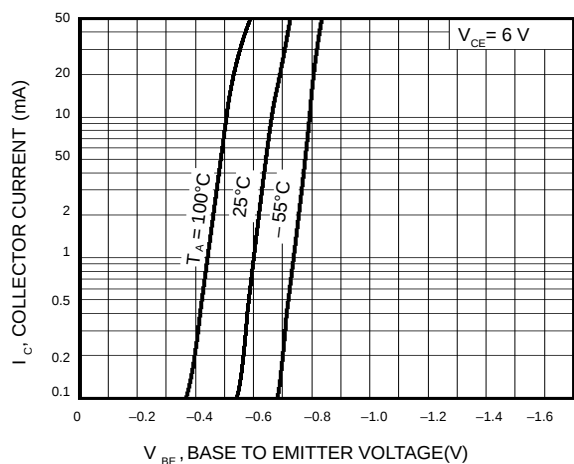


Fig.2 Grounded emitter output characteristics(I)

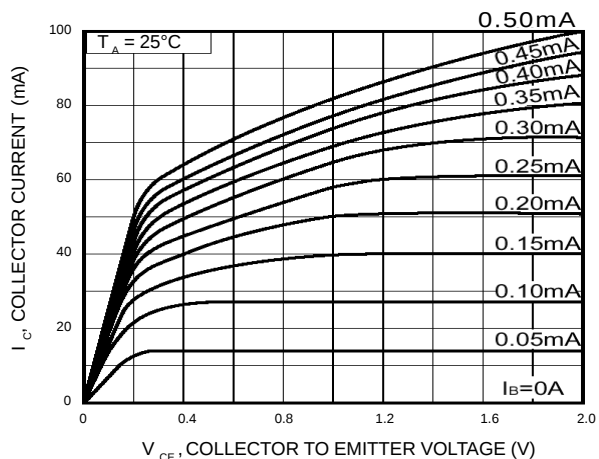


Fig.3 Grounded emitter output characteristics(II)

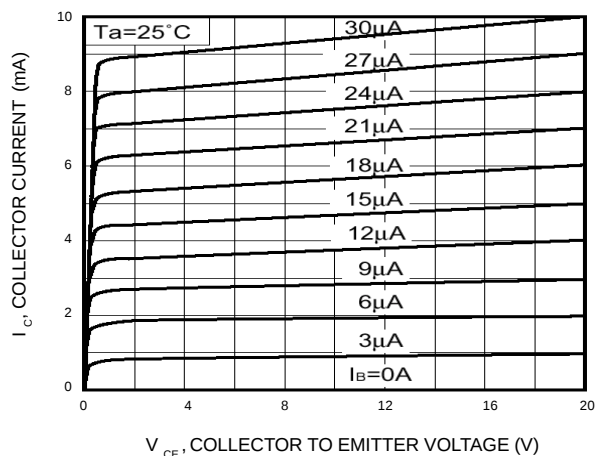


Fig.4 DC current gain vs. collector current (I)

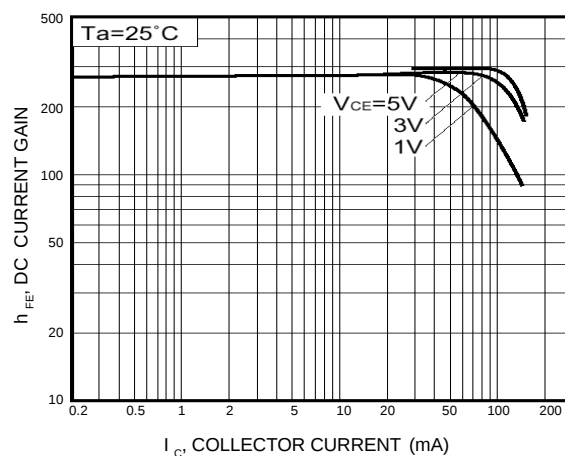


Fig.5 DC current gain vs. collector current (II)

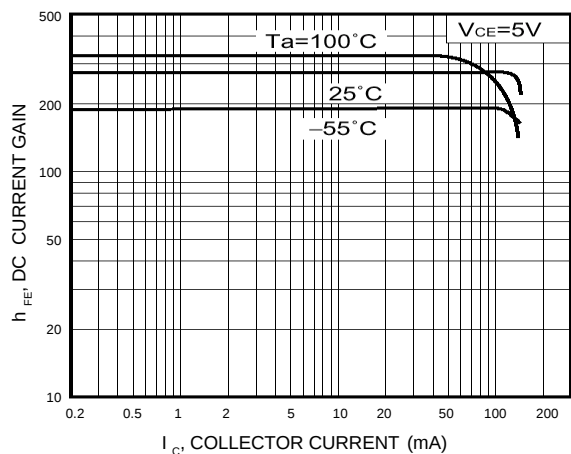
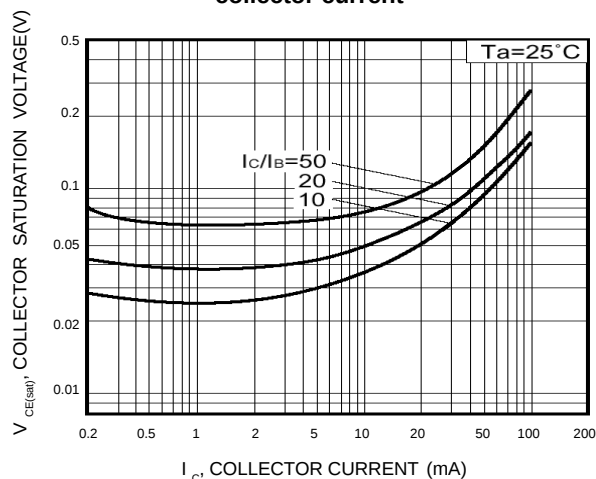


Fig.6 Collector-emitter saturation voltage vs. collector current



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Fig.7 Collector-emitter saturation voltage vs. collector current (I)

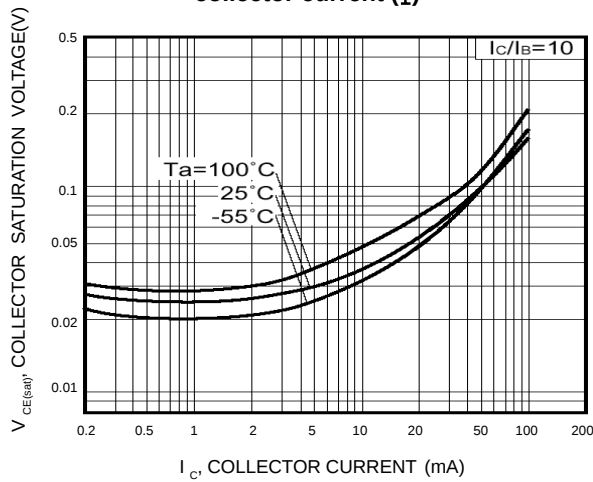


Fig.8 Collector-emitter saturation voltage vs. collector current (II)

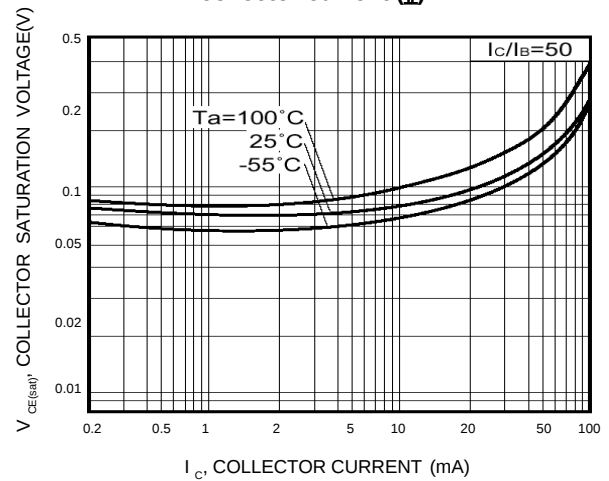


Fig.9 Gain bandwidth product vs. emitter current

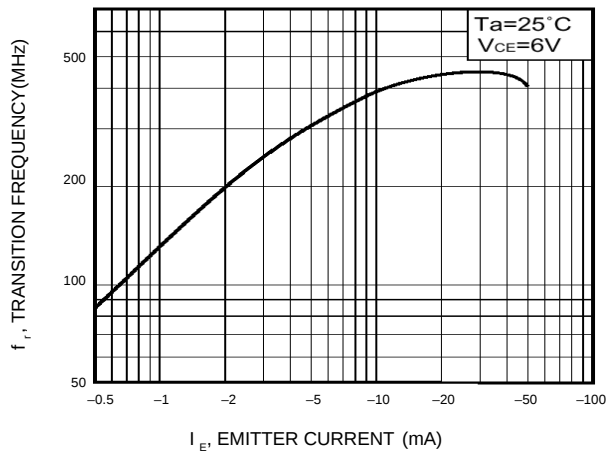


Fig.10 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

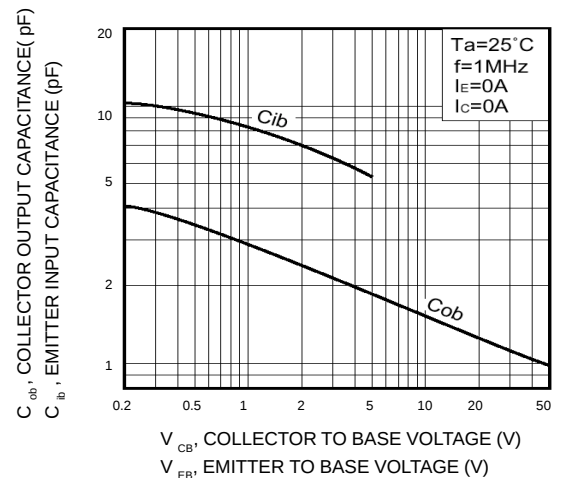
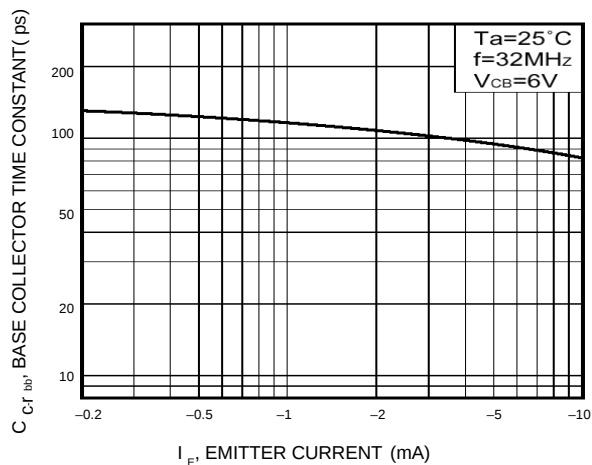
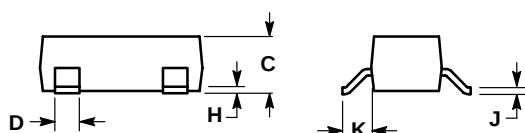
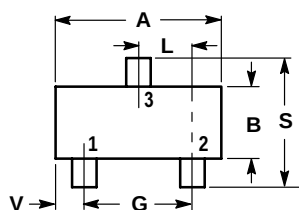


Fig.11 Base-collector time constant vs. emitter current



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SOT-23



NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.1102	0.1197	2.80	3.04
B	0.0472	0.0551	1.20	1.40
C	0.0350	0.0440	0.89	1.11
D	0.0150	0.0200	0.37	0.50
G	0.0701	0.0807	1.78	2.04
H	0.0005	0.0040	0.013	0.100
J	0.0034	0.0070	0.085	0.177
K	0.0140	0.0285	0.35	0.69
L	0.0350	0.0401	0.89	1.02
S	0.0830	0.1039	2.10	2.64
V	0.0177	0.0236	0.45	0.60

- PIN 1. BASE
2. EMITTER
3. COLLECTOR

