

FEATURE

- High Voltage: $V_{CEO} = -50\text{ V}$.
- Epitaxial planar type.
- NPN complement: L2SC1623
- We declare that the material of product compliance with RoHS requirements.
- S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.

DEVICE MARKING AND ORDERING INFORMATION

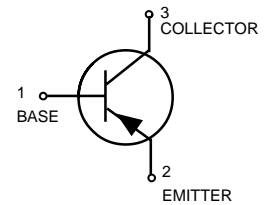
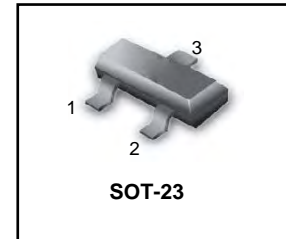
Device	Marking	Shipping
2SA812QLT1G S-2SA812QLT1G	M8	3000/Tape&Reel
2SA812QLT3G S-2SA812QLT3G	M8	10000/Tape&Reel
2SA812RLT1G S-2SA812RLT1G	M6	3000/Tape&Reel
2SA812RLT3G S-2SA812RLT3G	M6	10000/Tape&Reel
2SA812SLT1G S-2SA812SLT1G	M7	3000/Tape&Reel
2SA812SLT3G S-2SA812SLT3G	M7	10000/Tape&Reel

MAXIMUM RATINGS

Rating	Symbol	L2SA812	Unit
Collector-Emitter Voltage	V_{CEO}	-50	V
Collector-Base Voltage	V_{CBO}	-60	V
Emitter-Base Voltage	V_{EBO}	-6	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	200 1.8	mW mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	$^\circ\text{C}/\text{W}$
Total Device Dissipation Alumina Substrate, (2) $T_A=25^\circ\text{C}$ Derate above 25°C	P_D	200 2.4	mW mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	417	$^\circ\text{C}/\text{W}$
Junction and Storage Temperature	T_j, T_{stg}	-55 to +150	$^\circ\text{C}$



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

Characteristic	Symbol	Min	Typ	Max	Unit
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OFF CHARACTERISTICS

Collector-Emitter Breakdown Voltage (IC=-1mA)	V _{(BR)CEO}	-50	-	-	V
Emitter-Base Breakdown Voltage (IE=-50 μA)	V _{(BR)EBO}	-6	-	-	V
Collector-Base Breakdown Voltage (IC=-50 μA)	V _{(BR)CBO}	-60	-	-	V
Collector Cutoff Current (V _{CB} =-50V)	I _{CBO}	-	-	-0.1	μA
Emitter Cutoff Current (V _{BE} =-6V)	I _{EBO}	-	-	-0.1	μA

ON CHARACTERISTICS

DC Current Gain (IC=-1mA, V _{CE} =-6.0V)	h _{FE}	120	-	560	
Collector-Emitter Saturation Voltage (IC=-100mA, I _B =-10mA)	V _{CE(sat)}	-	-0.18	-0.3	V
Base -Emitter On Voltage I _E =-1.0mA, V _{CE} =-6.0V)	V _{BE}	-0.58	-0.62	-0.68	V

SMALL-SIGNAL CHARACTERISTICS

Current-Gain-Bandwidth Product (V _{CE} =-6.0V, I _E =-10mA)	F _t	-	180	-	MHz
Output Capacitance(V _{CE} = -10V, I _E =0, f=1.0MHz)	C _{obo}	-	4.5	-	pF

h_{FE} Values are classified as follows

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

Fig.1 Grounded emitter propagation characteristics

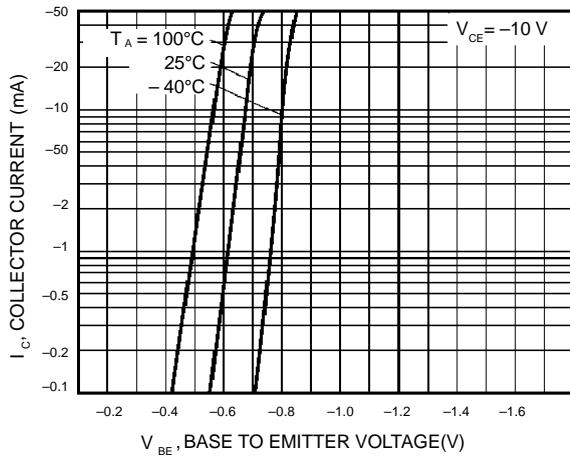


Fig.2 Grounded emitter output characteristics(I)

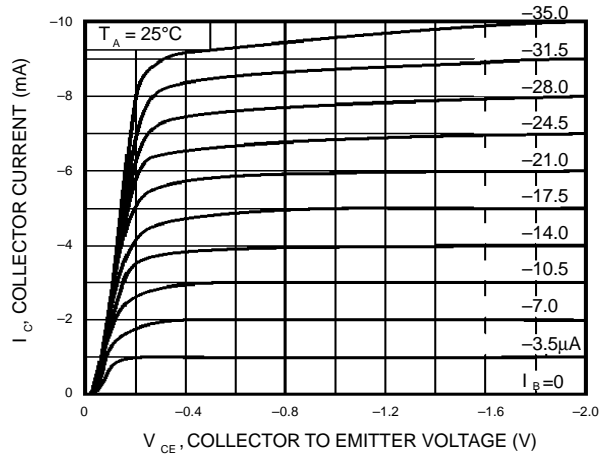


Fig.3 Grounded emitter output characteristics(II)

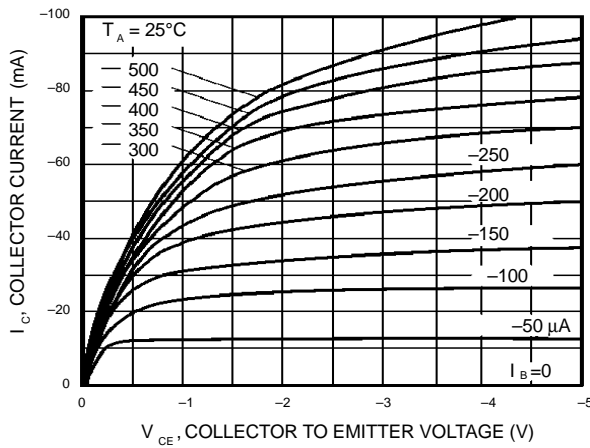


Fig.4 DC current gain vs. collector current (I)

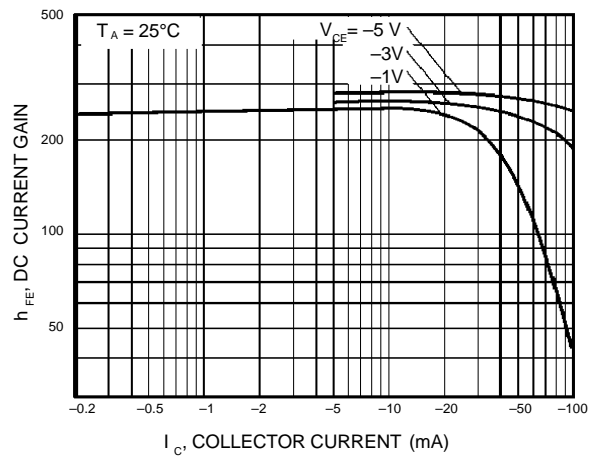


Fig.5 DC current gain vs. collector current (II)

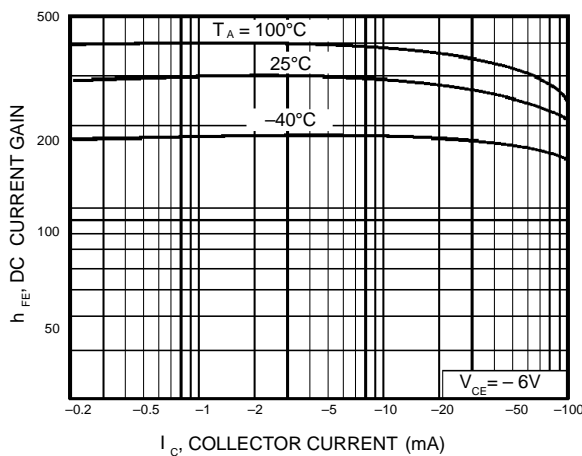


Fig.6 Collector-emitter saturation voltage vs. collector current (I)

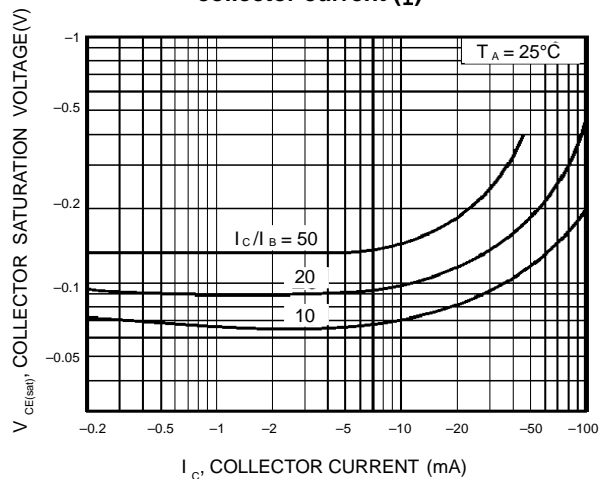


Fig.7 Collector-emitter saturation voltage vs. collector current (I)

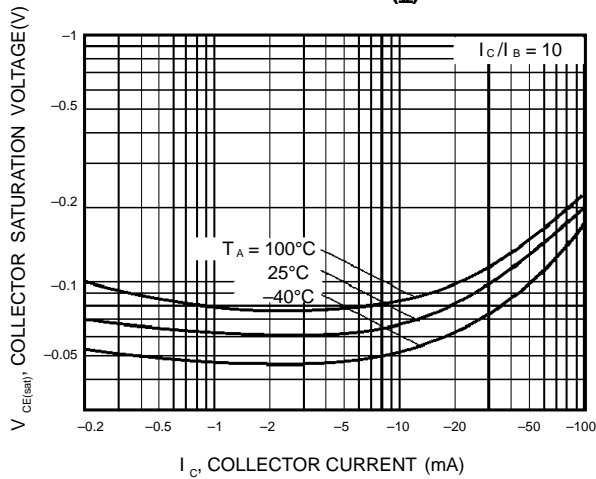


Fig.8 Gain bandwidth product vs. emitter current

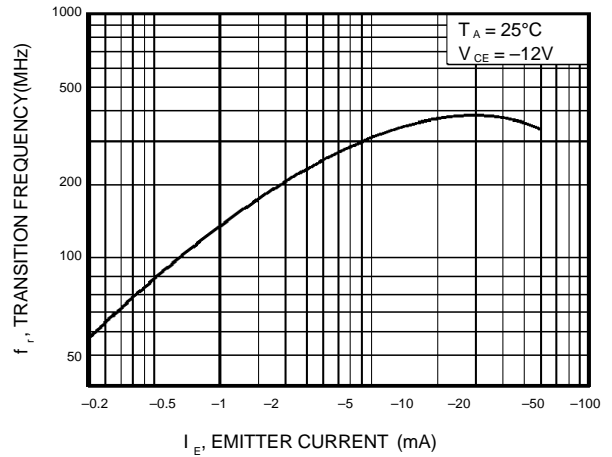
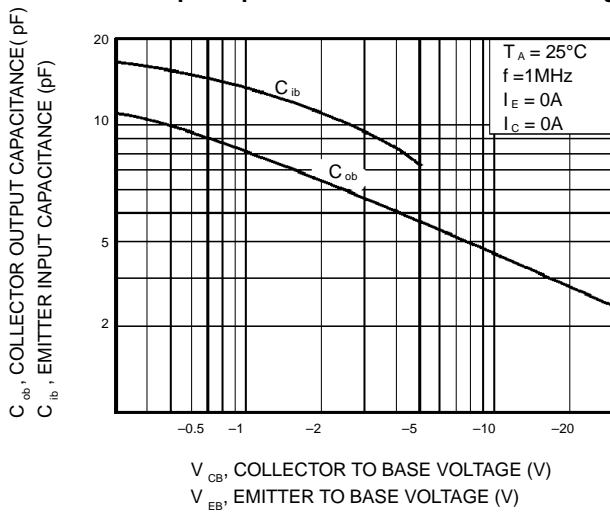


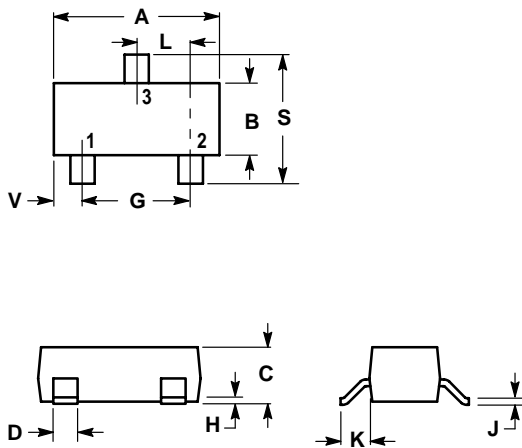
Fig.9 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage



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

