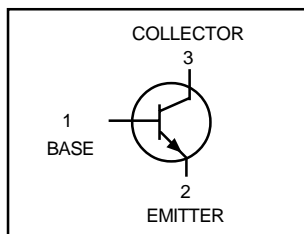
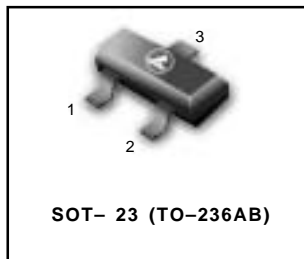


# Epitaxial planar type NPN silicon transistor

**L2SD2114K\*LT1**

**●Features**

- 1) High DC current gain.  
h<sub>FE</sub> = 1200 (Typ.)
- 2) High emitter-base voltage.  
V<sub>EB0</sub> = 12V (Min.)
- 3) Low V<sub>CE(sat)</sub>.  
V<sub>CE(sat)</sub> = 0.18V (Typ.)  
(I<sub>c</sub> / I<sub>B</sub> = 500mA / 20mA)
- 4) Pb-Free package is available.



**●Absolute maximum ratings (Ta=25°C)**

Parameter	Symbol	Limits	Unit
Collector-base voltage	V <sub>CB0</sub>	25	V
Collector-emitter voltage	V <sub>CE0</sub>	20	V
Emitter-base voltage	V <sub>EB0</sub>	12	V
Collector current	I <sub>c</sub>	0.5	A(DC)
		1	A(Pulse) *
Collector power dissipation	P <sub>c</sub>	0.2	W
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55~+150	°C

\* Single pulse Pw=100ms

**●Electrical characteristics (Ta=25°C)**

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV <sub>CB0</sub>	25	-	-	V	I <sub>c</sub> =10μA
Collector-emitter breakdown voltage	BV <sub>CE0</sub>	20	-	-	V	I <sub>c</sub> =1mA
Emitter-base breakdown voltage	BV <sub>EB0</sub>	12	-	-	V	I <sub>E</sub> =10μA
Collector cutoff current	I <sub>CB0</sub>	-	-	0.5	μA	V <sub>CB</sub> =20V
Emitter cutoff current	I <sub>EB0</sub>	-	-	0.5	μA	V <sub>EB</sub> =10V
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	-	0.18	0.4	V	I <sub>c</sub> /I <sub>B</sub> =500mA/20mA
DC current transfer ratio	h <sub>FE</sub>	820	-	2700	-	V <sub>CE</sub> =3V, I <sub>c</sub> =10mA
Transition frequency	f <sub>T</sub> *	-	350	-	MHz	V <sub>CE</sub> =10V, I <sub>E</sub> =-50mA, f=100MHz
Output capacitance	C <sub>ob</sub>	-	8.0	-	pF	V <sub>CB</sub> =10V, I <sub>E</sub> =0A, f=1MHz
Output On-resistance	R <sub>on</sub>	-	0.8	-	pF	I <sub>B</sub> =1mA, V <sub>i</sub> =100mV(rms), f=1kHz

\* Measured using pulse current

**●h<sub>FE</sub> Values Classification, Device Marking and Ordering Information**

Device	h <sub>FE</sub>	Marking	Shipping
L2SD2114KVLT1	820~1800	BV	3000/Tape&Reel
L2SD2114KVLT1G	820~1800	BV (Pb-Free)	3000/Tape&Reel
L2SD2114KWLT1	1200~2700	BW	3000/Tape&Reel
L2SD2114KWLT1G	1200~2700	BW (Pb-Free)	3000/Tape&Reel

### L2SD2114K\*LT1

●Electrical characteristic curves

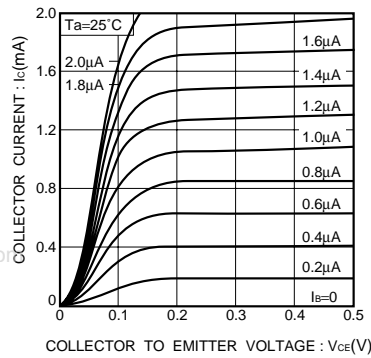


Fig.1 Grounded emitter output characteristics(I)

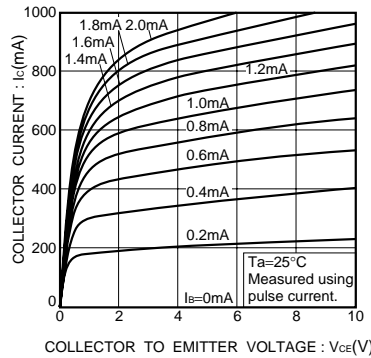


Fig.2 Grounded emitter output characteristics(II)

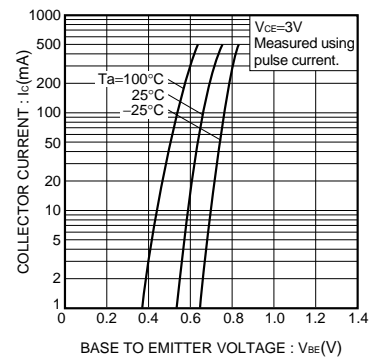


Fig.3 Grounded emitter propagation characteristics

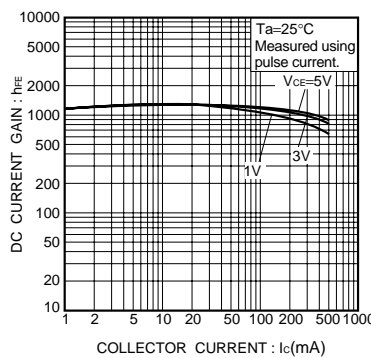


Fig.4 DC current gain vs. collector current(I)

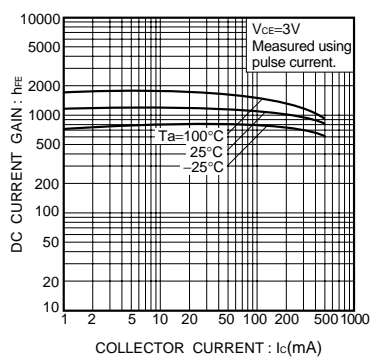


Fig.5 DC current gain vs. collector current(II)

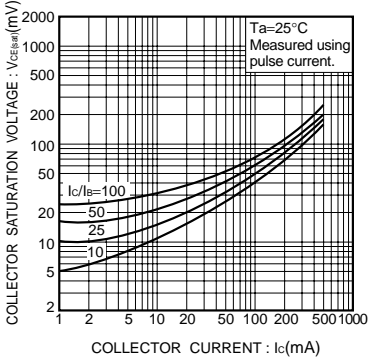


Fig.6 Collector-emitter saturation voltage vs. collector current(I)

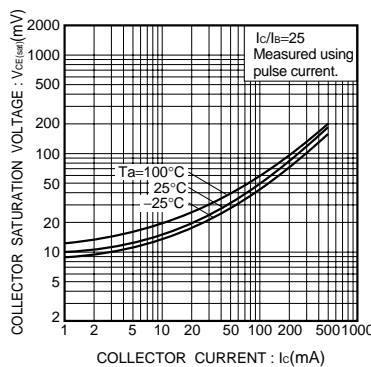


Fig.7 Collector-emitter saturation voltage vs. collector current(II)

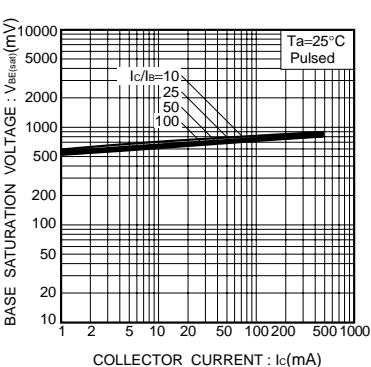


Fig.8 Base-emitter saturation voltage vs. collector current(I)

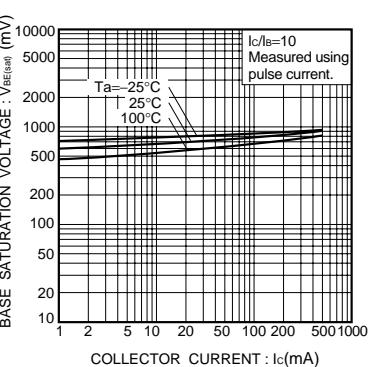


Fig.9 Base-emitter saturation voltage vs. collector current(II)

L2SD2114K\*LT1

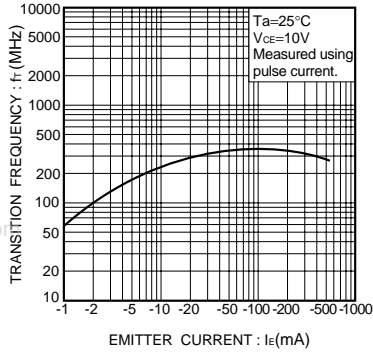


Fig.10 Gain bandwidth product vs. emitter current

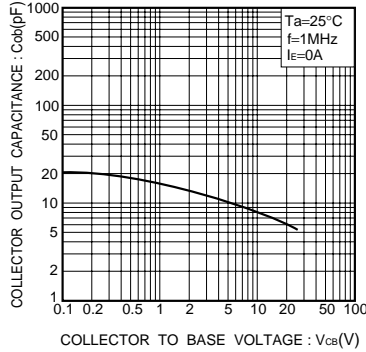


Fig.11 Collector output capacitance vs. collector-base voltage

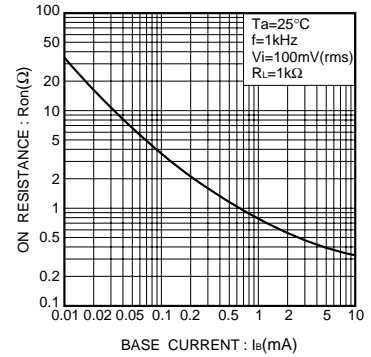
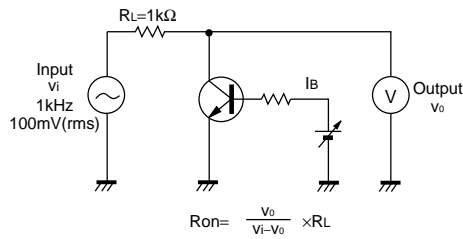


Fig.12 Output-on resistance vs. base current

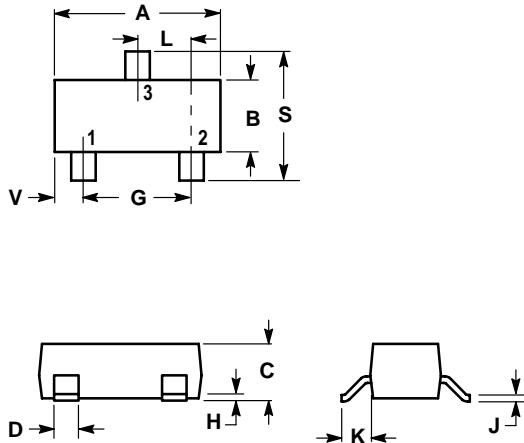
●Ron measurement circuit



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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. ANODE  
 2. NO CONNECTION  
 3. CATHODE

