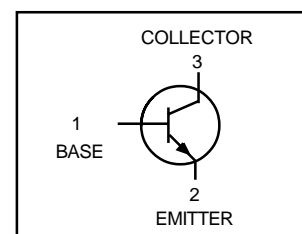
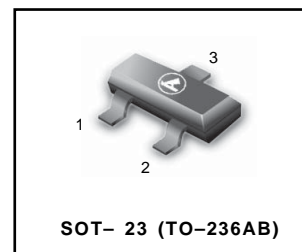


# Epitaxial planar type NPN silicon transistor

## L2SD2114KVLT1G Series S-L2SD2114KVLT1G Series

### ●Features

- 1) High DC current gain.  
 $h_{FE} = 1200$  (Typ.)
- 2) High emitter-base voltage.  
 $V_{EBO} = 12V$  (Min.)
- 3) Low  $V_{CE(sat)}$ .  
 $V_{CE(sat)} = 0.18V$  (Typ.)  
( $I_C / I_B = 500mA / 20mA$ )
- 4) We declare that the material of product compliance with RoHS requirements.
- 5) S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.



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

Parameter	Symbol	Limits	Unit
Collector-base voltage	$V_{CBO}$	25	V
Collector-emitter voltage	$V_{CEO}$	20	V
Emitter-base voltage	$V_{EBO}$	12	V
Collector current	$I_C$	0.5	A(DC)
		1	A(Pulse) *
Collector power dissipation	$P_C$	0.2	W
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55~+150	°C

\* Single pulse  $P_w=100ms$

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	$BV_{CBO}$	25	-	-	V	$I_C=10\mu A$
Collector-emitter breakdown voltage	$BV_{CEO}$	20	-	-	V	$I_C=1mA$
Emitter-base breakdown voltage	$BV_{EBO}$	12	-	-	V	$I_E=10\mu A$
Collector cutoff current	$I_{CBO}$	-	-	0.5	$\mu A$	$V_{CB}=20V$
Emitter cutoff current	$I_{EBO}$	-	-	0.5	$\mu A$	$V_{EB}=10V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	0.18	0.4	V	$I_C/I_B=500mA/20mA$
DC current transfer ratio	$h_{FE}$	820	-	2700	-	$V_{CE}=3V, I_C=10mA$
Transition frequency	$f_T^*$	-	350	-	MHz	$V_{CE}=10V, I_E=-50mA, f=100MHz$
Output capacitance	$C_{ob}$	-	8.0	-	pF	$V_{CB}=10V, I_E=0A, f=1MHz$
Output On-resistance	$R_{on}$	-	0.8	-	pF	$I_B=1mA, V_i=100mV(rms), f=1kHz$

\* Measured using pulse current

### ● $h_{FE}$ Values Classification, Device Marking and Ordering Information

Device	$h_{FE}$	Marking	Shipping
L2SD2114KVLT1G S-L2SD2114KVLT1G	820~1800	BV	3000/Tape&Reel
L2SD2114KVLT3G S-L2SD2114KVLT3G	820~1800	BV	10000/Tape&Reel
L2SD2114KWLT1G S-L2SD2114KWLT1G	1200~2700	BW	3000/Tape&Reel
L2SD2114KWLT3G S-L2SD2114KWLT3G	1200~2700	BW	10000/Tape&Reel

**L2SD2114KVLT1G Series  
S-L2SD2114KVLT1G Series**

● **Electrical characteristic curves**

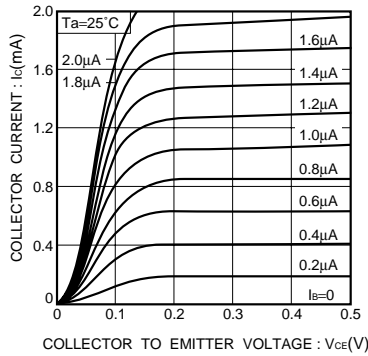


Fig.1 Grounded emitter output characteristics(I)

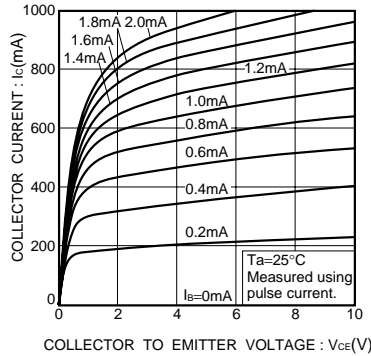


Fig.2 Grounded emitter output characteristics(II)

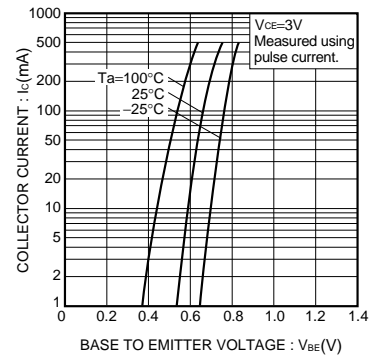


Fig.3 Grounded emitter propagation characteristics

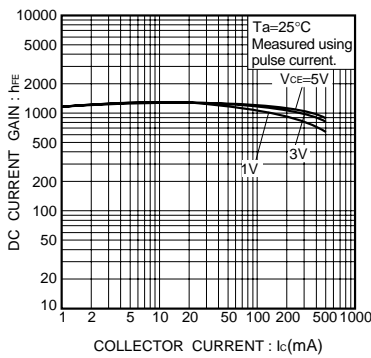


Fig.4 DC current gain vs. collector current(I)

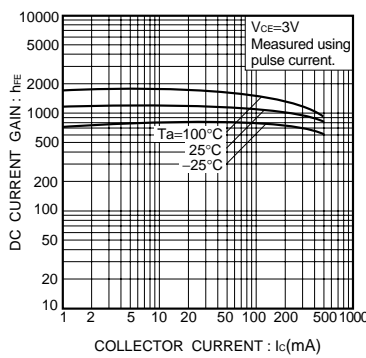


Fig.5 DC current gain vs. collector current(II)

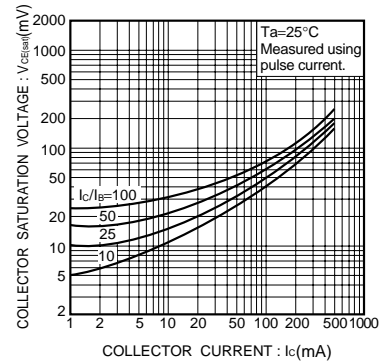


Fig.6 Collector-emitter saturation voltage vs. collector current(I)

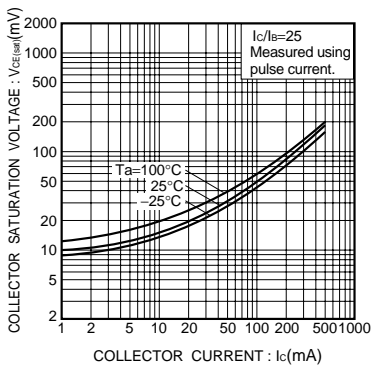


Fig.7 Collector-emitter saturation voltage vs. collector current(II)

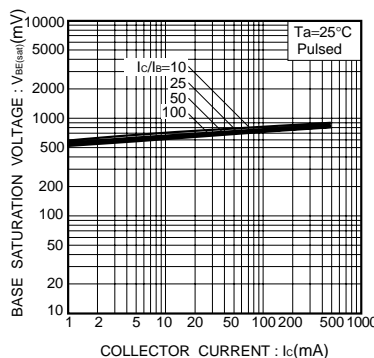


Fig.8 Base-emitter saturation voltage vs. collector current(I)

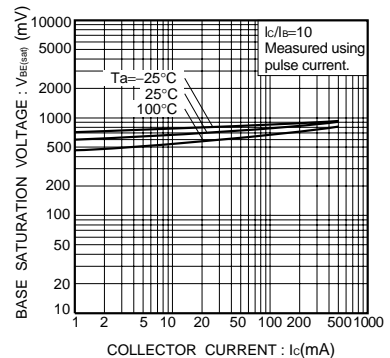


Fig.9 Base-emitter saturation voltage vs. collector current(II)

**L2SD2114KVLT1G Series**  
**S-L2SD2114KVLT1G Series**

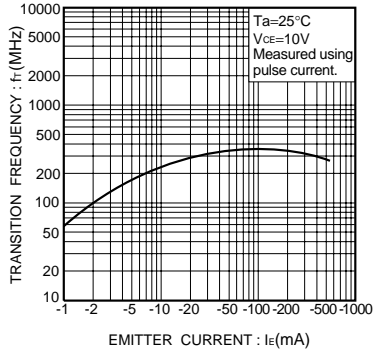


Fig.10 Gain bandwidth product vs. emitter current

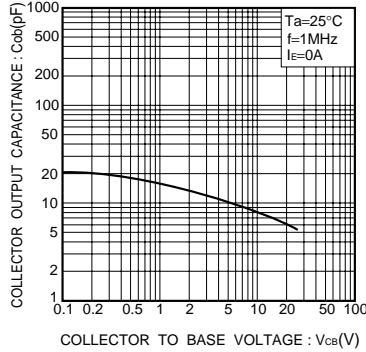


Fig.11 Collector output capacitance vs. collector-base voltage

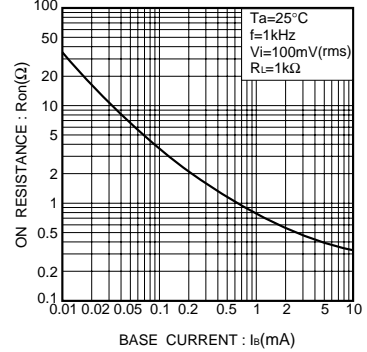
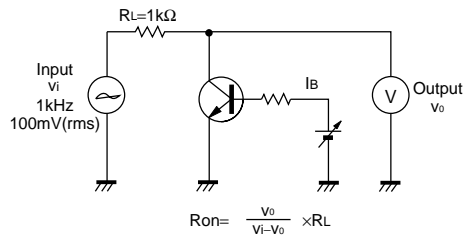


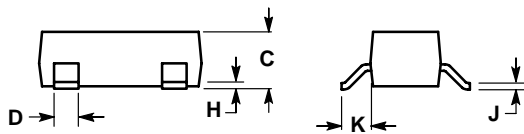
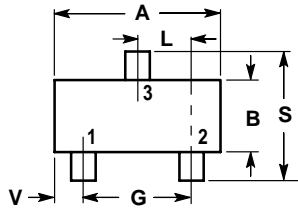
Fig.12 Output-on resistance vs. base current

●Ron measurement circuit



**L2SD2114KVLT1G Series**  
**S-L2SD2114KVLT1G Series**

**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. ANODE  
 2. NO CONNECTION  
 3. CATHODE

