

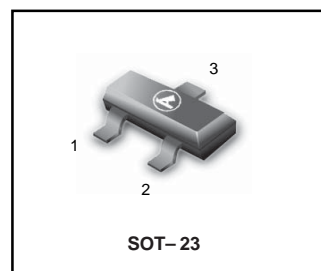
# General Purpose Transistors

## NPN Silicon

### FEATURE

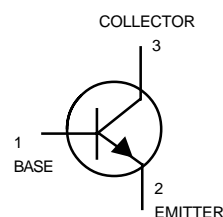
- Complementary to L9014.
- We declare that the material of product compliance with RoHS requirements.
- S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.

**L9014QLT1G**  
**Series**  
**S-L9014QLT1G**  
**Series**



### DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
L9014QLT1G	S-L9014QLT1G 14Q	3000/Tape&Reel
L9014QLT3G	S-L9014QLT3G 14Q	10000/Tape&Reel
L9014RLT1G	S-L9014RLT1G 14R	3000/Tape&Reel
L9014RLT3G	S-L9014RLT3G 14R	10000/Tape&Reel
L9014SLT1G	S-L9014SLT1G 14S	3000/Tape&Reel
L9014SLT3G	S-L9014SLT3G 14S	10000/Tape&Reel
L9014TLT1G	S-L9014TLT1G 14T	3000/Tape&Reel
L9014TLT3G	S-L9014TLT3G 14T	10000/Tape&Reel



### MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	$V_{CEO}$	45	V
Collector-Base Voltage	$V_{CBO}$	50	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Collector current-continuoun	$I_C$	100	mA

### THERMAL CHARATEERISTICS

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

1. FR-5 = 1.0 x 0.75 x 0.062 in.

2. Alumina = 0.4 x 0.3 x 0.024 in. 99.5% alumina.

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

**OFF CHARACTERISTICS**

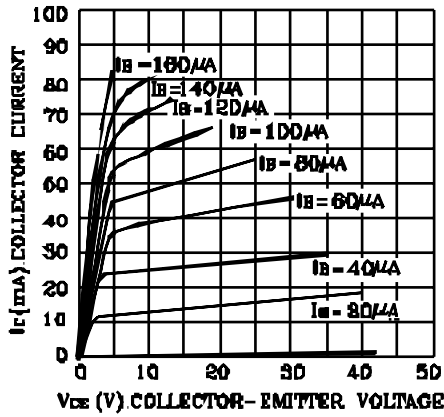
Characteristic	Symbol	Min	Typ	Max	Unit
Collector-Emitter Breakdown Voltage ( $I_C=1.0\text{mA}$ )	$V(BR)_{CEO}$	45	-	-	V
Emitter-Base Breakdown Voltage ( $I_E=100\ \mu\text{A}$ )	$V(BR)_{EBO}$	5	-	-	V
Collector-Base Breakdown Voltage ( $I_C=100\ \mu\text{A}$ )	$V(BR)_{CBO}$	50	-	-	V
Collector Cutoff Current ( $V_{CB}=40\text{V}$ )	$I_{CBO}$	-	-	100	nA
Emitter Cutoff Current ( $V_{EB}=3\text{V}$ )	$I_{EBO}$	-	-	100	nA

**ON CHARACTERISTICS**

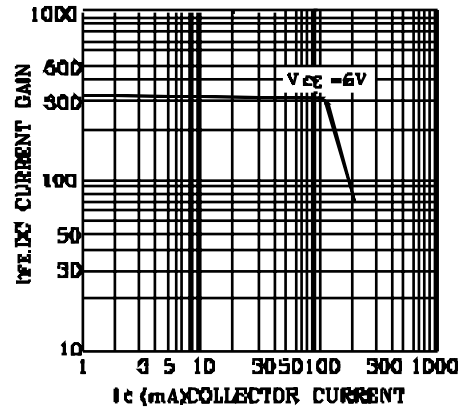
DC Current Gain ( $I_C=1\text{mA}$ , $V_{CE}=5\text{V}$ )	$H_{FE}$	150	-	1000	
Collector-Emitter Saturation Voltage ( $I_C=100\text{mA}$ , $I_B=5\text{mA}$ )	$V_{CE}$	-	-	0.3	V

NOTE:	*	Q	R	S	T
	$H_{FE}$	150~300	200~400	300~600	400~1000

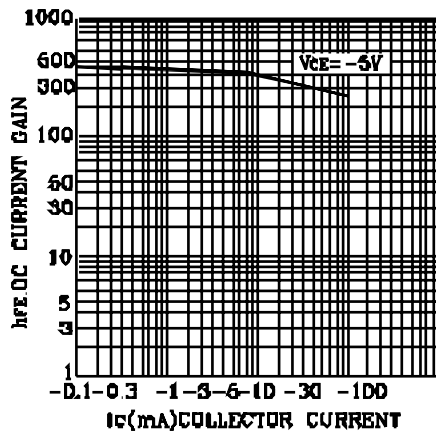
STATIC CHARACTERISTIC



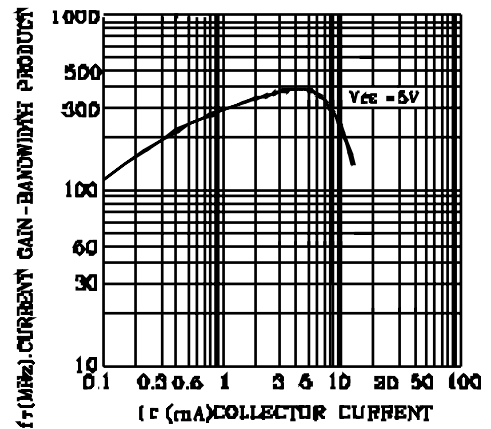
DC CURRENT GAIN



BASE-EMITTER SATURATION VOLTAGE  
COLLECTOR-EMITTER SATURATION VOLTAGE

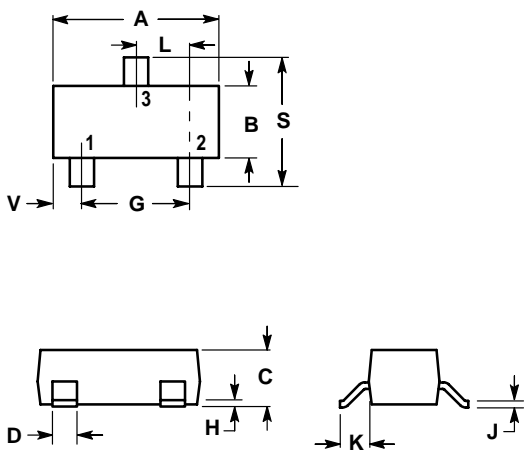


CURRENT GAIN-BANDWIDTH PRODUCT



**L9014QLT1G Series**  
**S-L9014QLT1G 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. BASE  
2. EMITTER  
3. COLLECTOR

