

General Purpose Transistors

NPN Silicon

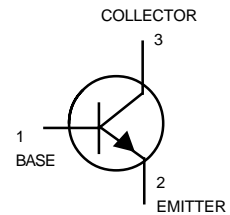
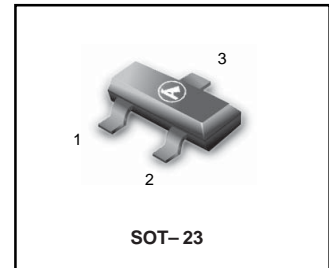
FEATURE

- 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°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°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.

**L9014QLT1G Series
S-L9014QLT1G Series**

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

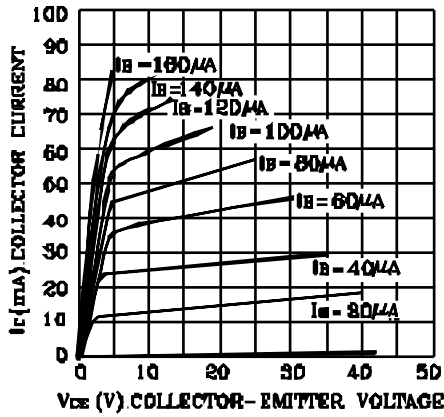
ON CHARACTERISTICS

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

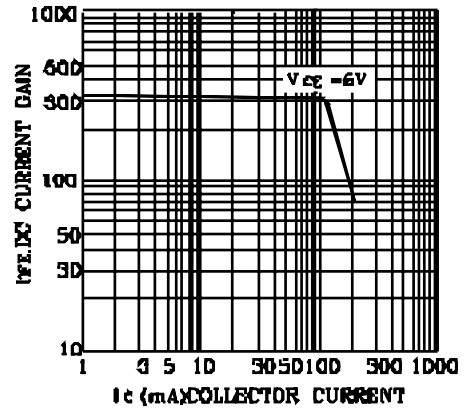
NOTE:	*	Q	R	S	T
	H_{FE}	150~300	200~400	300~600	400~1000

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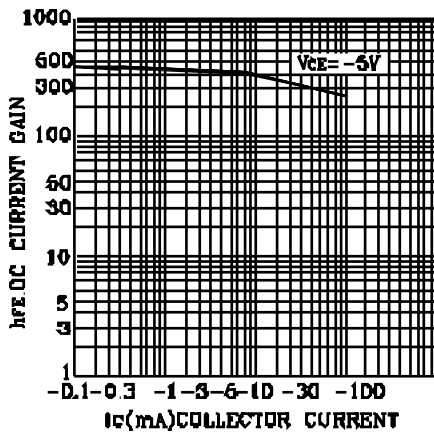
STATIC CHARACTERISTIC



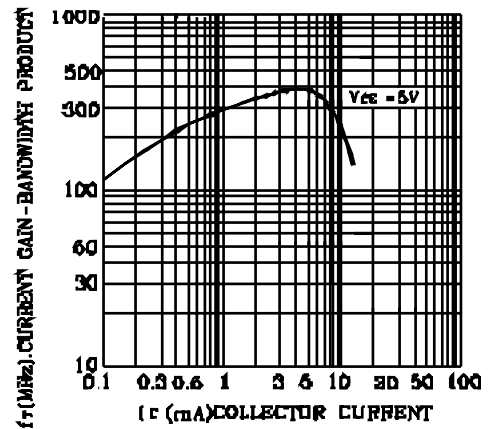
DC CURRENT GAIN



BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE

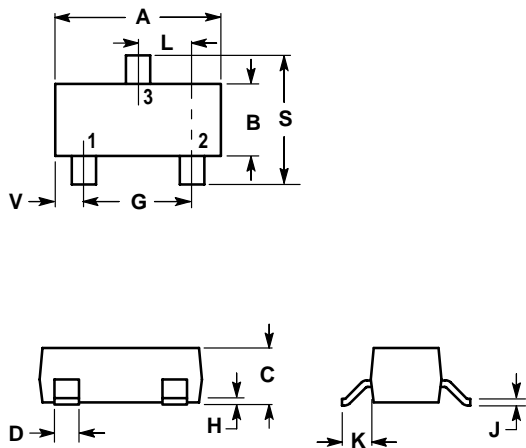


CURRENT GAIN-BANDWIDTH PRODUCT



**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

