

## General Purpose Transistors

### PNP Silicon

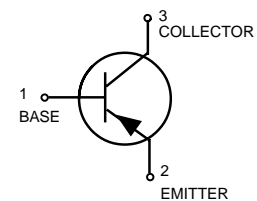
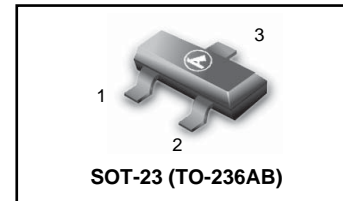
#### FEATURE

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
L9012PLT1G S- L9012PLT1G	12P	3000/Tape&Reel
L9012PLT3G S- L9012PLT3G	12P	10000/Tape&Reel
L9012QLT1G S- L9012QLT1G	12Q	3000/Tape&Reel
L9012QLT3G S- L9012QLT3G	12Q	10000/Tape&Reel
L9012RLT1G S- L9012RLT1G	12R	3000/Tape&Reel
L9012RLT3G S- L9012RLT3G	12R	10000/Tape&Reel
L9012SLT1G S- L9012SLT1G	12S	3000/Tape&Reel
L9012SLT3G S- L9012SLT3G	12S	10000/Tape&Reel

**L9012PLT1G**  
**Series**  
**S-L9012PLT1G**  
**Series**



#### MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	$V_{CEO}$	-20	V
Collector-Base Voltage	$V_{CBO}$	-40	V
Emitter-Base Voltage	$V_{EBO}$	-5	V
Collector current-continuoun	IC	-500	mAdc

#### THERMAL CHARATEERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board, (1) $T_A=25^{\circ}\text{C}$ Derate above $25^{\circ}\text{C}$	$P_D$	225 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 $25^{\circ}\text{C}$	$P_D$	300 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	$^{\circ}\text{C}$

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 ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
<b>OFF CHARACTERISTICS</b>					
Collector-Emitter Breakdown Voltage ( $I_C=-1.0\text{mA}$ )	$V_{(BR)CEO}$	-20	-	-	V
Emitter-Base Breakdown Voltage ( $I_E=-100\mu\text{A}$ )	$V_{(BR)EBO}$	-5	-	-	V
Collector-Base Breakdown Voltage ( $I_C=-100\mu\text{A}$ )	$V_{(BR)CBO}$	-40	-	-	V
Collector Cutoff Current ( $V_{CB}=-35\text{V}$ )	$I_{CBO}$	-	-	-150	nA
Emitter Cutoff Current ( $V_{BE}=-4\text{V}$ )	$I_{EBO}$	-	-	-150	nA

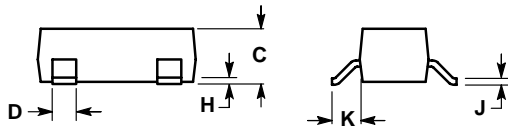
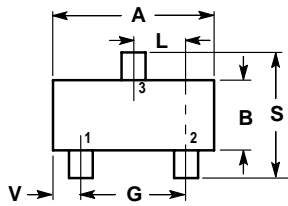
**ON CHARACTERISTICS**

DC Current Gain ( $I_C = -50\text{mA}$ , $V_{CE} = -1\text{V}$ )	$H_{fe}$	100	-	600	
Collector-Emitter Saturation Voltage ( $I_C = -500\text{mA}$ , $I_B = -50\text{mA}$ )	$V_{CE(S)}$	-	-	-0.6	V

NOTE:

*	P	Q	R	S
$H_{FE}$	100~200	150~300	200~400	300~600

**SOT-23 (TO-236AB)**



**NOTES:**

1. CONTROLLING DIMENSION: MILLIMETERS
2. LEAD THICKNESS SPECIFIED PER L / F DRAWING WITH SOLDER PLATING.

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	0.0180	0.0236	0.45	0.60
L	0.0350	0.0401	0.89	1.02
S	0.0830	0.0984	2.10	2.50
V	0.0177	0.0236	0.45	0.60

- PIN 1. BASE  
2. EMITTER  
3. COLLECTOR

