

NPN Silicon

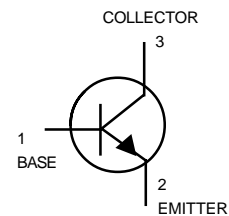
FEATURE

- Complementary to 9015.
- We declare that the material of product compliance with RoHS requirements.
Pb-Free package is available
 RoHS product for packing code suffix "G"
 Halogen free product for packing code suffix "H"
 Moisture Sensitivity Level 1



DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
9014QLT1	14Q	3000/Tape&Reel
9014RLT1	14R	3000/Tape&Reel
9014SLT1	14S	3000/Tape&Reel
9014TLT1	14T	3000/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-continuous	I_C	100	mA

THERMAL CHARACTERISTICS

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	$^\circ\text{C}$

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

OFF CHARACTERISTICS

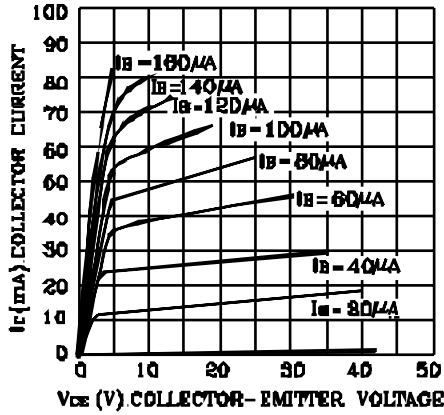
Characteristic	Symbol	Min	Typ	Max	Unit
Collector-Emitter Breakdown Voltage ($I_C=1.0\text{mA}$)	$V(BR)_{CEO}$	45	-	-	V
Emitter-Base Breakdown Voltage ($I_E=100\ \mu\text{A}$)	$V(BR)_{EBO}$	5	-	-	V
Collector-Base Breakdown Voltage ($I_C=100\ \mu\text{A}$)	$V(BR)_{CBO}$	50	-	-	V
Collector Cutoff Current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

ON CHARACTERISTICS

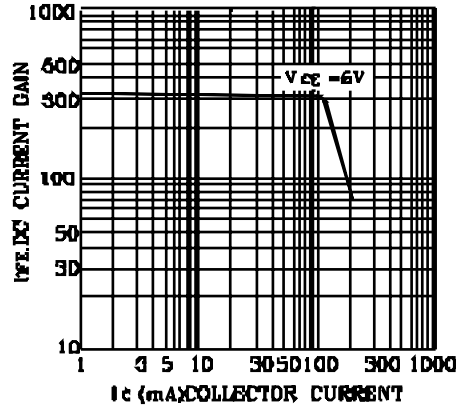
DC Current Gain ($I_C=1\text{mA}$, $V_{CE}=5\text{V}$)	H_{FE}	150	-	1000	
Collector-Emitter Saturation Voltage ($I_C=100\text{mA}$, $I_B=5\text{mA}$)	V_{CE}	-	-	0.3	V

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

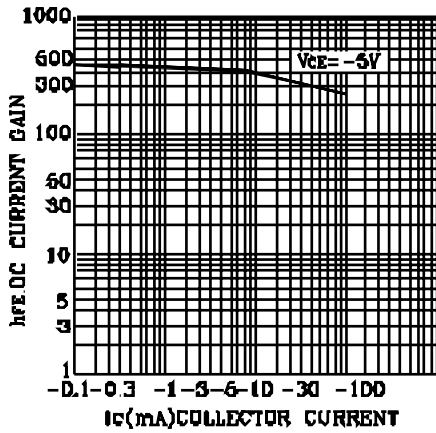
STATIC CHARACTERISTIC



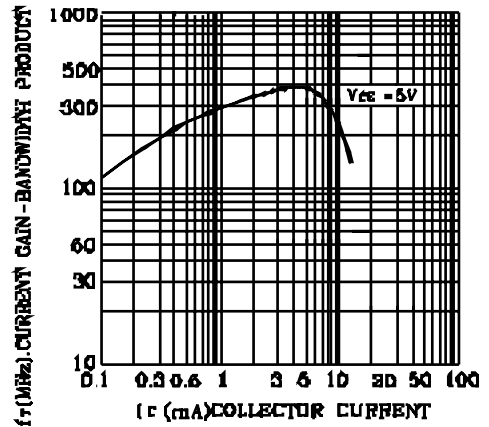
DC CURRENT GAIN



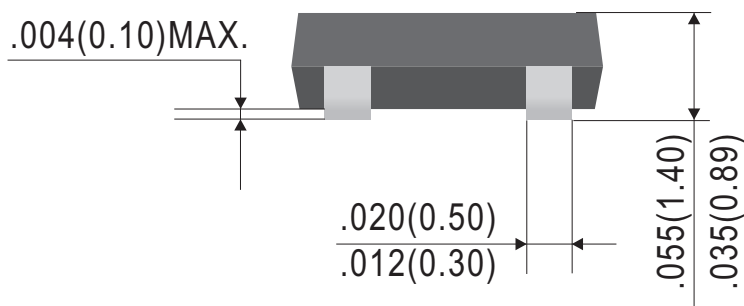
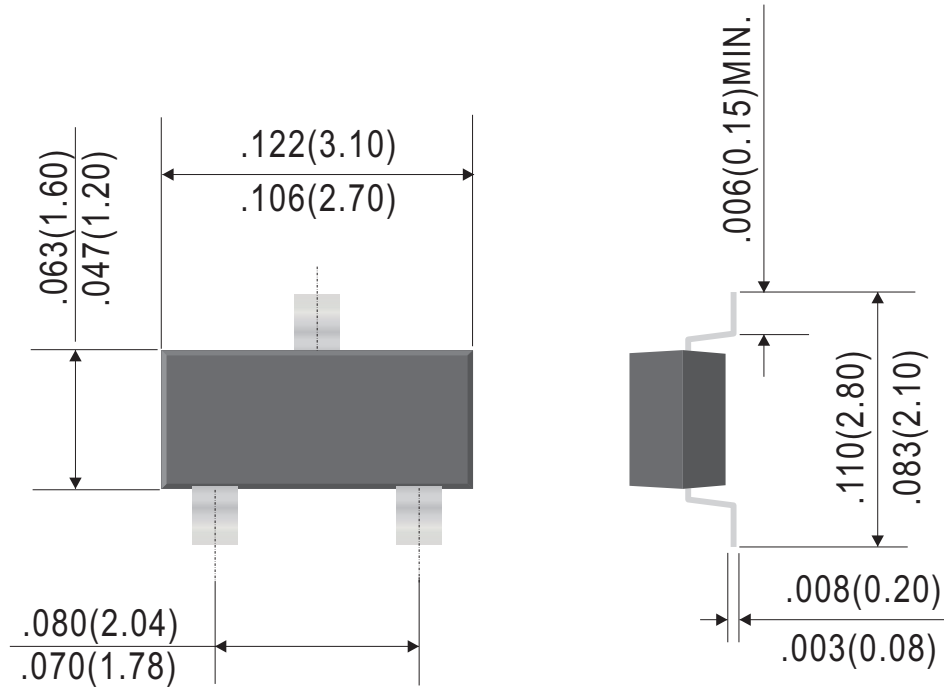
BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE



CURRENT GAIN-BANDWIDTH PRODUCT



SOT-23



Dimensions in inches and (millimeters)

Ordering Information:

Device PN	Packing
9014 x ⁽²⁾ LT1 G ⁽¹⁾ -WS	Tape&Reel: 3 Kpcs/Reel

Note: (1) RoHS product for packing code suffix "G" ; Halogen free product for packing code suffix "H"

(2) CLASSIFICATION OF hFE RANK

*****Disclaimer*****

WILLAS reserves the right to make changes without notice to any product specification herein, to make corrections, modifications, enhancements or other changes. WILLAS or anyone on its behalf assumes no responsibility or liability for any errors or inaccuracies. Data sheet specifications and its information contained are intended to provide a product description only. "Typical" parameters which may be included on WILLAS data sheets and/ or specifications can and do vary in different applications and actual performance may vary over time. WILLAS does not assume any liability arising out of the application or use of any product or circuit.

WILLAS products are not designed, intended or authorized for use in medical, life-saving implant or other applications intended for life-sustaining or other related applications where a failure or malfunction of component or circuitry may directly or indirectly cause injury or threaten a life without expressed written approval of WILLAS. Customers using or selling WILLAS components for use in such applications do so at their own risk and shall agree to fully indemnify WILLAS Inc and its subsidiaries harmless against all claims, damages and expenditures.