

### NPN Silicon

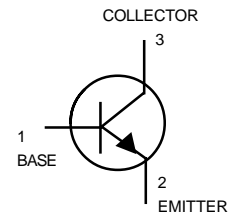
#### FEATURE

- 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"



#### 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 $25^\circ\text{C}$		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	$^\circ\text{C}$

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

##### OFF CHARACTERISTICS

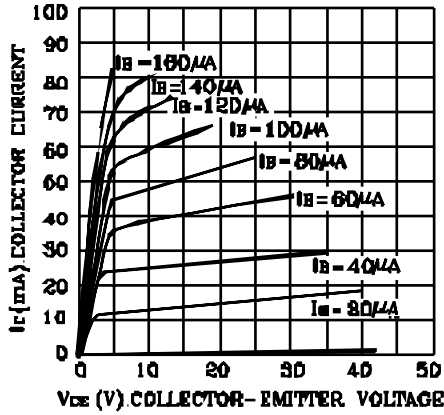
Characteristic	Symbol	Min	Typ	Max	Unit
Collector-Emitter Breakdown Voltage ( $I_C=1.0\text{mA}$ )	$V(BR)_{CEO}$	45	-	-	V
Emitter-Base Breakdown Voltage ( $I_E=100\ \mu\text{A}$ )	$V(BR)_{EBO}$	5	-	-	V
Collector-Base Breakdown Voltage ( $I_C=100\ \mu\text{A}$ )	$V(BR)_{CBO}$	50	-	-	V
Collector Cutoff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

##### ON CHARACTERISTICS

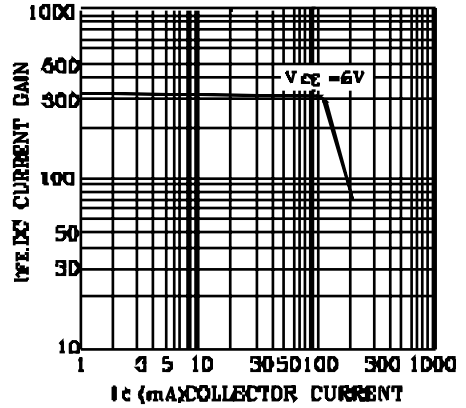
DC Current Gain ( $I_C=1\text{mA}$ , $V_{CE}=5\text{V}$ )	$H_{FE}$	150	-	1000	
Collector-Emitter Saturation Voltage ( $I_C=100\text{mA}$ , $I_B=5\text{mA}$ )	$V_{CE}$	-	-	0.3	V

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

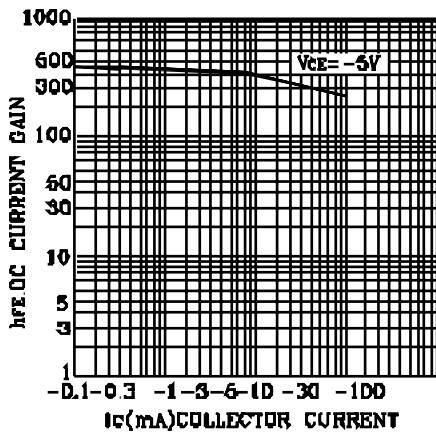
STATIC CHARACTERISTIC



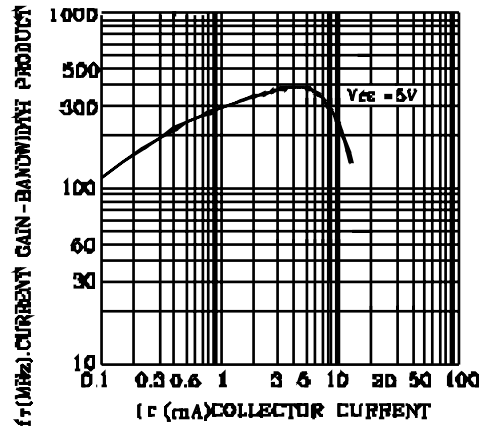
DC CURRENT GAIN



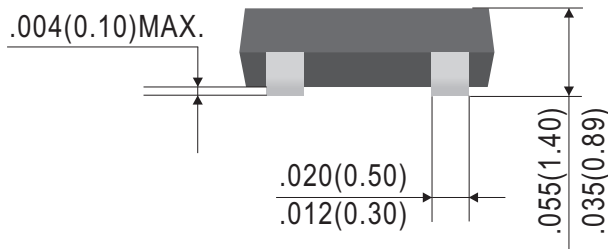
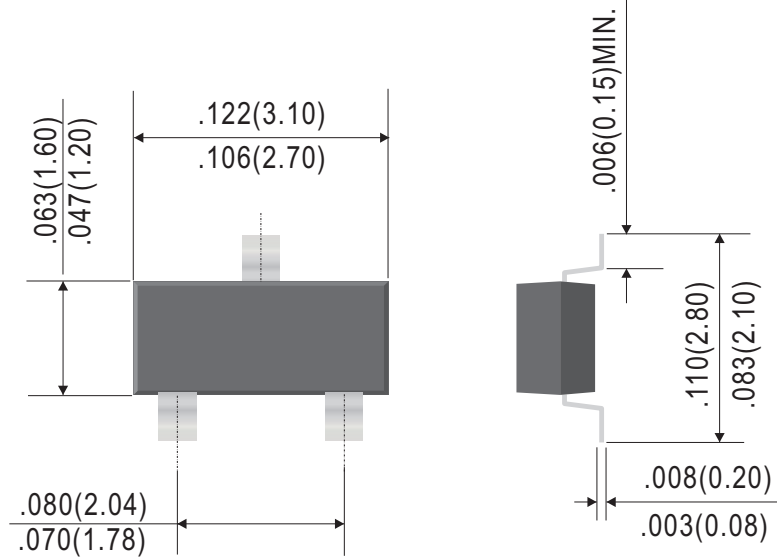
BASE-EMITTER SATURATION VOLTAGE  
COLLECTOR-EMITTER SATURATION VOLTAGE



CURRENT GAIN-BANDWIDTH PRODUCT



**SOT-23**



Dimensions in inches and (millimeters)

