



## DESCRIPTION

The 9014Q~9014T are available in SOT-23 package.

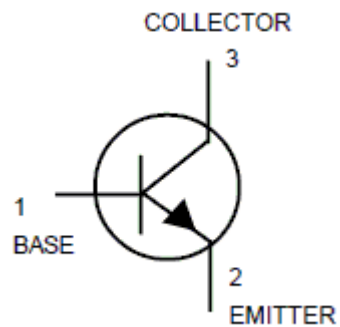
## FEATURES

- Complementary to 9015.
- Available in SOT-23 package

## ORDERING INFORMATION

Package Type	Part Number
SOT-23	9014Q
	9014R
	9014S
	9014T
Note	3,000pcs/ Reel
AiT provides all RoHS Compliant Products	

## PIN DESCRIPTION





## ABSOLUTE MAXIMUM RATINGS

V <sub>CEO</sub> , Collector-Emitter Voltage	45V
V <sub>CBO</sub> , Collector-Base Voltage	50V
V <sub>EB0</sub> , Emitter-Base Voltage	5V
I <sub>C</sub> , Collector current-continuous	100mA

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

## THERMAL CHARATEERISTICS

Parameter	Symbol	Max.	Unit
Total Device Dissipation FR-5 Board, <sup>NOTE1</sup> T <sub>A</sub> =25°C Derate above 25°C	P <sub>D</sub>	225 1.8	mW mW/°C
Thermal Resistance, Junction to Ambient	R <sub>θJA</sub>	556	°C /W
Total Device Dissipation Alumina Substrate, <sup>NOTE2</sup> T <sub>A</sub> =25°C Derate above 25°C	P <sub>D</sub>	300 2.4	mW mW/°C
Thermal Resistance, Junction to Ambient	R <sub>θJA</sub>	417	°C /W
Junction and Storage Temperature	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C

NOTE1: FR-5 = 1.0 x 0.75 x 0.062 in.

NOTE2: Alumina = 0.4 x 0.3 x 0.024 in. 99.5% alumina.



## ELECTRICAL CHARACTERISTIC

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit	
<b>OFF CHARACTERISTICS</b>							
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1.0mA$	45	-	-	V	
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=100\mu A$	5	-	-	V	
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=100\mu A$	50	-	-	V	
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=40V$	-	-	100	nA	
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=3V$	-	-	100	nA	
<b>ON CHARACTERISTICS</b>							
DC Current Gain	$h_{FE}$	$I_C=1mA, V_{CE}=5V$	Q	150	-	300	
			R	200	-	400	
			S	300	-	600	
			T	400	-	1000	
Collector-Emitter Saturation Voltage	$V_{CE}$	$I_C=100mA, I_B=5mA$	-	-	0.3	V	



### TYPICAL CHARACTERISTICS

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

Figure 1. Static Characteristic

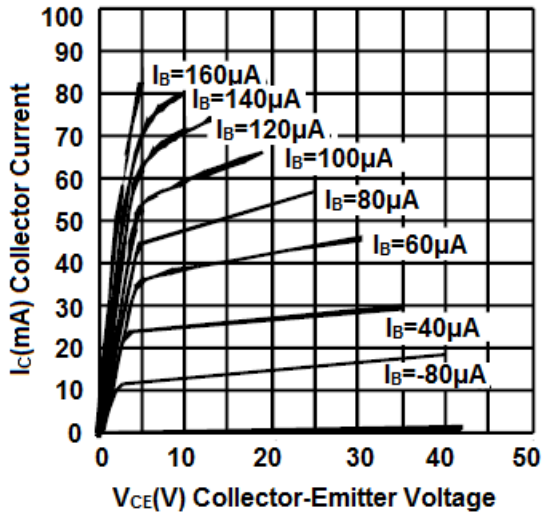


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

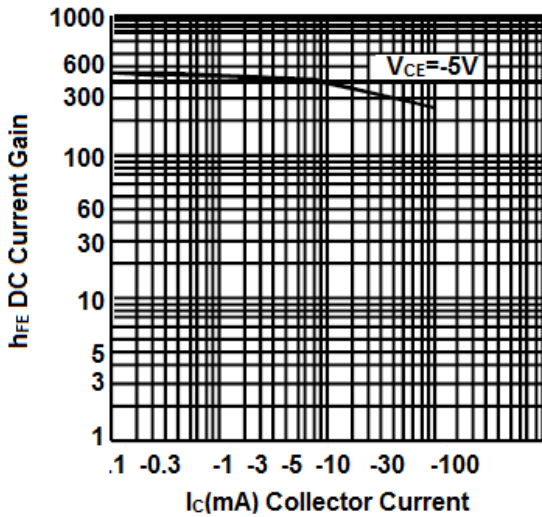


Figure 2. DC Current Gain

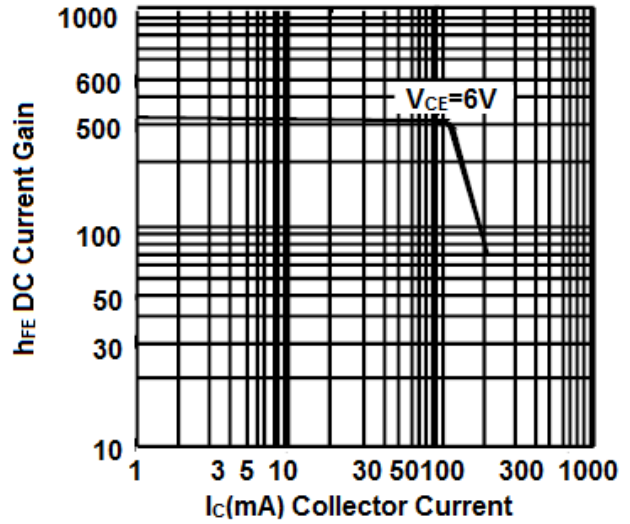
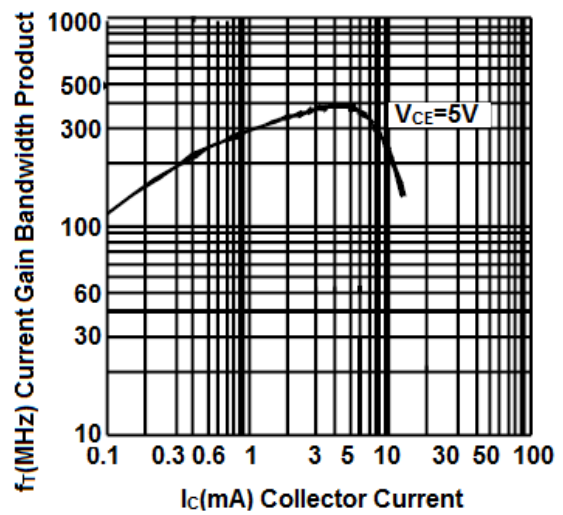


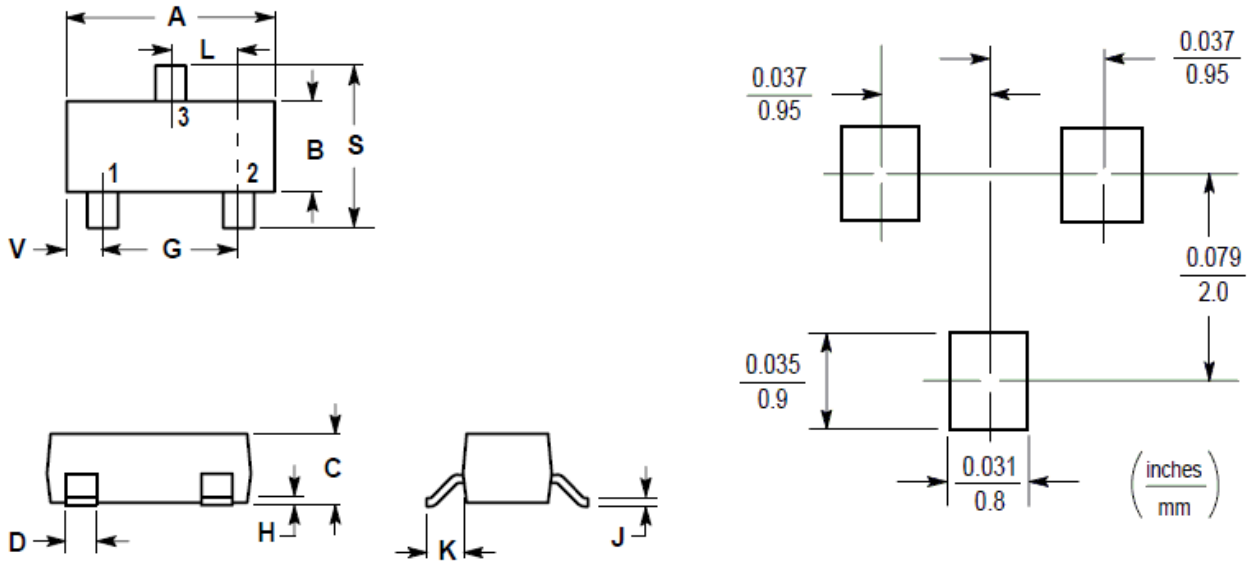
Figure 4. Current Gain-Bandwidth Product





**PACKAGE INFORMATION**

Dimension in SOT-23 Package (Unit: mm)



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



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