DESCRIPTION

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

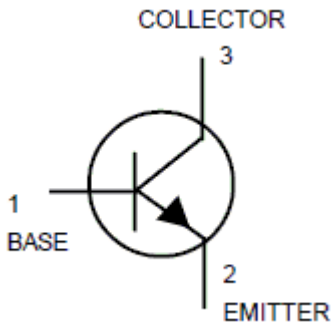
FEATURES

- 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_{CEO}, Collector-Emitter Voltage	45V
V_{CBO}, Collector-Base Voltage	50V
V_{EBO}, Emitter-Base Voltage	5V
I_C, 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, NOTE1 T_A=25°C Derate above 25°C	P_D	225 1.8	mW mW/°C
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	°C /W
Total Device Dissipation Alumina Substrate, NOTE2 T_A=25°C Derate above 25°C	P_D	300 2.4	mW mW/°C
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	417	°C /W
Junction and Storage Temperature	T_J ,T_{STG}	-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
OFF CHARACTERISTICS							
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=1.0mA		45	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=100μA		5	-	-	V
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=100μA		50	-	-	V
Collector Cutoff Current	I_{CBO}	V_{CB}=40V		-	-	100	nA
Emitter Cutoff Current	I_{EBO}	V_{EB}=3V		-	-	100	nA
ON CHARACTERISTICS							
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°C unless otherwise noted

Figure 1. Static Characteristic

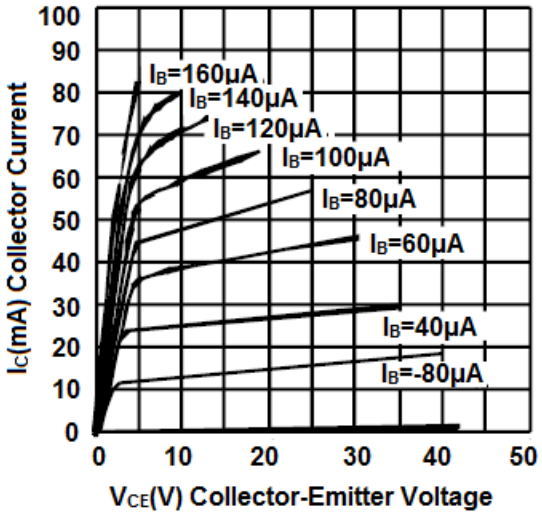


Figure 2. DC Current Gain

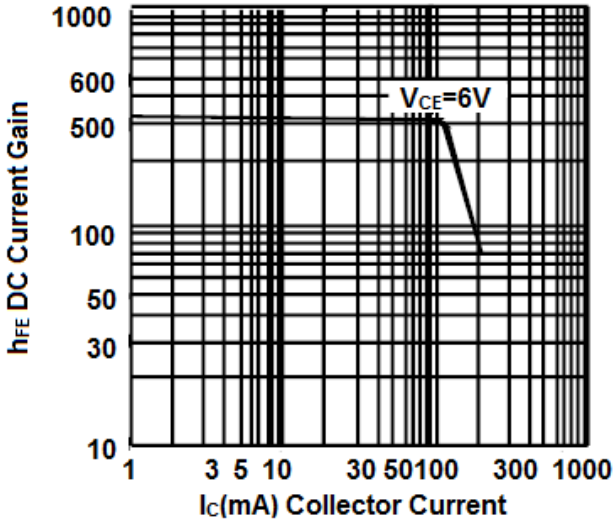


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

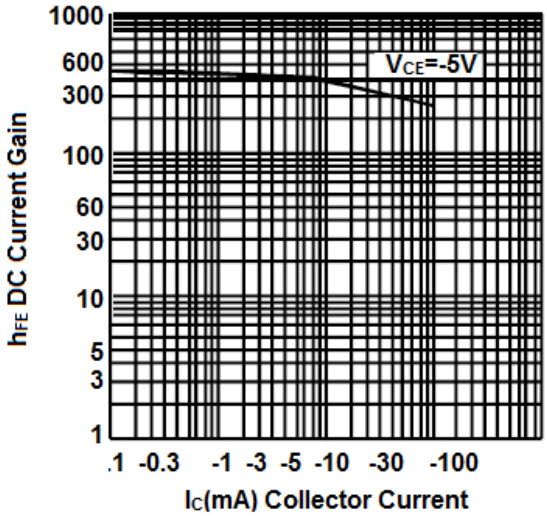
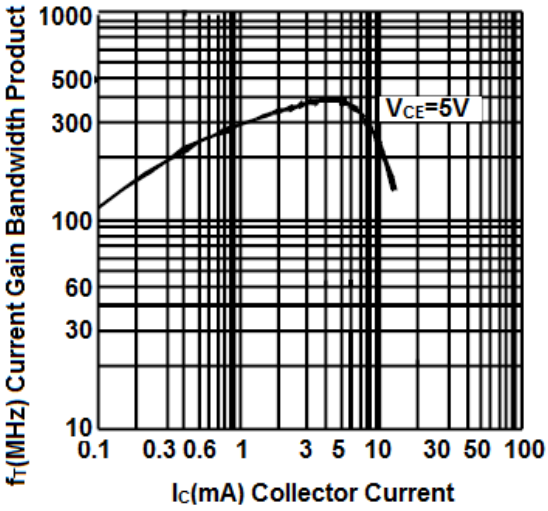
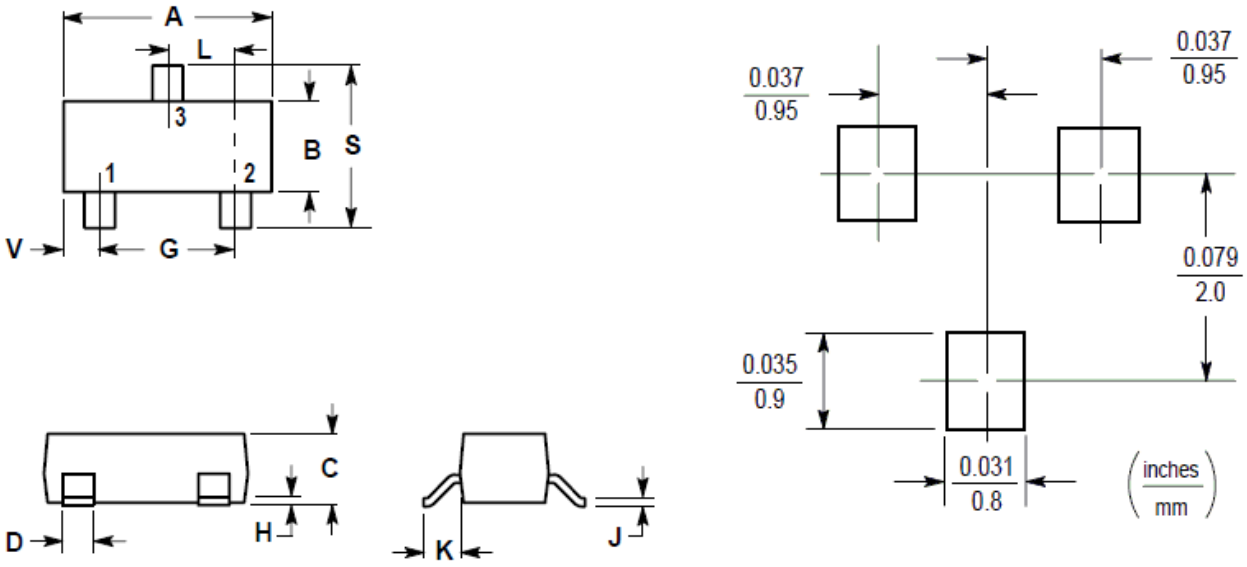


Figure 4. Current Gain-Bandwidth Product



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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