

RoHS Compliant Product

A suffix of "-C" specifies halogen & lead-free

**FEATURES**

Power dissipation

$P_{CM} : 0.2 \text{ W}$

Collector Current

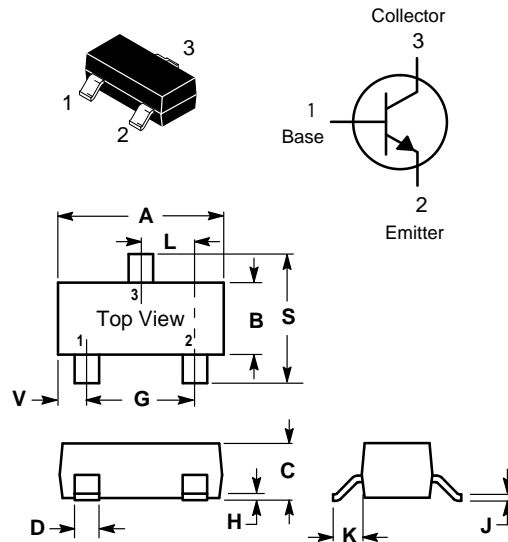
$I_{CM} : 0.1 \text{ A}$

Collector-base voltage

$V_{(BR)CBO} : 50 \text{ V}$

Operating & storage junction temperature

$T_j, T_{stg} : -55^\circ\text{C} \sim +150^\circ\text{C}$



SOT-23		
Dim	Min	Max
A	2.800	3.040
B	1.200	1.400
C	0.890	1.110
D	0.370	0.500
G	1.780	2.040
H	0.013	0.100
J	0.085	0.177
K	0.450	0.600
L	0.890	1.020
S	2.100	2.500
V	0.450	0.600
All Dimension in mm		

**ELECTRICAL CHARACTERISTICS (Tamp.=25°C unless otherwise specified)**

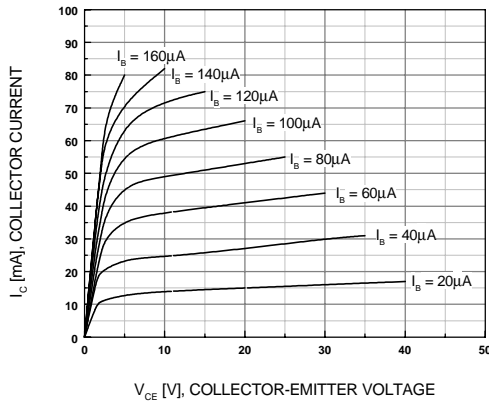
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 100 \mu\text{A}, I_E = 0$	50			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 0.1\text{mA}, I_B = 0$	45			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 100 \mu\text{A}, I_C = 0$	5			V
Collector cut-off current	$I_{CBO}$	$V_{CB} = 50 \text{ V}, I_E = 0$			0.1	$\mu\text{A}$
Collector cut-off current	$I_{CEO}$	$V_{CE} = 35 \text{ V}, I_B = 0$			0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 3 \text{ V}, I_C = 0$			0.1	$\mu\text{A}$
DC current gain	$h_{FE}$	$V_{CE} = 5 \text{ V}, I_C = 1 \text{ mA}$	200		1000	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 100 \text{ mA}, I_B = 5 \text{ mA}$			0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 100 \text{ mA}, I_B = 5 \text{ mA}$			1	V
Transition frequency	$f_T$	$V_{CE} = 5 \text{ V}, I_C = 10 \text{ mA}$ $f = 30 \text{ MHz}$	150			MHz

**CLASSIFICATION OF  $h_{FE(1)}$**

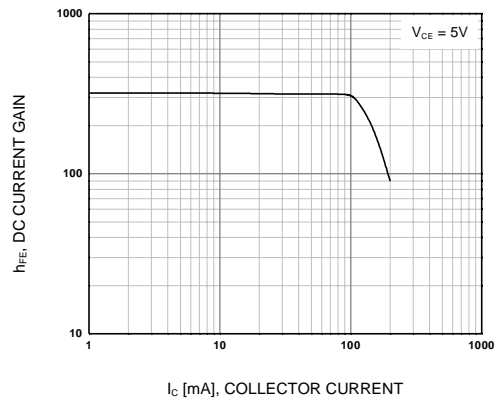
Rank	L	H
Range	200-450	450-1000

**DEVICE MARKING: S9014 =J6**

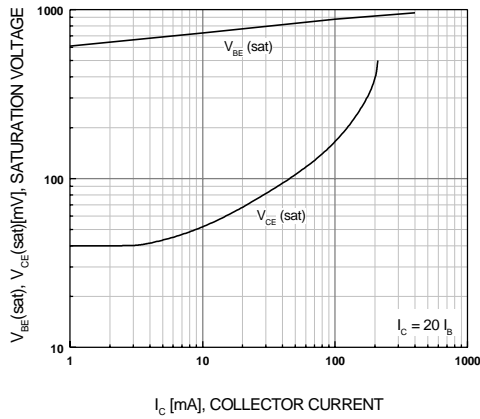
**Typical Characteristics**



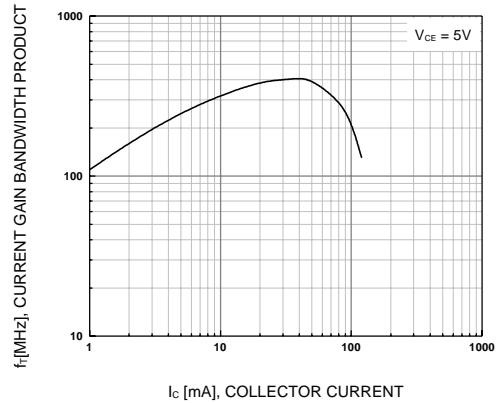
**Figure 1. Static Characteristic**



**Figure 2. DC current Gain**



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



**Figure 4. Current Gain Bandwidth Product**