

RoHS Compliant Product

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

**FEATURES**

Power dissipation

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

Collector Current

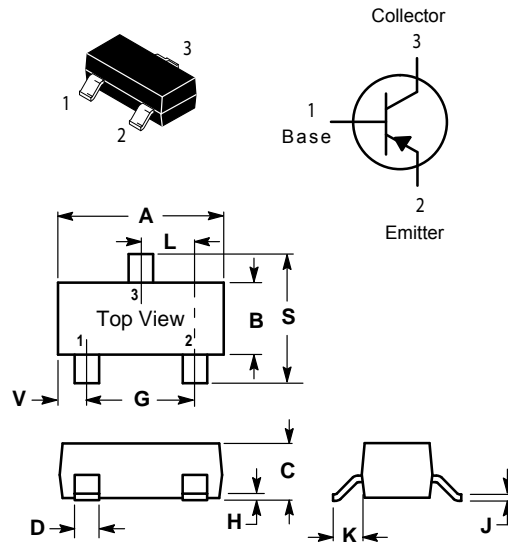
$$I_{CM} : -0.1 \text{ A}$$

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)**

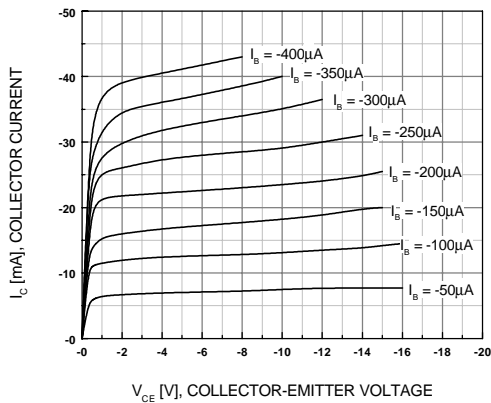
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -100\mu\text{A}, I_E = 0$	-50			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -0.1\text{mA}, I_B = 0$	-45			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -100\mu\text{A}, I_C =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

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

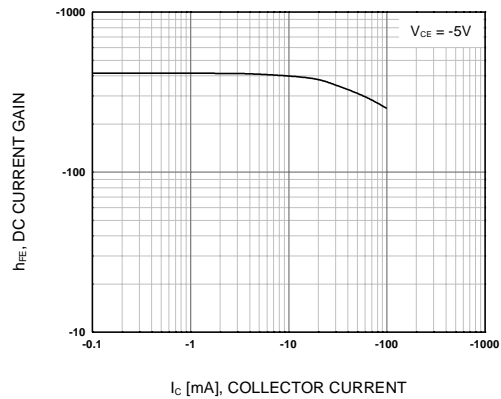
Rank	L	H
Range	200-450	450-1000

<b>DEVICE MARKING</b>	<b>S9015 = M6</b>
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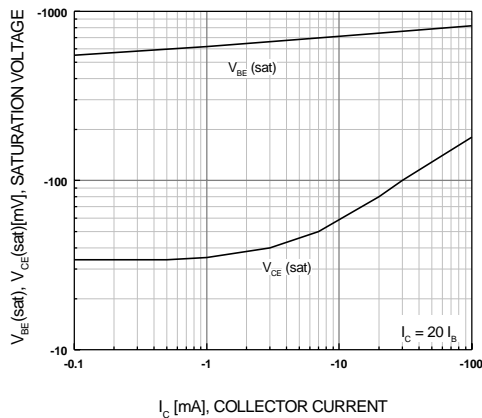
**Typical Characteristics**



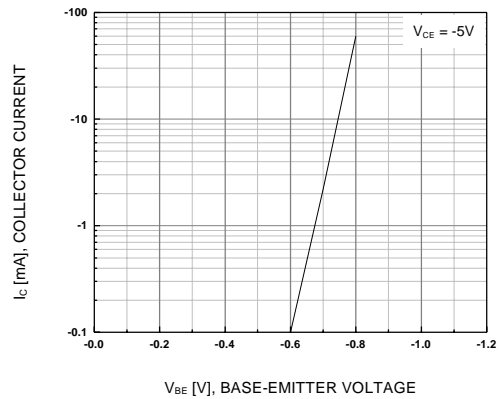
**Figure 1. Static Characteristic**



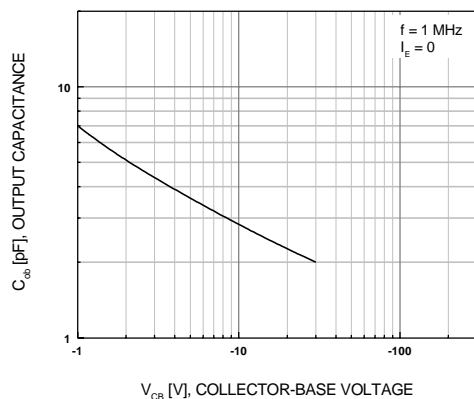
**Figure 2. DC current Gain**



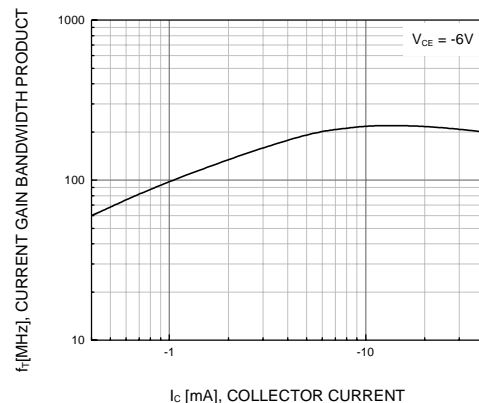
**Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage**



**Figure 4. Base-Emitter On Voltage**



**Figure 5. Collector Output Capacitance**



**Figure 6. Current Gain Bandwidth Product**