

RoHS Compliant Product

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

**FEATURES**

Power dissipation

$$P_{CM} : 0.3 \text{ W}$$

Collector Current

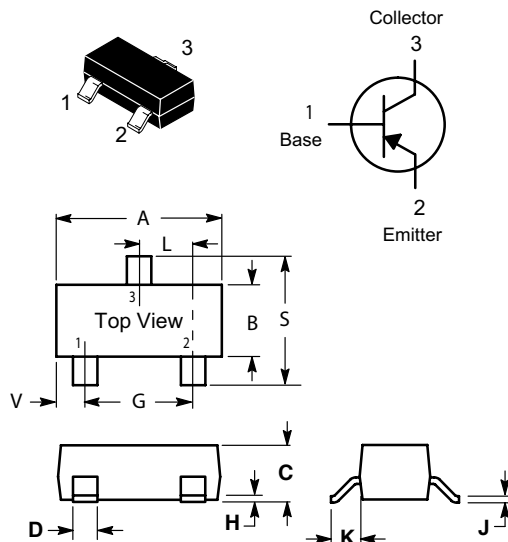
$$I_{CM} : - 0.5 \text{ A}$$

Collector-base voltage

$$V_{(BR)CBO} : - 40 \text{ V}$$

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	$V_{(BR)CBO}$	$I_C = -100 \mu\text{A}, I_E = 0$	-40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -1\text{mA}, I_B = 0$	-25			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -100 \mu\text{A}, I_C = 0$	-5			V
Collector cut-off current	$I_{CBO}$	$V_{CB} = -40\text{V}, I_E = 0$			-0.1	$\mu\text{A}$
Collector cut-off current	$I_{CEO}$	$V_{CE} = -20\text{V}, I_B = 0$			-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	$H_{FE(1)}$	$V_{CE} = -1\text{V}, I_C = -50\text{mA}$	120		400	
	$H_{FE(2)}$	$V_{CE} = -1\text{V}, I_C = -500\text{mA}$	40			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -500\text{mA}, I_B = -50\text{mA}$			-0.6	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -500\text{mA}, I_B = -50\text{mA}$			-1.2	V
Transition frequency	$f_T$	$V_{CE} = -6\text{V}, I_C = -20\text{mA}$ $f = 30\text{MHz}$	150			MHz

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

Rank	L	H	J
Range	120-200	200-350	300-400

<b>DEVICE MARKING</b>	<b>S9012=2T1</b>
-----------------------	------------------