

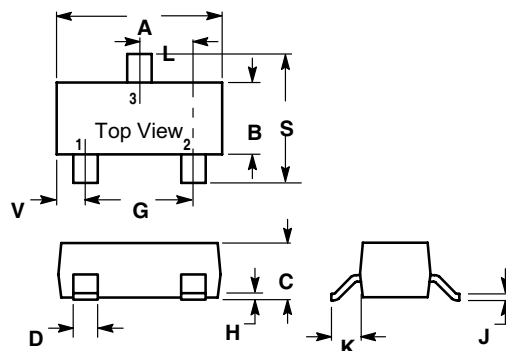
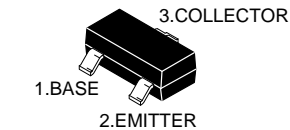
RoHS Compliant Product

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

**FEATURES**

- Darlington connection for a high  $h_{FE}$
- High input impedance

**MARKING: R1M**



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		

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

Symbol	Parameter	Value	Units
$V_{CB0}$	Collector-Base Voltage	40	V
$V_{CEO}$	Collector-Emitter Voltage	32	V
$V_{EBO}$	Emitter-Base Voltage	12	V
$I_C$	Collector Current -Continuous	300	mA
$P_C$	Collector Dissipation	200	mW
$T_J, T_{stg}$	Junction and Storage Temperature	-55~150	$^{\circ}\text{C}$

**ELECTRICAL CHARACTERISTICS ( $T_{amb}=25^{\circ}\text{C}$  unless otherwise specified)**

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CB0}$	$I_C=100\mu\text{A}, I_E=0$	40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=10\text{mA}, I_B=0$	32			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	12			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=30\text{V}, I_E=0$			0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=12\text{V}, I_C=0$			0.1	$\mu\text{A}$
DC current gain	$h_{FE}$	$V_{CE}=3\text{V}, I_C=100\text{mA}$	5000			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=200\text{mA}, I_B=0.2\text{mA}$			1.4	V
Transition frequency	$f_T$	$V_{CE}=5\text{V}, I_C=10\text{mA}, f=100\text{MHz}$		200		MHz
Collector output capacitance	$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		2.5		pF

## Typical Characteristics

## 2SD2142

