

RoHS Compliant Product  
A suffix of "-C" specifies halogen & lead-free

## FEATURES

- Excellent  $h_{FE}$  Linearity
- Switching Applications

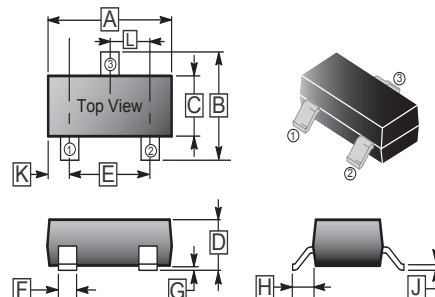
## CLASSIFICATION OF $h_{FE}$ (1)

Product-Rank	2SC2859-O	2SC2859-Y	2SC2859-GR
Range	70~140	120~240	200~400
Marking	WO	WY	WG

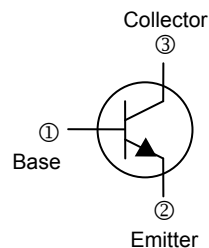
## PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-23	3K	7' inch

## SOT-23



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.80	3.04	G	0.09	0.18
B	2.10	2.55	H	0.45	0.60
C	1.20	1.40	J	0.08	0.177
D	0.89	1.15	K	0.6 REF.	
E	1.78	2.04	L	0.89	1.02
F	0.30	0.50			



## ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Ratings	Unit
Collector to Base Voltage	$V_{CB0}$	35	V
Collector to Emitter Voltage	$V_{CEO}$	30	V
Emitter to Base Voltage	$V_{EBO}$	5	V
Collector Current - Continuous	$I_C$	500	mA
Collector Power Dissipation	$P_C$	150	mW
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	833	$^\circ\text{C} / \text{W}$
Junction, Storage Temperature	$T_J, T_{STG}$	150, -55~150	$^\circ\text{C}$

## ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	35	-	-	V	$I_C=100\mu\text{A}, I_E=0$
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	30	-	-	V	$I_C=1\text{mA}, I_B=0$
Emitter to Base Breakdown Voltage	$V_{(BR)EBO}$	5	-	-	V	$I_E=100\mu\text{A}, I_C=0$
Collector Cut-Off Current	$I_{CBO}$	-	-	0.1	$\mu\text{A}$	$V_{CB}=35\text{V}, I_E=0$
Emitter Cut-Off Current	$I_{EBO}$	-	-	0.1	$\mu\text{A}$	$V_{EB}=5\text{V}, I_C=0$
DC Current Gain	$h_{FE(1)}$	70	-	400		$V_{CE}=1\text{V}, I_C=100\text{mA}$
	$h_{FE(2)}$	25	-	-		$V_{CE}=6\text{V}, I_C=400\text{mA}$
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	-	-	0.25	V	$I_C=100\text{mA}, I_B=10\text{mA}$
Base to Emitter Voltage	$V_{BE}$	-	-	1	V	$V_{CE}=1\text{V}, I_C=100\text{mA}$
Transition Frequency	$f_T$	-	300	-	MHz	$V_{CE}=6\text{V}, I_C=20\text{mA}$
Collector Output Capacitance	$C_{ob}$	-	7	-	pF	$V_{CB}=6\text{V}, I_E=0, f=1\text{MHz}$

**RATINGS AND CHARACTERISTIC CURVES**

