



# 2SC2859-O 2SC2859-Y 2SC2859-GR

## Features

- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Switching Applications
- Epoxy meets UL 94 V-0 flammability rating
- Moisure Sensitivity Level 1
- Halogen free available upon request by adding suffix "-HF"

## Maximum Ratings

Symbol	Rating	Rating	Unit
$V_{CEO}$	Collector-Emitter Voltage	30	V
$V_{CBO}$	Collector-Base Voltage	35	V
$V_{EBO}$	Emitter-Base Voltage	5.0	V
$I_C$	Collector Current	500	mA
$P_C$	Collector power dissipation	150	mW
$R_{\theta JA}$	Thermal Resistance From Junction to Ambient	833	$^{\circ}\text{C/W}$
$T_J$	Junction Temperature	-55 to +150	$^{\circ}\text{C}$
$T_{STG}$	Storage Temperature	-55 to +150	$^{\circ}\text{C}$

## Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Typ	Max	Units
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### OFF CHARACTERISTICS

$I_{CBO}$	Collector Cutoff Current ( $V_{CB}=35\text{Vdc}$ , $I_E=0$ )	---	---	0.1	$\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current ( $V_{EB}=5.0\text{Vdc}$ , $I_C=0$ )	---	---	0.1	$\mu\text{A}$

### ON CHARACTERISTICS

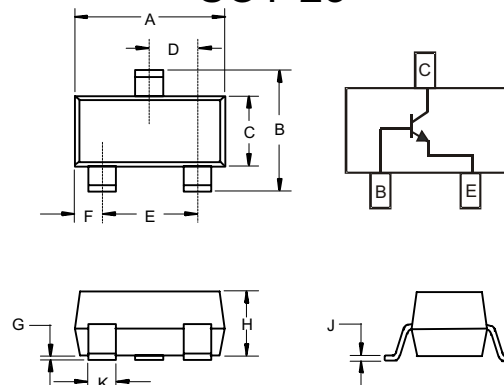
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage ( $I_C=1\text{mA}$ , $I_B=0$ )	30	---	---	V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ( $I_C=100\mu\text{A}$ , $I_E=0$ )	35	---	---	V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ( $I_E=100\mu\text{A}$ , $I_C=0$ )	5.0	---	---	V
$h_{FE}$	DC Current Gain* ( $I_C=100\text{mAdc}$ , $V_{CE}=1.0\text{Vdc}$ ) ( $I_C=400\text{mAdc}$ , $V_{CE}=6.0\text{Vdc}$ )	70 25	---	400 ---	---
$V_{BE}$	Base-emitter Voltage ( $V_{CE}=1\text{Vdc}$ , $I_C=100\text{mAdc}$ )	---	---	1.0	V
$V_{CE(sat)}$	Collector Saturation Voltage ( $I_C=100\text{mAdc}$ , $I_B=10\text{mAdc}$ )	---	---	0.25	V
$C_{ob}$	Output Capacitance ( $V_{CB}=6\text{V}$ , $I_E=0$ , $f=1\text{MHz}$ )	---	7.0	---	pF
$f_T$	Gain Bandwidth product ( $V_{CE}=6\text{Vdc}$ , $I_C=20\text{mAdc}$ )	---	300	---	MHz

### CLASSIFICATION OF $h_{FE}$

Rank	O	Y	GR
Range	70-140	120-240	200-400
Range	25Min	40Min	70Min
Marking	WO	WY	WG

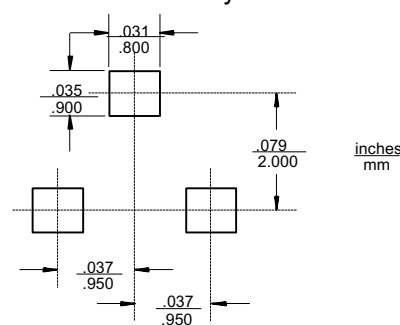
## NPN Plastic-Encapsulate Transistors

### SOT-23



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.110	.120	2.80	3.04	
B	.083	.104	2.10	2.64	
C	.047	.055	1.20	1.40	
D	.035	.041	.89	1.03	
E	.070	.081	1.78	2.05	
F	.018	.024	.45	.60	
G	.0005	.0039	.013	.100	
H	.035	.044	.89	1.12	
J	.003	.007	.085	.180	
K	.015	.020	.37	.51	

### Suggested Solder Pad Layout





## Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel; 3Kpcs/Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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