

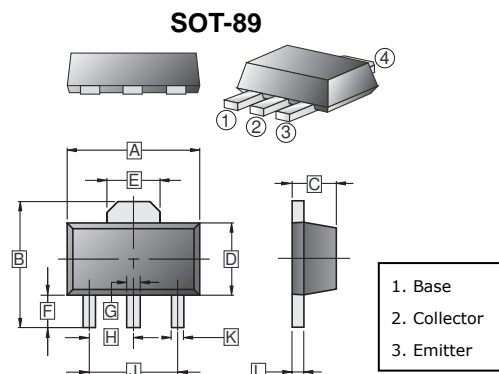
RoHS Compliant Product  
A suffix of "-C" specifies halogen & lead-free

### FEATURE

- High Breakdown Voltage and Current
- Excellent DC Current Gain Linearity
- Low Collector-Emitter Saturation Voltage

### CLASSIFICATION OF $h_{FE}$

Product Rank	2SD1898-P	2SD1898-Q	2SD1898-R
Range	82~180	120~270	180~390
Marking	DF		



### PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-89	1K	7' inch

REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	4.40	4.60	G	0.40	0.58
B	3.94	4.25	H	1.50 TYP	
C	1.40	1.60	J	3.00 TYP	
D	2.25	2.60	K	0.32	0.52
E	1.55 TYP.		L	0.35	0.44
F	0.89	1.20			

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

Parameter	Symbol	Ratings	Unit
Collector-Base Voltage	$V_{CBO}$	100	V
Collector-Emitter Voltage	$V_{CEO}$	80	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Collector Current -Continuous	$I_C$	1	A
Total Power Dissipation	$P_C$	0.5	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	250	$^\circ\text{C}/\text{W}$
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 Conditions
Collector-base breakdown voltage	$V_{(BR)CBO}$	100	-	-	V	$I_C=50\mu\text{A}, I_E=0$
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	80	-	-	V	$I_C=1\text{mA}, I_B=0$
Emitter-base breakdown voltage	$V_{(BR)EBO}$	5	-	-	V	$I_E=50\mu\text{A}, I_C=0$
Collector cut-off current	$I_{CBO}$	-	-	1	$\mu\text{A}$	$V_{CB}=80\text{V}, I_E=0$
Emitter cut-off current	$I_{EBO}$	-	-	1	$\mu\text{A}$	$V_{EB}=4\text{V}, I_C=0$
DC current gain	$h_{FE}$	82	-	390		$V_{CE}=3\text{V}, I_C=0.5\text{A}$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-	0.4	V	$I_C=0.5\text{A}, I_B=20\text{mA}$
Transition frequency	$f_T$	-	100	-	MHz	$V_{CE}=10\text{V}, I_C=50\text{mA}, f=100\text{MHz}$
Output Capacitance	$C_{OB}$	-	20	-	pF	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$

**CHARACTERISTIC CURVES**

